2016
Comprehensive Annual Financial Report

for the Year Ended December 31, 2016

CONTRA COSTA COUNTY CCCERA
Employees' Retirement Association

Concord, California

CCCERA's mission is to deliver retirement benefits to members and their beneficiaries through prudent asset management and effective administration, in accordance with all plan provisions.

2016 Comprehensive Annual Financial Report

for the Year Ended December 31, 2016

Issued by:

Gail Strohl
Chief Executive Officer

Henry Gudino
Accounting Manager

Contra Costa County Employees' Retirement Association
1355 Willow Way, Suite 221
Concord, California 94520-5728
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INTRODUCTORY *SECTION*

Letter of Transmittal

June 14, 2017

Board of Retirement
Contra Costa County Employees' Retirement Association
1355 Willow Way, Suite 221
Concord, CA 94520-5728

Dear Board Members:

I am pleased to present the Contra Costa County Employees' Retirement Association's (CCCERA) (the Plan) Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2016, the 71st year of operation.

CCCERA is a public employee retirement system that was established by the County of Contra Costa on July 1, 1945, and is administered by the Board of Retirement (Board) to provide service retirement, disability, death, and survivor benefits for County employees and 16 other participating agencies under the California State Government Code, Section 31450 *et seq.* (County Employees Retirement Law of 1937) and Section 7522 *et seq.* (California Public Employees' Pension Reform Act of 2013).

REPORT CONTENTS

CCCERA management is responsible for both the accuracy of the data and the completeness and fairness of the presentation of financial information within this CAFR, including all disclosures. The CAFR is divided into five sections:

The INTRODUCTORY SECTION includes a description of CCCERA's management and organizational structure, a letter of transmittal, a listing of the members of the Board, and a listing of professional consultants.

The FINANCIAL SECTION presents the financial condition and funding status of CCCERA. This section contains the opinion of the independent certified public accountants, Brown Armstrong Accountancy Corporation, Management's Discussion and Analysis of CCCERA's financial activities, the financial statements, and the related supplementary financial information.

The INVESTMENT SECTION provides an overview of CCCERA's investment program. This section contains reports on investment activity, investment policies, investment results, and various investment schedules, charts and graphs.

The ACTUARIAL SECTION communicates CCCERA's funding status and presents other actuarial related information. This section contains the certification of the consulting actuary, Segal Consulting, actuarial statistics, and general plan provisions.

The STATISTICAL SECTION presents information on CCCERA's operations on a multi-year basis.

CCCERA AND ITS SERVICES

CCCERA was established on July 1, 1945, to provide retirement allowances and other benefits to the safety and general members employed by the County. Currently, Contra Costa County and 16 other participating agencies are members of CCCERA. The participating agencies include:

- Bethel Island Municipal Improvement District
- Byron-Brentwood-Knightsen Union Cemetery
- Central Contra Costa Sanitary District
- Contra Costa County Employees' Retirement Association
- Contra Costa Housing Authority
- Contra Costa Mosquito and Vector Control District
- First 5 – Children & Families Commission
- In-Home Supportive Services Authority (IHSS)
- Local Agency Formation Commission (LAFCO)
- Rodeo Sanitary District
- Superior Court of California, County of Contra Costa
- Contra Costa Fire Protection District
- East Contra Costa Fire Protection District
- Moraga-Orinda Fire District
- Rodeo-Hercules Fire Protection District
- San Ramon Valley Fire Protection District

In addition, CCCERA administers retirement, disability, or survivor benefits to retirees or beneficiaries of the following former participating agencies:

- Alamo-Lafayette Cemetery District
- City of Pittsburg
- Delta Diablo Sanitation District
- Diablo Water District
- Ironhouse Sanitary District
- Kensington Fire Protection District
- Superintendent of Schools - Contra Costa County Office of Education
- Stege Sanitary District

CCCERA is governed by the California Constitution, the County Employees Retirement Law of 1937 (CERL), the California Public Employees' Pension Reform Act of 2013 (PEPRA), and the regulations, procedures, and policies adopted by CCCERA's Board of Retirement. The Contra Costa County Board of Supervisors may also adopt resolutions, as permitted by CERL, which may affect benefits of CCCERA members.

The 12 member Board of Retirement is responsible for the general management of CCCERA. Of the 12 members, three are alternates, one for the appointed members, one for safety, and one for retirees. Five board members are appointed by the Contra Costa County Board of Supervisors, one as an alternate. Four board members, including the safety alternate, are elected by CCCERA's active membership. Two board members are elected by the retirees, one as an alternate. The county treasurer serves as an ex-officio member. Board members, with the exception of the county treasurer, serve three year terms in office, with no term limits.

FINANCIAL INFORMATION

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

Management of CCCERA is responsible for establishing and maintaining an internal control structure designed to ensure CCCERA's assets are protected from loss, theft, or misuse. The internal controls are designed to provide reasonable, but not absolute, assurance that these objectives are met. Reasonable assurance recognizes the cost of a control relative to the benefits likely to be derived and that these judgments by management are based on estimates. Responsibility for the accuracy, completeness, fair representation of information and all disclosures rests with CCCERA's management. The accounting firm of Brown Armstrong Accountancy Corporation, a certified public accounting firm, provides financial statement independent audit services to CCCERA. The financial audit provides reasonable assurance that CCCERA's financial statements are presented in conformity with GAAP and are free from material misstatement.

ACTUARIAL FUNDING STATUS

CCCERA contracts with an independent actuarial consulting firm, Segal Consulting, to act as the Plan's actuary and conduct annual actuarial valuations, which are presented to the Board annually. On a triennial basis, the actuary also conducts an experience study of the members of CCCERA and makes recommendations to the Board on all economic and non-economic assumptions. The most recent triennial experience study was performed as of December 31, 2014.

CCCERA's funding objective is to meet long-term defined benefit obligations through contributions and investment income. Funds are derived from the excess of additions, which include contributions and investment earnings, over deductions which are comprised of benefits and administrative expenses. Funds are accumulated to meet future benefit obligations to retirees and beneficiaries. This accumulated balance is referred to as the "net position restricted for pensions" in the Statement of Fiduciary Net Position in the Financial Section of the report. Due to GASB Statement No. 67, the total pension liability is not reported in the basic financial statements, but is disclosed in Note 6 to the basic financial statements and in the required supplementary information. The total pension liability is determined by the Plan's actuary and is a measure of the present value of actuarial accrued liabilities estimated to be payable in the future to current retirees, beneficiaries, and active members for service earned to date. The net pension liability is measured as the total pension liability less the amount of the Plan's fiduciary net position. The net pension liability is an accounting measurement for financial statement purposes.

Segal Consulting's actuarial valuation as of December 31, 2015, determined the funding ratio to be 84.5%, using approved assumptions. This ratio compares the actuarial value of assets of the Plan to the actuarial accrued liabilities of the Plan. High ratios indicate a well-funded plan with assets sufficient to cover the Plan's actuarial liabilities. Lower ratios may indicate recent changes to benefit structures, funding of a plan below actuarial requirements, poor asset performance, or a variety of other changes. For a more in-depth review of the funding of the Plan, see the actuarial section of this report.

INVESTMENTS

The Board maintains exclusive control of all retirement system investments and is responsible for establishing investment objectives, strategies, and policies. The California Constitution and Government Code Sections 31594 and 31595 authorize the Board to invest in any investment deemed prudent in the Board's opinion.

The Board has adopted an Investment Policy, which provides the framework for the management of CCCERA's investments. This policy establishes CCCERA's investment objectives and defines the principal duties of the Board, custodian bank, and investment managers. The asset allocation is an integral part of the Investment Policy and is designed to provide an optimum mix of asset classes with return expectations that reflect expected liabilities. A summary of the asset allocation can be found in the investment section of this report.

On a fair value basis, the total net position restricted for pension benefits increased from $7.0 billion at December 31, 2015, to $7.4 billion at December 31, 2016. For the year ended December 31, 2016, CCCERA's investment portfolio returned 7.4%, before investment management fees, reflecting market conditions throughout the year. CCCERA's annualized rate of return was 6.1% over the last three years, 9.7% over the last five years, and 6.0% over the last 10 years, gross of investment expenses.

AWARDS

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to CCCERA for its CAFR for the year ended December 31, 2015. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized CAFR, the contents of which meet or exceed program standards. The CAFR must satisfy both accounting principles generally accepted in the United States of America and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that the current report continues to conform to the Certificate of Achievement program requirements, and it is being submitted to the GFOA for evaluation.

CCCERA is also a recipient of the GFOA Award for Outstanding Achievement in Popular Annual Financial Reporting for the fiscal year ended December 31, 2015. The award was presented for CCCERA's Popular Annual Financial Report (PAFR) and judged on creativity, presentation, understandability, and reader appeal.

The Public Pension Coordinating Council (PPCC) presented its Pension Standards Award to CCCERA in recognition of compliance with professional standards for plan design and administration in 2016. The Public Pension Standards are intended to reflect minimum expectations for public retirement system management and administration, and to serve as a benchmark by which all defined benefit public plans should be measured.

ACCOMPLISHMENTS

Improved Systems:

Several systems were put in place to improve the efficiency of CCCERA's functions, including a service desk software to track information technology issues and an enhanced file transfer system. CCCERA also secured a robust online banking platform with its custodian bank to improve cash handling between investments and accounting activities.

Investment Portfolio Management:

CCCERA crafted a new investment policy statement for Board adoption on September 28, 2016 along with supporting procedures required to implement a new long-term asset allocation over a three phase approach. The new policy calls for sub-dividing the portfolio into three unique functions, backed by unique sets of assets. The liquidity sub-portfolio is intended to generate income monthly that will be used to fund all benefit payments. The growth sub-portfolio is intended to be the growth engine needed to offset benefit payments far into the future. Lastly, the diversifying sub-portfolio is intended to act as an offset to the equity risk embedded in the growth sub-portfolio. The first phase; liquidity sub-portfolio was implemented in October 2016. The growth and diversifying sub-portfolio phases are scheduled for 2017.

Staff Development:

CCCERA staff received training in customer service, the Multiview financial system, and legal topics including the Brown Act, Public Records Act, confidentiality, and the CERL.

Audit Reporting:

CCCERA concluded the 2015 annual audit by Brown Armstrong with an unmodified "clean" opinion with no material weaknesses or significant deficiencies.

ACKNOWLEDGEMENT

The compilation of this Comprehensive Annual Financial Report in a timely manner is made possible by the dedicated teamwork of CCCERA staff. It is intended to provide complete and reliable information as the basis for making management decisions, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship of the funds of CCCERA.

Thank you to the Board, the professional service providers, and staff for their commitment to CCCERA.

Respectfully submitted,

Gail Strohl

Gail Strohl
Chief Executive Officer

Retirement Board *(As of December 31, 2016)*

Chairperson
John B. Phillips
Term Expires June 30, 2017
Appointed/Elected by Board of Supervisors

Vice-Chairperson
Todd Smithey
Term Expires June 30, 2017
Appointed/Elected by General Members

Secretary
Scott Gordon
Term Expires June 30, 2019
Appointed/Elected by Board of Supervisors

Jerry Telles
Term Expires June 30, 2019
Appointed/Elected by Retirees

David MacDonald
Term Expires June 30, 2019
Appointed/Elected by General Members

Debora Allen
Term Expires June 30, 2017
Appointed/Elected by Board of Supervisors

Candace Andersen
Term Expires June 30, 2017
Appointed/Elected by Board of Supervisors

Gabe Rodrigues
Term Expires June 30, 2017
Appointed/Elected by Safety Members

County Treasurer
Russell V. Watts
Permanent by Ex-officio

(Alternate)
Jerry R. Holcombe
Term Expires June 30, 2017
Appointed/Elected by Board of Supervisors

(Alternate)
Louie Kroll
Term Expires June 30, 2019
Appointed/Elected by Retirees

(Alternate)
William Pigeon
Term Expires June 30, 2017
Appointed/Elected by Safety Members

Professional Consultants *(As of December 31, 2016)*

Actuary
- **Segal Consulting**

Benefit Statement Consultant
- **Segal Consulting**

Auditor
- **Brown Armstrong Accountancy Corporation**

Legal Counsel
- **Ice Miller, LLP**
- **Laughlin, Falbo, Levy & Moresi, LLP**
- **Reed Smith LLP**
- **Wiley Price & Radulovich, LLP**

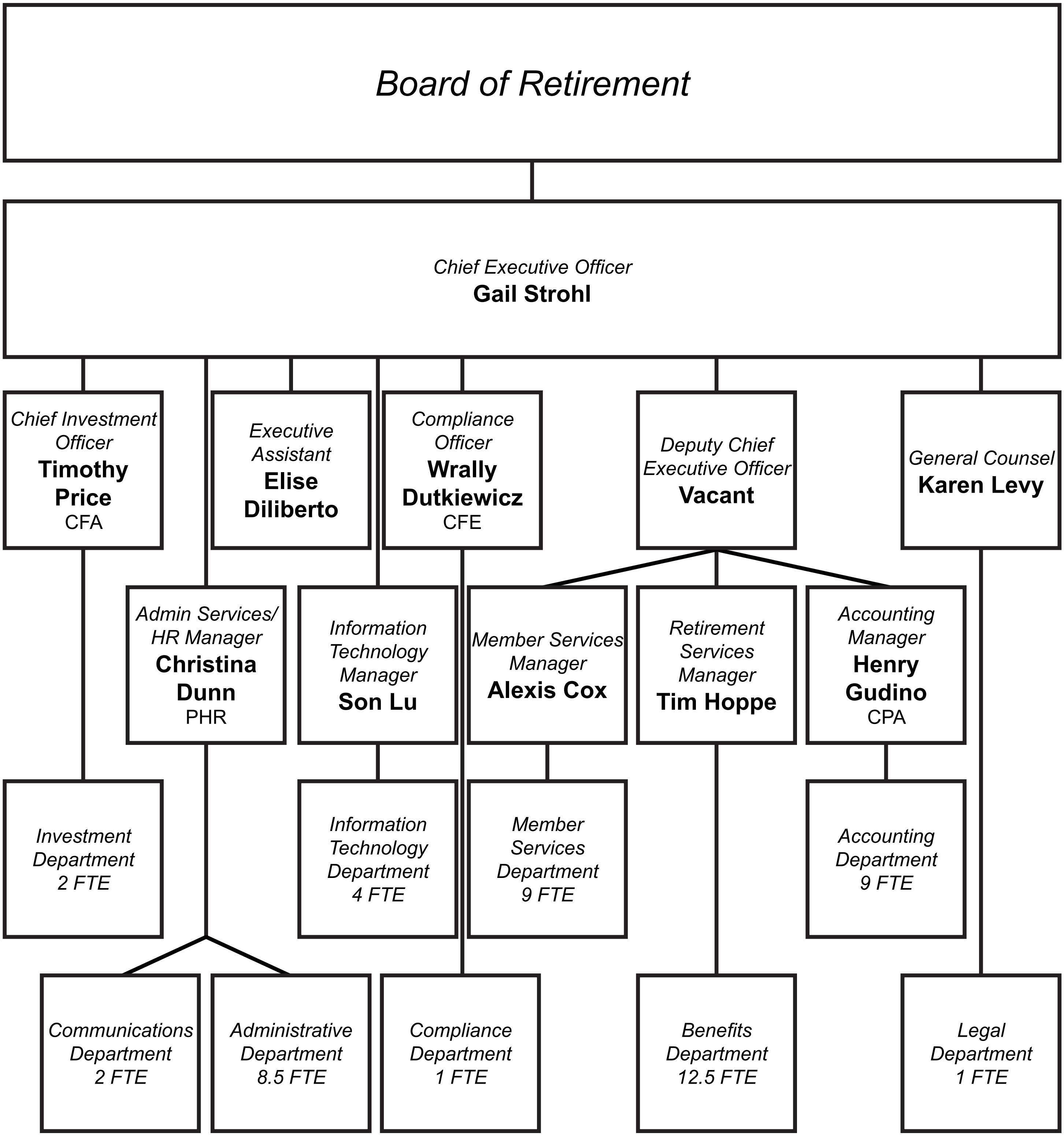
Investment Consultant
- **Verus Investments**

Master Custodian
- **State Street Bank & Trust**

Proxy Guideline Voting Agent Service
- **Institutional Shareholder Services, Inc. (ISS)**

Note: List of Investment Managers is located on page 69 of this report.

Administrative Organization Chart *(As of December 31, 2016)*



GFOA Certificate of Achievement Award

Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

Contra Costa County
Employees' Retirement Association
California

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2015

Executive Director/CEO

PPCC Public Pension Standards Award

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2016

Presented to

Contra Costa County Employees'
Retirement Association

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle
Program Administrator

FINANCIAL *SECTION*

BROWN ARMSTRONG

CERTIFIED PUBLIC ACCOUNTANTS

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SUITE 255
LAGUNA HILLS, CA 92563
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STOCKTON OFFICE
5250 CLAREMONT AVENUE
SUITE 150
STOCKTON, CA 95207
TEL 209.451.4833

BROWN ARMSTRONG

Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

To the Board of Retirement and Audit Committee of
Contra Costa County Employees' Retirement Association
Concord, California

Report on the Financial Statements

We have audited the accompanying Statement of Fiduciary Net Position of the Contra Costa County Employees' Retirement Association (CCCERA), a pension trust fund of the County of Contra Costa, California, as of December 31, 2016; and the related Statement of Changes in Fiduciary Net Position for the year then ended; and the related notes to the financial statements, which collectively comprise CCCERA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the Fiduciary Net Position of CCCERA as of December 31, 2016, and the Changes in Fiduciary Net Position for the year then ended, in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 2 to the basic financial statements, Fair Value Measurements, in 2016, CCCERA adopted Governmental Accounting Standards Board (GASB) Statement No. 72, *Fair Value measurement and Applicatio*n. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by GASB, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise CCCERA's basic financial statements. The other supplementary information and the introductory, investment, actuarial, and statistical sections as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The other supplementary 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. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information is fairly stated in all material respects in relation to the basic financial statements as a whole.

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

Report on Summarized Comparative Information

We have previously audited CCCERA's December 31, 2015 financial statements, and our report dated June 21, 2016, expressed an unmodified opinion on those audited financial statements. In our opinion, the summarized comparative information presented herein as of December 31, 2015, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 14, 2017, on our consideration of CCCERA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the 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 CCCERA's internal control over financial reporting and compliance.

BROWN ARMSTRONG
ACCOUNTANCY CORPORATION

Brown Armstrong
Accountancy Corporation

Bakersfield, California
June 14, 2017

Management's Discussion and Analysis

As management of the Contra Costa County Employees' Retirement Association (CCCERA), we offer readers of CCCERA's financial statements this narrative overview and analysis of the financial position and results of operation for the year ended December 31, 2016 with comparative totals. The information presented here, in conjunction with the Notes to the Financial Statements beginning on page 30, provide a clear picture of CCCERA's overall financial status and activities.

Financial Highlights

- The net position – restricted for pensions of CCCERA at the close of December 31, 2016 and 2015 years totaled $7.4 billion and $7.0 billion, respectively. All of the net position is available to meet CCCERA's ongoing obligations to plan participants and their beneficiaries.

- CCCERA's total net position – restricted for pensions increased by $461.9 million, or 6.6%, and $67.7 million, or 1.0%, as of December 31, 2016 and 2015, respectively. The increases in 2016 and 2015 are primarily a result of positive investment returns.

- Total Additions, as reflected in the Statement of Changes in Fiduciary Net Position, for the years ended December 31, 2016 and 2015 were $900.1 million and $492.7 million, respectively. This includes employer and plan member contributions of $396.7 million, investment income of $501.7 million, and net securities lending income of $1.6 million for the year ended December 31, 2016, along with employer and plan member contributions of $409.1 million, investment income of $82.4 million and net securities lending income of $1.2 million for the year ended December 31, 2015. The 82.7% increase in total additions to net position over the prior year is mainly due to net investment income.

- Total Deductions, as reflected in the Statement of Changes in Fiduciary Net Position, totaled $438.1 million for the year ended December 31, 2016, an increase of $13.1 million over the year ended December 31, 2015, or approximately 3.1%, mainly attributed to the increase in retiree payroll. Benefits paid to retirees and beneficiaries increased from $400.8 million in 2015 to $412.1 million in 2016, or approximately 2.8%. This increase can be attributed to an increase in the number of new retirees and an annual cost-of-living (COLA) increase.

- CCCERA's funding objective is to meet long-term benefit obligations through contributions and investment income. As of December 31, 2015, the date of CCCERA's last actuarial pension plan valuation, the funded status for CCCERA (the ratio of the valuation of assets to the actuarial liabilities) was 84.5%, compared to 81.7% in the previous year. The increase in the funding ratio is due to contributions in excess of the value of benefits earned as well as investment earnings in excess of the assumed rate.

- The total investment portfolio finished 2016 with a solid gross return of 7.4%, compared to 2.6% in 2015.

- Based on the Governmental Accounting Standards Board (GASB) Statement No. 67, CCCERA has a net pension liability (NPL) of $1.4 billion and $1.5 billion as of December 31, 2016 and 2015, respectively. The plan fiduciary net position as a percentage of the total pension liability is 84.2% and 82.2% as of December 31, 2016 and 2015, respectively. The net pension liability as a percentage of covered payroll is 185.5% and 212.3% as of December 31, 2016 and 2015, respectively. Refer to Note 6, *Net Pension Liability*, and Required Supplementary Information sections of this report for more information.

Overview of the Financial Statements

This Management's Discussion and Analysis is intended to serve as an introduction to CCCERA's financial statements, which are comprised of these components:

1. Statement of Fiduciary Net Position
2. Statement of Changes in Fiduciary Net Position
3. Notes to the Financial Statements
4. Required Supplementary Information
5. Other Supplementary Information

Please note, however, that this report also contains other additional information to supplement the basic financial statements listed above.

The implementation of GASB Statement No. 67 (GASB 67) in 2014 increased the number of schedules in the Required Supplementary Information section. These new schedules provide a spectrum of financial information, including a pension liability measurement and changes to the liability, historical contributions, money-weighted investment return and additional actuarial related disclosures.

CCCERA implemented GASB Statement No. 72 (GASB 72), *Fair Value Measurements and Application* in the current fiscal year. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements and disclosures specifically as it relates to investments. More information may be found in Note 4 *Fair Value Measurements* in the Notes to the Financial Statements.

The Statement of Fiduciary Net Position is a snapshot of account balances at year-end. It discloses the assets and deferred outflows of resources available for future payments to retirees and their beneficiaries and any current liabilities and deferred inflows of resources that are owed as of year-end. The net position, which is the assets and deferred outflows of resources less liabilities and deferred inflows of resources, reflect the funds available for future use.

The Statement of Changes in Fiduciary Net Position provides a view of all the activities that occurred during the year and shows the impact of those activities as additions and deductions to the plan.

Both financial statements and the required disclosures are in compliance with the accounting principles and reporting guidelines as set forth by the GASB, using the accrual basis of accounting. CCCERA complies with all material requirements of these principles and guidelines.

The Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position report information about CCCERA's activities. These statements include all assets and deferred outflows of resources and liabilities, and deferred inflows of resources, using the accrual basis of accounting, which is similar to the accounting used by most private-sector companies. All of the current year's revenues and expenses are recognized when they are incurred, regardless of when cash is received or paid. All investment purchases and sales are reported as of the trade date, not the settlement date. Investments are reported at current fair value. Both realized and unrealized investment gains and losses are recognized. Each component of capital assets is depreciated over its useful life.

These two statements report CCCERA's net position restricted for pensions and is one way to measure the plan's financial position. Over time, increases and decreases in CCCERA's net position are indicators of whether its financial position is improving or deteriorating. Other factors, such as market conditions, should be considered in measuring CCCERA's overall financial position. The increase in CCCERA's fiduciary net position for the year ended December 31, 2016, was 6.6%. This increase is due primarily to investment returns generated as well as contributions received. CCCERA's total fund return was 7.4% for the year ending December 31, 2016. CCCERA's Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position appear on pages 28 and 29.

Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements. The Notes provide detailed discussion of key policies, programs, and activities that occurred during the year. Asset allocation, the long-term expected rate of return, discount rate, key actuarial assumptions, and the Schedule of Net Pension Liability based on GASB 67 are also included in this section. Notes to the Financial Statements appear on pages 30 to 56.

Required Supplementary Information follows the notes and includes several GASB 67 schedules. The Schedule of Net Pension Liability in the notes section, together with the Schedule of Changes in Net Pension Liability and Related Ratios, provides an up-to-date financial indication of the extent to which the total pension liability is covered by the fiduciary net position of the pension plan. This information improves the financial statements users' ability to compare the total pension liability for similar types of pension plans. Please note that liabilities on these schedules are calculated solely for financial reporting purposes and are not intended to provide information about the funding of CCCERA's benefits.

Another schedule, the Schedule of Employer Contributions, helps the reader determine if plan sponsors are meeting the actuarially determined contributions over a period of time. Information about rates of return on pension plan investments, taking account of monetary flows into and out of the market, is provided. The Schedule of Investment Returns includes a money-weighted return performance calculation which is net of investment expenses. These schedules, as well as notes to the Required Supplementary Information, appear on pages 57 to 59.

Other Supplementary Information includes the Schedule of Administrative Expenses, Schedule of Investment Expenses, and Schedule of Payments to Consultants. It appears on pages 60 to 62.

Financial Analysis

As of December 31, 2016, CCCERA has $7.4 billion in net position restricted for pensions, which means that assets plus deferred outflows of resources of $8.1 billion exceed liabilities and deferred inflows of resources of $0.7 billion. As of December 31, 2015, CCCERA's net position restricted for pensions totaled $7.0 billion. The net position restricted for pensions is available to meet CCCERA's ongoing obligation to plan participants and their beneficiaries.

As of December 31, 2016, the net position restricted for pensions increased by 6.6% over 2015, primarily due to changes in the fair value of investments. Current assets and current liabilities also changed by offsetting amounts due to the recording of the securities lending cash collateral.

Despite market volatility and competitive retirement benefits, CCCERA remains in a good financial position to meet its obligations to plan participants and beneficiaries.

CAPITAL ASSETS — Capital assets with an initial cost of more than $10,000 and an estimated useful life in excess of three years may be capitalized and depreciated/amortized. Depreciation/amortization is calculated using the straight-line method over the estimated useful lives of the assets. CCCERA's capital assets decreased from $302 thousand as of December 31, 2015 to $97 thousand (net of accumulated depreciation and amortization) as of December 31, 2016. The investment in capital assets includes servers, equipment, furniture, and leasehold improvements. The total decrease in CCCERA's investment in capital assets from 2015 to 2016 was 67.9% primarily due to the normal amortization and depreciation of assets taken by CCCERA annually.

Starting in 2008, CCCERA follows Government Code Section 31580.3, which allows expensing of software, hardware, and computer technology consulting services in support of the software or hardware used in the administration of the retirement system. During 2016 and 2015, CCCERA expensed $337 thousand and $336 thousand of software, hardware, and computer technology consulting services, respectively.

FIDUCIARY NET POSITION

(Dollars in Thousands)

Assets	**2016**	**2015**	**Amount Increase/ (Decrease)**	**Percent Increase/ (Decrease)**
Current and Other Assets	$921,158	$1,125,848	($204,690)	(18.2%)
Investments at Fair Value	7,191,764	6,922,863	268,901	3.9%
Capital Assets, Net	97	302	(205)	(67.9%)
Total Assets	**8,113,019**	**8,049,013**	**64,006**	**0.8%**
Liabilities				
Current Liabilities	674,499	1,072,431	(397,932)	(37.1%)
Total Liabilities	**674,499**	**1,072,431**	**(397,932)**	**(37.1%)**
NET POSITION - RESTRICTED FOR PENSIONS	**$7,438,520**	**$6,976,582**	**$461,938**	**6.6%**

CCCERA has annual valuations completed by its independent actuary, Segal Consulting. The purpose of the valuation is to determine the future contributions by the members and employers needed to provide for the prescribed benefits. The valuation takes into account CCCERA's policy to smooth the impact of market volatility by spreading each year's investment gains or losses over five years. Despite variations in the stock market, CCCERA's management and actuary concur that CCCERA remains in a financial position that will enable the plan to meet its obligations to participants and beneficiaries. CCCERA remains focused on the long-term performance of the fund, dependent on a strong and successful investment program, risk management, and strategic planning. CCCERA's latest Actuarial Valuation is as of December 31, 2015.

RESERVES — Pension plans establish reserves for various anticipated liabilities. CCCERA's reserves have been established to account for the accumulation of employer and employee contributions, the amounts available to meet the obligation of retired members as well as other items. A complete listing of CCCERA's reserves and corresponding balances for December 31, 2016 are presented in Note 9, *Reserves and Designations*.

CCCERA'S ACTIVITIES

CHANGES IN FIDUCIARY NET POSITION

(Dollars in Thousands)

Additions:	**2016**	**2015**	**Amount Increase/ (Decrease)**	**Percent Increase/ (Decrease)**
Employer Contributions	$307,457	$323,720	($16,263)	(5.0%)
Plan Member Contributions	89,240	85,361	3,879	4.5%
Net Investment Income	501,733	82,429	419,304	508.7%
Net Securities Lending Income	1,630	1,165	465	39.9%
Total Additions	**900,060**	**492,675**	**407,385**	**82.7%**
Deductions:				
Benefits Paid	412,073	400,759	11,314	2.8%
Contribution Prepayment Discount	9,489	9,983	(494)	(4.9%)
Administrative	8,486	8,115	371	4.6%
Refunds	7,154	4,434	2,720	61.3%
Other Expenses	920	1,712	(792)	(46.3%)
Total Deductions	**438,122**	**425,003**	**13,119**	**3.1%**
NET INCREASE IN NET POSITION - RESTRICTED FOR PENSIONS	**$461,938**	**$67,672**	**$394,266**	**582.6%**

ADDITIONS TO FIDUCIARY NET POSITION — The primary sources of funding for CCCERA member benefits are employer contributions, plan member contributions, and net investment income. Total additions to fiduciary net position for the years ended December 31, 2016 and 2015, were $900.1 million and $492.7 million, respectively. The increase in the current year is primarily due to investment gains being higher than in the previous year. The Net Investment Income, before securities lending, for the years ended December 31, 2016 and 2015 totaled $501.7 million and $82.4 million, respectively. The investment section of this report reviews the result of investment activity for the year ended December 31, 2016. Employer Contributions were $307.5 million as of December 31, 2016, a decrease of $16.3 million, or 5.0%, over 2015. The decrease in

Employer Contributions over prior years is mostly due to lower employer contribution rates. Plan Member Contributions were $89.2 million as of December 31, 2016, an increase of $3.9 million, or 4.5%, from prior year. The increase in Plan Member Contributions is mostly due to an increase in active members.

DEDUCTIONS FROM FIDUCIARY NET POSITION — CCCERA was created to provide lifetime retirement annuities, survivor benefits, and permanent disability benefits to qualified members and their beneficiaries. The cost of such programs includes recurring benefit payments as designated by the plan, refund of contributions to terminated employees, and the cost of administering the system. Total deductions from fiduciary net position for the years ended December 31, 2016 and 2015, were $438.1 million and $425.0 million, respectively. Retirement allowances, survivor benefits, and permanent disability benefits were $412.1 million as of December 31, 2016, an increase of $11.3 million, or 2.8%, over 2015. The growth in benefit payments was due to the combined effects of the following: (1) the net increase in the number of retirees and beneficiaries for the year and (2) the increase in the average retirement allowance of those who were added to the retirement payroll.

Member refunds were $7.2 million in 2016, an increase of $2.7 million, or 61.3% more than 2015. Member refunds were higher in 2016 due to a higher amount of terminated members who requested withdrawals.

Administrative expense was $8.5 million for 2016. Administrative expense covers the basic costs of operating the retirement system, including information technology systems. Operating costs include personnel, professional services, insurance, office supplies and materials, software, hardware, depreciation/amortization, and miscellaneous expenses. The system's administrative expenses increased by $371 thousand, or 4.6% in 2016. The increase was mainly due to personnel additions and employee retirement cost.

The Board of Retirement approves the annual budget for CCCERA. The California Government Code Section 31580.2(a) limits the annual administrative expense to not exceed the greater of either of the following: (1) twenty-one hundredths of one percent (0.21%) of the accrued actuarial liability of the retirement system; or (2) two million dollars ($2,000,000), as adjusted annually by the amount of the annual cost-of-living adjustment computed in accordance with Article 16.5. CCCERA has consistently met its administrative expense budget for the current year and prior years.

BUDGET TO ACTUAL ANALYSIS OF ADMINISTRATIVE EXPENSES
As of December 31, 2016 and 2015

(Dollars in Thousands)

	2016	2015
Actual Administrative Expenses	$8,486	$8,115
Basis for Budget Limitation, (Actuarial Accrual Liability)	$8,027,438	$7,731,097
Administrative Expenses as a Percentage of the Basis for Budget Limitation	0.11%	0.11%
Limit per CERL	0.21%	0.21%

Deductions of $438.1 million are less than additions of $900.1 million, resulting in a net increase of $461.9 million in fiduciary net position for the year ended December 31, 2016.

CHANGE IN FIDUCIARY NET POSITION — The change in fiduciary net position consists of total additions reduced by total deductions. The change in net position was higher by $394.3 million over the change in net position of the year ended December 31, 2015. This increase is due to investment gains being higher than in the previous year.

NET PENSION LIABILITY— CCCERA is subject to the provisions of GASB Statement No. 67, *Financial Reporting for Pension Plans*, beginning with the year ended December 31, 2014, and CCCERA's participating employers are subject to the provisions of GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, beginning with the fiscal year ended June 30, 2015. These standards require governments to recognize their long-term obligation for pension benefits as a liability on their balance sheets, to recognize their annual pension expense as a comprehensive measurement of the annual cost of pension benefits, and expands note disclosures and Required Supplementary Information for pension plans and their participating employers.

Pursuant to GASB Statement No. 67, the funded status and unfunded actuarial accrued liability (UAAL) of the plan are no longer presented in the notes or required supplementary information. The UAAL was determined by subtracting the excess of the actuarial accrued liability (discounted at the plan's assumed rate of return) from the actuarial value of assets (determined by smoothing values over a certain number of years to reduce volatility) and represented the costs allocated to date for current plan members that are not covered by the actuarial value of assets. The UAAL has now been replaced by the net pension liability (NPL), which represents the excess of the total pension liability (using an entry age cost method, discounted at a discount rate that reflects the expected return on assets) over fiduciary net position (valued at fair value). NPL is similar to UAAL but uses market assets, not smoothed assets. This is a conceptual shift by the GASB in the measurement of pension liabilities to provide a consistent, standardized methodology that allows comparability of data and increased transparency of the pension liability across all plans. CCCERA has complied with GASB Statement No. 67 for the year ended December 31, 2016 as well as since the first year of implementation.

Based on Segal Consulting's Governmental Accounting Standards (GAS) 67 Actuarial Valuation as of December 31, 2016, the Net Pension Liability (NPL) of participating employers on a market basis is $1.4 billion as of December 31, 2016 and $1.5 billion as of December 31, 2015. The increase is primarily due to the 7.10% return on the market value of assets during 2016 (that was slightly higher than the assumed return of 7.00%) and to changes in actuarial assumptions. Refer to Note 6, *Net Pension Liability* and the Required Supplementary Information section of this report for further information.

Changes in Net Pension Liability
As of December 31, 2016 and 2015

(Dollars in Thousands)

	2016 (a)	2015 (b)	Amount Increase/ (Decrease) (c) = (a) - (b)	Percent Increase/ (Decrease) (c) / (b)
Total Pension Liability	$8,838,975	$8,483,709	$355,266	4.2%
Less Plan Fiduciary Net Position	7,438,520	6,976,582	461,938	6.6%
Net Pension Liability	**$1,400,455**	**$1,507,127**	**$(106,672)**	**(7.1%)**

PENSION REFORM — Governor Jerry Brown signed the California Public Employees' Pension Reform Act of 2013 (PEPRA), which became effective January 1, 2013. While it has been called one of the largest pieces of pension reform legislation on record, it had minimal impact on current and retired CCCERA members hired prior to January 1, 2013. Most changes and provisions affected new public employees hired on or after January 1, 2013. Some new provisions that did impact current or retired CCCERA members were changes in what can be included in compensation for retirement purposes, new restrictions on the ability of a retiree to return to work with a CCCERA employer without reinstatement as an active member unless certain conditions are met, and elimination of employers' ability to adopt an enhanced benefit formula and apply it to past service. In addition, for new public employees, the legislation reduces benefit formulas, limits pensionable income, expands the final compensation period from one year to three years, and requires the new employee to pay a larger share of normal costs.

OVERALL ANALYSIS — For the year ended December 31, 2016, CCCERA's financial position and results from operations has experienced an increase over the prior year. For 2016, CCCERA's net position increased to $7.4 billion from $7.0 billion in 2015. The overall increase in net position for December 31, 2016 is primarily attributable to the appreciation in the fair value of the plan's broadly diversified portfolio. Despite fluctuations in the financial markets, CCCERA remains in a sound financial position to meet its obligations to plan participants and beneficiaries. The current financial position results from a strong and successful investment program, risk management and strategic planning. As a long-term investor, CCCERA can take advantage of price volatility along with a diversified exposure to domestic and international equities, fixed income investments, natural resources, real estate, infrastructure, private equity and overlay programs. The plan is recovering well from the general market downturn which occurred in 2009 and 2008 and CCCERA is well positioned with value focused assets to face market fluctuations.

CCCERA's Fiduciary Responsibilities

CCCERA's Board of Retirement (Board) and management are fiduciaries of the pension trust fund. Under the California Constitution and other applicable law, the assets can only be used for the exclusive benefit of plan participants and their beneficiaries and to defray the administrative and investment expenses of the plan.

Requests for Information

The Comprehensive Annual Financial Report (CAFR) is designed to provide the Retirement Board, our membership, taxpayers, investment managers, and others with a general overview of CCCERA's financial position and to show accountability for the funds it receives.

Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to:

Contra Costa County Employees'
Retirement Association
Attn: Accounting Division
1355 Willow Way, Suite 221
Concord, CA 94520-5728
Telephone: (925) 521-3960
Facsimile: (925) 521-3969

Respectfully submitted,

Accounting Manager
June 14, 2017

Basic Financial Statements
Statement of Fiduciary Net Position

Statement of Fiduciary Net Position
As of December 31, 2016 (With Comparative Totals)

	(Dollars in Thousands)	
ASSETS	**2016**	**2015**
Cash:		
Cash equivalents	$440,128	$298,031
Cash collateral - securities lending	204,196	285,451
TOTAL CASH & CASH EQUIVALENTS	**644,324**	**583,482**
Receivables:		
Contributions	8,835	8,497
Investment trades	232,984	494,429
Investment income	18,879	22,027
Installment contract (see Note 11)	15,633	17,116
Other	333	114
TOTAL RECEIVABLES	**276,664**	**542,183**
Investments at fair value:		
Stocks	3,006,405	2,956,104
Bonds	2,428,570	2,144,771
Real assets	187,667	305,601
Real estate	639,448	747,491
Alternative investments	929,674	768,896
TOTAL INVESTMENTS	**7,191,764**	**6,922,863**
Other assets:		
Prepaid expenses/deposits	170	183
Capital assets, net of accumulated depreciation/amortization of $2,790 and $2,574, respectively	97	302
TOTAL ASSETS	**8,113,019**	**8,049,013**
LIABILITIES		
INVESTMENT TRADES	**302,096**	**618,462**
SECURITIES LENDING COLLATERAL	**204,196**	**285,451**
EMPLOYER CONTRIBUTIONS UNEARNED	**149,089**	**150,472**
RETIREMENT ALLOWANCE PAYABLE	**6,769**	**6,782**
ACCOUNTS PAYABLE	**6,290**	**6,586**
CONTRIBUTIONS REFUNDABLE	**2,548**	**2,084**
OTHER LIABILITIES	**3,511**	**2,594**
TOTAL LIABILITIES	**674,499**	**1,072,431**
NET POSITION - RESTRICTED FOR PENSIONS	**$7,438,520**	**$6,976,582**

See accompanying notes to the financial statements.

Statement of Changes in Fiduciary Net Position

Statement of Changes in Fiduciary Net Position
For the year ended December 31, 2016 (With Comparative Totals)

(Dollars In Thousands)

ADDITIONS	2016	2015
Contributions:		
Employer contributions	$307,457	$323,720
Plan member contributions	89,240	85,361
TOTAL CONTRIBUTIONS	**396,697**	**409,081**
Investment income:		
Net (depreciation)/appreciation in fair value of investments	334,193	(97,824)
Net appreciation in fair value of real estate	42,752	40,704
Interest	85,278	89,665
Dividends	49,922	46,800
Real estate income, net	32,326	47,769
Investment expense	(46,328)	(43,059)
Other income/(expense)	3,590	(1,626)
NET INVESTMENT INCOME, BEFORE SECURITIES LENDING	**501,733**	**82,429**
Securities lending income (expense):		
Earnings	2,315	961
Rebates	(142)	593
Fees	(543)	(389)
NET SECURITIES LENDING INCOME	**1,630**	**1,165**
NET INVESTMENT INCOME	**503,363**	**83,594**
TOTAL ADDITIONS	**900,060**	**492,675**
DEDUCTIONS		
Benefits paid	412,073	400,759
Contribution prepayment discount	9,489	9,983
Administrative	8,486	8,115
Refunds of contributions	7,154	4,434
Other	920	1,712
TOTAL DEDUCTIONS	**438,122**	**425,003**
NET INCREASE IN NET POSITION	**461,938**	**67,672**
NET POSITION - RESTRICTED FOR PENSIONS		
Beginning of year	6,976,582	6,908,910
END OF YEAR	**$7,438,520**	**$6,976,582**

See accompanying notes to the financial statements.

Notes to the Financial Statements *(December 31, 2016)*

Note 1.
Plan Description

The Contra Costa County Employees' Retirement Association (CCCERA) is governed by the Board of Retirement (Board) under the County Employees Retirement Law of 1937 (CERL) and the California Public Employees' Pension Reform Act of 2013 (PEPRA). Members should refer to CERL and PEPRA for more complete information.

General

CCCERA is a contributory defined benefit plan (the Plan) initially organized under the provisions of CERL on July 1, 1945. It provides benefits upon retirement, death or disability of members. CCCERA operates as a cost-sharing, multiple employer defined benefit pension plan that covers substantially all of the employees of the County of Contra Costa (the County) and 16 other member agencies.

In October 2009, the Retirement Board depooled CCCERA's assets, actuarial accrued liability (AAL), and normal cost both by tier and employer for determining employer contribution rates. This Board action yielded 12 separate cost groups by employer, with the exception of smaller employers (those with less than 50 active members at that time) who continue to be pooled with the applicable County tier. The December 31, 2009 valuation was the first to incorporate the new "depooled" employer contribution rates, and those rates were effective July 1, 2011.

CCCERA's membership as of December 31, 2016 and 2015 is presented below.

Comparative Membership		
CURRENT MEMBERS:	2016	2015
Vested		
General, Tier 1 Enhanced	494	509
General, Tier 1 Non-enhanced	6	6
General, Tier 2	0	0
General, Tier 3 Enhanced	4,406	4,412
General, Tier 4 (2% Max COLA)	0	0
General, Tier 4 (3% Max COLA)	1	0
General, Tier 5 (2% Max COLA)	10	1
General, Tier 5 (3%/4% Max COLA)	9	2
TOTAL GENERAL	4,926	4,930
Safety, Tier A Enhanced	940	971
Safety, Tier A Non-enhanced	13	14
Safety, Tier C Enhanced	88	77
Safety, Tier D	0	0
Safety, Tier E	0	0
TOTAL SAFETY	1,041	1,062
TOTAL VESTED	5,967	5,992
Non-Vested		
General, Tier 1 Enhanced	56	71
General, Tier 1 Non-enhanced	2	4
General, Tier 2	0	0
General, Tier 3 Enhanced	648	1,029
General, Tier 4 (2% Max COLA)	14	5
General, Tier 4 (3% Max COLA)	102	78
General, Tier 5 (2% Max COLA)	1,774	1,150
General, Tier 5 (3%/4% Max COLA)	856	946
TOTAL GENERAL	3,452	3,283
Safety, Tier A Enhanced	38	63
Safety, Tier A Non-enhanced	0	0
Safety, Tier C Enhanced	48	70
Safety, Tier D	106	92
Safety, Tier E	237	142
TOTAL SAFETY	429	367
TOTAL NON-VESTED	3,881	3,650
TOTAL CURRENT MEMBERS	9,848	9,642

Comparative Membership (Continued)		
RETIREES AND BENEFICIARIES RECEIVING BENEFITS:	**2016**	**2015**
General - Service	5,619	5,527
General - Beneficiary	979	1,009
General - Nonservice-Connected Disability	150	153
General - Service-Connected Disability	244	254
TOTAL GENERAL	**6,992**	**6,943**
Safety - Service	1,206	1,211
Safety - Beneficiary	391	396
Safety - Nonservice-Connected Disability	22	21
Safety - Service-Connected Disability	489	497
TOTAL SAFETY	**2,108**	**2,125**
TOTAL RETIREES AND BENEFICIARIES	**9,100**	**9,068**
INACTIVE VESTED MEMBERS ENTITLED TO BUT NOT YET RECEIVING BENEFITS:		
General, Tier 1 Enhanced	218	225
General, Tier 1 Non-enhanced	16	13
General, Tier 2	214	220
General, Tier 3 Enhanced	1,687	1,590
General, Tier 4 (2% Max COLA)	1	0
General, Tier 4 (3% Max COLA)	11	4
General, Tier 5 (2% Max COLA)	256	132
General, Tier 5 (3%/4% Max COLA)	243	209
TOTAL GENERAL	**2,646**	**2,393**
Safety, Tier A Enhanced	323	300
Safety, Tier A Non-enhanced	8	7
Safety, Tier C Enhanced	72	61
Safety, Tier D	17	13
Safety, Tier E	23	16
TOTAL SAFETY	**443**	**397**
TOTAL INACTIVE VESTED MEMBERS	**3,089**	**2,790**
TOTAL MEMBERSHIP	**22,037**	**21,500**

CCCERA, with its own governing board, is an independent governmental entity, separate and distinct from the County of Contra Costa. Costs of administering the Plan are financed through contributions and investment earnings.

Effective January 1, 2015, California Senate Bill 673 (SB 673) makes the CCCERA retirement system an independent "district" and the employer for its entire staff, subject to terms and conditions of employment established by the Board.

Benefit Provisions

The Plan is currently divided into thirteen benefit levels in accordance with CERL and PEPRA. These levels are known as General Tier 1 (Enhanced and Non-enhanced); General Tier 2, General Tier 3 Enhanced, General Tier 4 (2% and 3% maximum Cost-of-Living Adjustments (COLAs)), General Tier 5 (2% and 3%/4% maximum COLAs), Safety Tier A (Enhanced and Non-enhanced), Safety Tier C Enhanced, Safety Tier D, and Safety Tier E.

On October 1, 2002, the Contra Costa County Board of Supervisors adopted Resolution No. 2002/608, which provides enhanced benefit changes commonly known as 3% at 50 for safety members and 2% at 55 for general members, effective on July 1, 2002 and January 1, 2003, respectively. Effective January 1, 2005, the enhanced benefits were applied to the bargaining units represented by the California Nurses Association and the nonrepresented employees within similar classifications as employees in bargaining units represented by the California Nurses Association, as well as the supervisors and managers of those employees. Effective July 1, 2005, East Contra Costa Fire Protection District adopted the enhanced benefit structure for its employees. In addition, each Special District that is a participant of CCCERA, and whose staff are not County employees covered by Resolution No. 2002/608, may elect to participate in the enhanced benefits. As of December 31, 2012, nine (9) general member agencies and four (4) safety member agencies have adopted enhanced benefits for their employees. A fifth safety member agency adopted enhanced benefits for its general members in 2003, but not for safety members. Under PEPRA, which became effective January 1, 2013, Districts that have not adopted enhanced benefits will no longer be allowed to do so.

Legislation was signed by the Governor in 2002 which allowed the County, effective October 1, 2002, to provide Tier 3 to all new employees, to move those previously in Tier 2 to Tier 3 as of that date, and to apply all future service as Tier 3. Tier 3 was originally created on October 1, 1998, and made available to all members with five or more years of Tier 2 service who elected to transfer to Tier 3 coverage.

All members who moved to Tier 3 with five or more years of service prior to October 1, 2002, or were moved to Tier 3 effective October 1, 2002, January 1, 2005, or February 1, 2006, continue to have Tier 2 benefits for service prior to that date unless the service is converted to Tier 3. As of December 31, 2006, there are no active Tier 2 member accounts. Tier 1 includes members not mandated to be in Tier 2 or Tier 3 and reciprocal members who were placed in Tier 1 membership.

Safety includes members in active law enforcement, active fire suppression work, or certain other "Safety" classifications as defined in sections of CERL made operative by the Board of Supervisors.

Effective January 1, 2007, Contra Costa County and the Deputy Sheriff's Association agreed to adopt a new Safety Tier C for sworn employees hired by the County after December 31, 2006. A Deputy Sheriff hired on or after January 1, 2007 through November 30, 2012, had a 3% at 50 benefit formula with a 2% maximum COLA and a 36 month final average salary period. Due to PEPRA, a Deputy Sheriff hired on or after January 1, 2013, will have a 2.7% at 57 benefit formula with a 36 month final average salary period with compensation limited as noted below. The 2% maximum annual COLA is unchanged.

Effective January 1, 2012, new hires and employees within the Labor Coalition are now responsible for the payment of 100% of the employees' basic retirement benefit contributions, determined annually by the Retirement Board, without the County paying any part of the employees' contributions. See Note 8, *Contributions*, for further description.

California Public Employees' Pension Reform Act (PEPRA)

In September 2012, the California Public Employees' Pension Reform Act of 2013 (PEPRA) was signed into law by the Governor of California, establishing new tiers for General and Safety employees entering CCCERA membership on or after January 1, 2013. The benefit formula for General members is 2.5% at age 67 and the Safety formula is 2.7% at age 57. Benefits under the new PEPRA tiers are based on a three-year final average compensation period. Additionally, PEPRA limits the amount of compensation CCCERA can use to calculate a retirement benefit. The 2016 compensation limits are \$117,020 for members covered by Social Security and \$140,424 for members not covered by Social Security and these limits increase to \$118,775 and \$142,530, respectively in 2017. The PEPRA annual compensation limits will be adjusted in future years based on changes in the Consumer Price Index. Most CCCERA General members (including County employees) are covered by Social Security, while CCCERA Safety members and some General members (including fire district employees) are not covered by Social Security.

In September 2013, the Governor approved Assembly Bill 1380 (AB 1380), which makes various technical corrections and conforming changes that align the CERL with the provisions of the PEPRA. In particular, the bill clarifies that Tier 4, Tier 5, Safety Tier D and Safety E members are eligible to retire at age 70, regardless of years of service, that the Board may, but is not required to, round these members' contribution rates to the nearest quarter of one percent, and those rates may be adjusted for any change in the normal cost rate. AB 1380 was effective January 1, 2014. On January 22, 2014, CCCERA's Board exercised the discretion made available by AB 1380 to no longer round the members' contribution rates for PEPRA members to the nearest quarter of one percent as previously required by PEPRA. This should allow for exactly one-half of the Normal Cost to be paid by the employees and by the employers covered under the PEPRA tiers.

In November 2012, the County Board of Supervisors approved two memoranda of understanding (deputy district attorneys and public defenders) that stipulated new CCCERA members who become members after December 31, 2012 within these bargaining units will earn retirement benefits that will be subject to a maximum annual COLA of 2%. As a result, CCCERA created a second Tier 5 for general members subject to this COLA provision. Other bargaining units (including units covering Tier 4 members) have since agreed to this COLA provision for those who become members after a certain date. Members in bargaining units subject to this COLA provision will be placed in General Tier 4 or 5 (2% max COLA) or Safety Tier E. In September 2013, the Board approved using base pay only for purposes of pensionable compensation for PEPRA members and to exclude all other special compensation beyond base pay. In addition, the Board clarified that separate pay items for premium pay to comply with the Fair Labor Standards Act (FLSA) and the Fire Retirement Allotment for the Moraga-Orinda Fire Protection District are to be excluded from pensionable compensation. In September 2014, the Board adopted a written policy to this effect, "Policy On Determining Pensionable Compensation Under PEPRA For Purposes Of Calculating Retirement Benefits."

Benefits are administered by the Board under the provisions of CERL and PEPRA. Annual COLAs to retirement benefits are provided for under CERL. Service retirements are based on age, length of service, and final compensation. Employees may withdraw contributions plus interest credited or leave them on deposit for a deferred retirement when they terminate or transfer to a reciprocal retirement system.

Pertinent provisions for each section follow:

General – Tier 1

Members may elect service retirement at age 70 regardless of service, at age 50 with 10 years of service, or with 30 years of service regardless of age. Disability retirements may be granted as service connected with no minimum service credit required or non-service connected with five years of service credit required. The retirement benefit is based on Government Code Section 31676.11 for the Non-enhanced tier and Section 31676.16 for the Enhanced tier. The final compensation is based on a one-year average.

General – Tier 2

Members may elect service retirement at age 70 regardless of service, at age 50 with 10 years of service, or with 30 years of service regardless of age. Previously, disability retirements were granted as service connected with no minimum service credit required or non-service connected with ten years of service credit required. Those members who elected in 1980 to transfer from Tier 1 to Tier 2 were eligible for non-service connected disability retirement with five years of service. The definition of a disability is stricter under Tier 2 than under Tier 1. The retirement benefit is based on Government Code Section 31752. The final compensation is based on a three-year average.

General – Tier 3

Members may elect service retirement at age 70 regardless of service, at age 50 with 10 years of service, or with 30 years of service regardless of age. Disability retirements may be granted as service connected with no minimum service credit or non-service connected with ten years of service credit required. The definition of disability is the same as Tier 2. The retirement benefit is based on Government Code Section 31676.16. The final compensation is based on a one-year average.

General – Tier 4

Members may elect service retirement at age 70 regardless of service, or at age 52 with 5 years of service. Disability retirements may be granted as service connected with no minimum service credit or non-service connected with five years of service credit required. The definition of disability is the same as Tier 1. The retirement benefit is based on Government Code Section 7522.20. The final compensation is based on a three-year average.

General – Tier 5

Members may elect service retirement at age 70 regardless of service, or at age 52 with 5 years of service. Disability retirements may be granted as service connected with no minimum service credit or non-service connected with ten years of service credit required. The definition of disability is the same as Tier 3. The retirement benefit is based on Government Code Section 7522.20. The final compensation is based on a three-year average.

Safety Tier A
Members may elect service retirement at age 70 regardless of service, or at age 50 with 10 years of service, or with 20 years of service regardless of age. Disability retirements may be granted as service connected with no minimum service credit required or non-service connected with five years of service credit required. The retirement benefit is based on Government Code Section 31664 for the Non-enhanced tier and Section 31664.1 for the Enhanced tier. The final compensation is based on a one-year average.

Safety Tier C
Members may elect service retirement at age 70 regardless of service, or at age 50 with 10 years of service, or with 20 years of service regardless of age. Disability requirements may be granted as service connected with no minimum service credit required or non-service connected with five years of service credit required. The retirement benefit is based on Government Code Section 31664.1. The final compensation is based on a three-year average.

Safety Tier D and Tier E
Members may elect service retirement at age 70 regardless of service, or at 50 with 5 years of service. Disability retirements may be granted as service connected with no minimum service credit required or non-service connected with five years of service credit required. The retirement benefit is based on Government Code Section 7522.25(d). The final compensation is based on a three-year average. Safety Tiers D and E differ only in the COLA provision. Additional information regarding CCCERA's benefits is included in the Benefit Handbook, available at *cccera.org*.

Cost-of-Living Adjustments (COLA)

The CERL authorizes the Retirement Board to grant annual automatic and ad hoc cost-of-living increases to all eligible retired members. Article 16.5 requires the Board to apply a COLA effective April 1st of each year. This adjustment is based on the change in the San Francisco-Oakland-San Jose area Consumer Price Index and is limited to the maximum of two percent for certain Tier 4 and Tier 5 members, depending on Memoranda of Understanding (MOU), and all Safety Tier C and Safety Tier E members; a maximum of three percent for Tier 1, Tier 3 (service retirement), certain Tier 4 and Tier 5 (service retirement), Safety Tier A and Safety Tier D members; and a maximum of four percent for Tier 2, Tier 3 (disability retirement), and certain Tier 5 (disability retirement) members. Government Code Section 31874.3 allows the granting of a supplemental cost-of-living benefit, on a prefunded basis, to eligible retirees whose unused Consumer Price Index increase accumulations equal or exceed 20 percent. This supplemental increase is a permanent part of the retirees' monthly benefit and is known as "New Dollar Power".

Terminations

Effective January 1, 2003, a member with less than five years of service may elect to leave accumulated contributions on deposit in the retirement fund regardless of years of service as a result of the enactment of AB 2766, which amends Section 31629.5 of CERL. A member who continues membership under this ruling is granted a deferred status and is subject to the same age, service, and disability requirements that apply to other members for service or disability retirement.

Note 2.
Summary of Significant Accounting Policies

Basis of Accounting

CCCERA follows the accounting principles and reporting guidelines set forth by the Governmental Accounting Standards Board (GASB). The financial statements are prepared using the accrual basis of accounting in accordance with generally accepted accounting principles (GAAP) in the United States of America, under which revenues are recognized when earned and deductions are recorded when the liability is incurred. Employee and employer contributions are recognized in the period in which the contributions are due, pursuant to formal commitments, as well as statutory or contractual requirements. Investment income is recognized as revenue when earned. Retirement benefits and refunds of prior contributions are recognized when due and payable in accordance with the terms of the Plan. Other expenses are recognized when the corresponding liabilities are incurred. All investment purchases and sales are recorded on the trade date. The net appreciation and/or depreciation in fair value of investments held by CCCERA is recorded as an increase or decrease to investment income based on the valuation of investments at June 30th and December 31st.

Cash Equivalents

Cash equivalents include deposits in the Plan's custodian bank, investment managers, and County Treasurer's commingled cash pool. Cash equivalents are highly liquid investments with maturities of three months or less when purchased. Short-term investments with the custodian bank include foreign currencies, cash held in short-term investment funds and other short-term, highly liquid investments. Short-term investments considered cash equivalents are recorded at cost, which approximates fair value.

Methods Used to Value Investments

Investments are carried at fair value. Fair values for investments are derived by various methods, as indicated in the following chart:

Investment Fair Value Sources

Investments	Source
Publicly Traded Securities, such as stocks and bonds. Bonds include obligations of the U.S Treasury, U.S. agencies, non-U.S. governments, and both U.S. and non-U.S. corporations. Also included are mortgage backed securities and asset backed securities.	Valuations are provided by CCCERA's custodian bank based on end-of-day prices from external pricing vendors, Non-U.S. securities reflect currency exchange rates in effect at December 31, 2016.
Private Real Estate	Fair value as provided by real estate fund managers, based on review of cash flow, exit capitalization rates, and market trends; fund managers commonly subject each property to independent third-party appraisal annually. Investments under development are carried at cumulative cost until developed.
Alternatives (Private Equity and Private Credit)	Fair value provided by investment managers as follows: Private investments - valued by the General Partner giving consideration to financial condition and operating results of the portfolio companies, nature of investment, marketability, and other factors deemed relevant. Public investments - valued based on quoted market prices, less a discount, if appropriate, for restricted securities.
Public Market Equity and Fixed Income Investments held in Institutional Commingled Fund/ Partnership	Fair value is typically provided by a third-party fund administrator, who performs this service for the fund manager.

Investment Asset Allocation Policy

The allocation of investment assets within CCCERA's portfolio is approved by the Board as outlined in the investment policy. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the Plan. On September 28, 2016, the Board adopted a revised Investment Policy

Statement that implements a long-term asset allocation over a three phase approach. The first phase focuses on building the liquidity sub-portfolio while phases two and three focus on restructuring of the growth and diversifying sub-portfolios. The first phase was completed on October 26, 2016. Phases two and three are scheduled for next fiscal year 2017. The following table provides the Board's adopted long-term asset allocation policy as of December 31, 2016.

Long Term Asset Allocation Policy
As of December 31, 2016

Asset Class	Target Allocation
Liquidity	25%
Growth:	
Domestic Equity	6%
Global & International Equity	20%
Private Equity	12%
Private Credit	16%
Real Estate - Value Add	4%
Real Estate - Opportunistic & Distressed	4%
Real Estate - REIT	1%
Total Growth	63%
Risk Diversifying	12%
TOTAL	**100%**

Receivables

Receivables consist primarily of interest, dividends, installment contracts, investments in transition (i.e., traded but not yet settled) and contributions owed by the employing entities as of December 31, 2016.

Capital Assets

Capital assets, consisting of software, leasehold improvements, and furniture and office equipment, are presented at historical cost, less accumulated depreciation and amortization. Capital assets with an initial cost of more than $10,000 and an estimated useful life in excess of three years are capitalized and depreciated/amortized. Depreciation/amortization is calculated using the straight-line method, with estimated lives ranging from five to ten years for all leasehold improvements and pension administration system assets, and five years for office equipment.

Income Taxes

The Internal Revenue Service has ruled that plans such as CCCERA qualify under Section 401(a) of the Internal Revenue Code and are not subject to tax under present tax laws. In December 2014, CCCERA received a favorable letter of determination from the Internal Revenue Service (IRS). Accordingly, no provision for income taxes has been made in the accompanying basic financial statements, as the Plan is exempt from federal and state income taxes under provisions of the Internal Revenue Code, Section 401, and California Revenue and Taxation Code, Section 23701, respectively.

Use of Estimates

The preparation of CCCERA's financial statements in conformity with accounting principles generally accepted in the United States of America (i.e., GAAP) requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes to the financial statements. Actual results could differ from those estimates.

Reclassifications

Comparative data for the prior year have been presented in the selected sections of the accompanying Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position. Also, certain accounts presented in the prior year's data may have been reclassified to be consistent with the current year's presentation.

Implementation of New GASB Pronouncements

In 2016, CCCERA implemented the provisions of the GASB Statement No. 72, *Fair Value Measurement and Application*. This Statement requires a government to use valuation techniques that are appropriate under the circumstances and for which sufficient data are available to measure fair value. The techniques should be consistent with one or more of the following approaches: market approach, cost approach, or income approach. The Statement also establishes a hierarchy of inputs to valuation techniques used to measure fair value and requires additional disclosures relating to investments in certain entities that calculate net asset value per share (refer to Note 4, *Fair Value Measurements,* on page 41).

In June 2015, the GASB issued Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets that Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*, and Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. Statement No. 73 amends certain provisions, and clarifies the application of certain provisions of Statements No. 67 and No. 68 in order to improve the usefulness of information about pensions included in the financial reports of state and local governments for making decisions and assessing accountability.

Statement No. 76 establishes the hierarchy of GAAP for state and local governments, in the context of the current governmental financial reporting environment. CCCERA's fiduciary net position was not materially affected by the implementation of the Statements No. 73 and No. 76.

Note 3. Deposits and Investment Risk Disclosures

Investment Stewardship

Except as otherwise expressly restricted by the California Constitution and by law, the Board may, at its discretion, invest, or delegate CCCERA to invest the assets of CCCERA through the purchase, holding, or sale of any form or type of instrument, or financial transaction when prudent in the informed opinion of the Board. In addition, the Board has established an investment policy, which places limits on the compositional mix of cash, fixed income and equity securities, real assets, alternative investments, and real estate investments. CCCERA currently employs external investment managers to manage its assets subject to the guidelines of the investment policy.

Investment Risk

Investments are subject to certain types of risks, including interest rate risk, credit risk (including custodial credit risk and concentrations of credit risk), and foreign currency risk. The Board recognizes that the assumption of investment risk is necessary to meet the Plan's objectives. The goal in managing investment risk is to ensure than an acceptable level of risk is being taken at the total Plan portfolio level. CCCERA has no formal policy relating to interest rate risk. The following describes those risks:

Interest Rate Risk

Interest rate risk is the risk that the changes in interest rates will adversely affect the fair value of an investment. The fair value of fixed maturity investments fluctuates in response to changes in market interest rates. Increases in prevailing interest rates generally translate into decreases in fair value of those investments. The fair value of interest sensitive instruments may also be affected by the creditworthiness of the issuer, prepayment options, relative values of alternative investments, and other general market conditions. Certain fixed maturity investments may have call provisions that could result in shorter maturity periods.

Holdings of Fixed Income Futures are allowed, on an unleveraged basis, such that the market notional value of long contracts shall be covered by cash, cash receivables, or cash equivalents with one year or less in duration.

The following schedule is a list of fixed income and short-term investments and the related maturity schedule for CCCERA as of December 31, 2016:

Investment Maturities (In Years)
As of December 31, 2016

(Dollars in Thousands)

Investment Type	Less than 1 year	1-5 years	6-10 years	More than 10 years	Fair Value
Collateralized Mortgage Backed Securities (CMBS)	$61,927	$197,855	$81,487	$220,069	$561,338
Collateralized Mortgage Obligations (CMO)	-	7,511	42	91,020	98,573
Corporate Bonds	228,056	824,298	158,975	5,571	1,216,900
Short-Term Investment Fund (STIF) Instruments	8,945	-	-	332,434	341,379
US Treasury Notes & Bonds	8,249	192,588	49,675	4,921	255,433
US Agencies (GNMA, FNMA, FHLMC)	(133,397)	23,204	4,829	223,097	117,733
TOTALS:	**$173,780**	**$1,245,456**	**$295,008**	**$877,112**	**$2,591,356**

Custodial Credit Risk

Custodial credit risk for deposits is the risk that in the event of a financial institution's failure, CCCERA would not be able to recover its deposits. Deposits are exposed to custodial credit risk if they are not insured or not collateralized. Under California Government Code, a financial institution is required to secure deposits in excess of $250,000 made by state or local governmental units by pledging securities held in the form of an undivided collateral pool. The fair value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. California law also allows financial institutions to secure governmental deposits by pledging first deed mortgage notes having a value of 150% of the secured public deposits. Such collateral is held by the pledging financial institution's trust department or agent in CCCERA's name.
At year-end, the carrying amount of CCCERA's cash deposits in non-interest bearing accounts was $15.3 million (which are included in cash equivalents) and the bank balance was $16.6 million. The difference between the bank balance and the carrying amount represents outstanding checks and deposits in transit. Effective January 1, 2013, funds deposited in a non-interest bearing account no longer receive unlimited deposit insurance coverage by the Federal Deposit Insurance Corporation (FDIC). Beginning January 1, 2013, any non-interest bearing transaction deposit account will be insured by the FDIC up to the standard maximum deposit insurance amount of $250,000.

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, CCCERA would not be able to recover the value of the investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, not registered in CCCERA's name, and held by the counterparty. CCCERA's investment securities are not exposed to custodial credit risk because all securities held by CCCERA's custodial bank are in CCCERA's name.

CCCERA has no general policy on custodial credit risk for deposits.

Money-Weighted Rate of Return

For the years ended December 31, 2016 and 2015, the annual money-weighted rate of return on the assets of the Plan, net of investment expense, was 7.1% and 1.2%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the timing of cash flows and the changing amounts actually invested.

At the June 8, 2016 Board meeting, the Board adopted an investment return assumption for financial reporting purposes that is net of investment expenses and not net of administrative expenses equal to 7.0% per year.

Investment Concentrations

The Board's investment policies and guidelines permit investments in numerous specified asset classes to take advantage of professional investment management advice and a well-diversified portfolio. At December 31, 2016, CCCERA has no individual securities that represent five percent (5%) or more of the Plan's fiduciary net position. Investments issued or explicitly guaranteed by the U.S. government and pooled investments are excluded from this requirement. However, there are four portfolio positions that exceed the 5% threshold, but each of these positions represents a diversified portfolio. As of December 31, 2016 the portfolios that exceed 5% of the Plan's fiduciary net position are:

- Insight Short-Duration Fixed Income 10.8%
- DFA Short-Duration Fixed Income 5.3%
- Pyrford International Equity 5.4%
- William Blair International Equity 5.4%

Credit Risk

Credit risk is the risk that an issuer, or other counterparty to an investment, will not fulfill its obligations. CCCERA's general investment policy is to apply the prudent-person rule. Investments are made as a prudent person would be expected to act, with discretion and for the exclusive purposes of providing benefits, minimizing contributions, and defraying reasonable expenses of administering the Plan. Investments should be diversified so as to minimize the risk of loss and to maximize the rate of return unless, under the circumstances, it is clearly prudent not to do so.

Nationally recognized statistical rating organizations provide ratings of debt securities' quality based on a variety of factors. For example, the financial condition of the issuer provides investors with some idea of the issuer's ability to meet its obligations. Fixed-maturity investments may consist of rated or non-rated securities. Ratings can range from AAA (highest quality) to D (default). An investment grade is a rating that indicates that a bond has a relatively low risk of default. Debt securities with ratings of BBB or higher are considered investment grade issues, and debt securities with ratings of BB or lower are non-investment grade issues. Debt securities in the non-investment grade category are more speculative and are often referred to as "high-yield". This is due to the fact that lower rated debt securities generally carry a higher interest rate to compensate the buyer for taking on additional risk.

The following is a schedule of the credit risk ratings of CCCERA's fixed income and short-term investments as of December 31, 2016 as rated by Standard & Poor's (Dollars in Thousands):

Credit Risk Ratings
As of December 31, 2016

Quality Ratings	Fair Value
AAA	$359,640
AA+	56,299
AA	37,663
AA-	87,397
A+	67,781
A	167,092
A-	136,050
BBB+	164,562
BBB	66,171
BBB-	20,196
BB+	42,979
BB	51,908
BB-	59,276
B+	77,278
B	46,422
B-	48,250
CCC+	11,414
CCC	23,346
CCC-	2,875
CC	1,339
D	5,724
NR	1,057,694
TOTAL CREDIT RISK FIXED INCOME SECURITIES	$2,591,356

Investment Type	Quality Rating Range
Asset-backed securities*	AAA to CCC
Convertible bonds	Not rated
CMBS	AAA to CCC
CMO*	AAA to D
Corporate bonds*	AAA to CCC-
Municipals	AAA to BBB+
Private placements	AAA to BBB+
Real estate investment trust*	A- to B+
Short-term	AA to A+
U.S. & foreign agencies*	AAA to CCC+
Mutual funds	Not rated

*Investment type contained one or more investments that were not rated.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates may adversely affect the fair value of an investment. CCCERA has no formal policy related to foreign currency risk. CCCERA's external investment managers may invest in international securities and must follow CCCERA's investment guidelines pertaining to these types of investments.

CCCERA's exposure to foreign currency risk in U.S. dollars as of December 31, 2016 is as follows:

Foreign Currency Risk
As of December 31, 2016

(Dollars in Thousands)

Currency	Fixed Income	Equity	Total
Australian Dollar	$2,780	$31,651	$34,431
Brazilian Real	10,015	11,292	21,307
British Pound Sterling	9,345	92,854	102,199
Canadian Dollar	5,725	30,201	35,926
Danish Krone	788	14,204	14,992
Euro Currency	29,540	152,028	181,568
Hong Kong Dollar	4,833	36,733	41,566
Hungarian Forint	-	671	671
Indian Rupee	-	11,055	11,055
Indonesian Rupiah	170	2,752	2,922
Israeli Shekel	834	-	834
Japanese Yen	88,440	116,246	204,686
Mexican Peso	3,885	1,053	4,938
New Zealand Dollar	165	667	832
Norwegian Krone	132	3,245	3,377
Polish Zioty	293	-	293
Singapore Dollar	2,008	-	2,008
South Africa Rand	-	7,927	7,927
South Korean Won	3,892	16,412	20,304
Swedish Krona	2,086	15,411	17,497
Swiss Franc	4,577	15,799	20,376
Thailand Bait	1,371	-	1,371
Turkish Lira	-	1,203	1,203
United Arab Emirates Dirham	-	1,488	1,488
TOTAL SECURITIES SUBJECT TO FOREIGN CURRENCY RISK	$170,879	$562,892	$733,771

Note 4.
Fair Value Measurements

CCCERA implemented GASB Statement No. 72 (GASB 72), *Fair Value Measurement and Application*, in the current year. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements and disclosures. The Plan's investments are measured and reported within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). The three levels of the fair value hierarchy are as follows:

- *Level 1* inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets.

- *Level 2* inputs are inputs other than quoted prices included in Level 1 that are observable for an asset or liability, either directly or indirectly. Inputs to the valuation include: 1) quoted prices for similar assets or liabilities in active markets; 2) quoted prices for identical or similar assets or liabilities in markets that are not active; 3) Inputs other than quoted prices that are observable for the asset or liability; and 4) market-corroborated inputs.

- *Level 3* inputs are unobservable inputs for an asset or liability where there are little market activities. The inputs into the determination of fair value are based upon the best information in the circumstances and may require management judgment or estimation.

Schedule of Investments by Fair Value Hierarchy

Equity securities, real estate investment trusts, and liquidity program classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

The exchange traded Future Contracts, Foreign Exchange Contracts, and Equity Derivatives classified in Level 1 of the fair value hierarchy are valued using a daily settlement when available or as a daily mark to market.

Debt and equity securities and liquidity program classified in Level 1 or 2 of the fair value hierarchy are valued using a matrix pricing technique based on the availability of the market price, the pricing source and type, and the country of incorporation of the securities. The hierarchy levels are determined based on the level of corroborative information obtained from other market sources to assert that the prices provided represent observable data.

Equity mutual funds and real assets classified in Level 2 of the fair value hierarchy are valued based on the availability of market price of the underlying assets, and using either a discounted cash flow or Comparable Company Analysis with internal assumptions.

Certain investments which do not have a readily determinable fair value have been valued at Net Asset Value (NAV) per share (or its equivalent) provided that the NAV is calculated and used as a practical expedient to estimate fair value in accordance with GAAP requirements. These investments are not categorized within the fair value hierarchy but disclosed in the Investments Measured at the NAV section.

CCCERA has the following recurring fair value measurements as of December 31, 2016 (in thousands):

Schedule of Investments by Fair Value Hierarchy
The Plan has the following recurring fair value measurements as of December 31, 2016

(Dollars In Thousands)

		Fair Value Measurements Using		
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Investments by Fair Value Level:				
Stocks:				
Domestic Equity	$1,410,932	$1,383,711	$27,221	$-
Global & International Equity	274,717	209,639	65,078	-
Real Estate - REIT	62,152	59,555	2,597	-
Total Stock Securities	1,747,801	1,652,905	94,896	-
Bonds:				
Liquidity Program	1,459,712	7,449	1,452,263	-
Held in Equity Portfolios	352,162	-	352,162	-
High Yield	369,449	-	369,449	-
Total Bond Securities	2,181,323	7,449	2,173,874	-
Real Assets:				
Risk Diversifying	187,667	-	187,667	-
Total Investments By Fair Value Level	4,116,791	1,660,354	2,456,437	-
Investments measured at the Net Asset Value (NAV):				
Public Market Commingled Funds	1,492,728			
Real Estate:				
Value Added, Opportunistic & Distressed Funds	639,448			
Alternatives:				
Private Equity & Private Credit Funds	929,674			
Total Investments measured at the NAV	3,061,850			
Total Investments measured at Fair Value	$7,178,641			
Investment Derivative Instruments:				
Futures Contracts	5,156	5,156	-	-
Foreign Exchange Contracts	5,627	5,627	-	-
Equity Derivatives	2,340	2,340	-	-
Total Investment Derivative Instruments	$13,123	$13,123	-	-

Investments Measured at the Net Asset Value (NAV)

(Dollars In Thousands)

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Public Market Commingled Funds (1)	$1,492,728	$-	N/A	N/A
Real Estate:				
Value Added, Opportunistic & Distressed Funds (2)	639,448	374,778	Quarterly, Monthly	1 - 90 days
Alternatives:				
Private Equity & Private Credit Funds (3)	929,674	810,118	Quarterly, Monthly	1 - 90 days
Total Investments measured at the NAV	$3,061,850	$1,184,896		

1. Public Market Commingled Funds: This investment type consists of five public market commingled funds that primarily invest in publicly traded stocks and bonds. The fair value of these investments has been determined using a practical expedient based on the investments' NAV per share (or its equivalent). These investments have monthly liquidity with ten days notice.

2. Value Added, Opportunistic & Distressed Real Estate Funds: This investment type consists of twenty-one real estate funds that invest primarily in commercial real estate. The fair value of these investments has been determined using a practical expedient based on the investments' NAV per share (or its equivalent). All of the funds are in closed-end fund vehicles and are not redeemable. It is expected that these investments will be held for the entire lives of the funds and will not be sold in the secondary market. Distributions from each fund will be received as underlying assets are liquidated by the fund managers. It is expected that the underlying assets of these funds will be liquidated over the next one to 12 years, depending on the vintage year of each fund.

3. Private Equity & Private Credit Funds: This investment type consists of twenty-seven private equity and five private credit funds. The private equity funds invest primarily in privately held U.S. and non-U.S. companies. The five private credit funds invest primarily in commercial real estate debt and debt instruments of upstream energy firms. The fair value of these investments has been determined using a practical expedient based on the investments' NAV per share (or its equivalent). It is expected that these investments will be held for the entire lives of the funds and will not be sold in the secondary market. Distributions from each fund will be received as the underlying assets are liquidated by the fund managers. It is expected that the underlying assets of these funds will be liquidated over the next one to 15 years, depending on the vintage year of each fund.

Note 5.
Securities Lending Transactions

The investment policy, adopted by the Board, permits the use of a securities lending program with its principal custodian bank. Securities lending is an investment management activity that mirrors the fundamentals of a loan transaction. Securities are lent to brokers and dealers (borrower), and in turn CCCERA receives cash as collateral and invests the collateral with the goal of earning a higher yield than the interest rate paid to the borrower. Earnings generated above and beyond the interest paid to the borrower represent the net income to CCCERA from the transaction. The custodian bank provides loss indemnification to CCCERA if the borrower fails to return the securities.

The custodian bank manages the securities lending program and receives cash and/or securities as collateral. The collateral cash can be invested and is automatically rolled into a Short-Term Investment Fund (STIF). The collateral securities cannot be pledged or sold by CCCERA without borrower default. The collateral is marked-to-market daily, and if the market value of the securities rises, CCCERA receives additional collateral.

Securities on loan must be collateralized at 102 percent and 105 percent of the fair value of domestic securities and international equity securities, respectively, plus accrued interest (in the case of debt securities).

There are no restrictions on the amount of the securities that can be loaned at one time. CCCERA has the right to terminate any loan in whole or in part by providing the custodian bank with written notice (a "Recall Notice"). Because the loans are terminable at will, the term to maturity of the security loans is generally not matched with the term to maturity of the cash collateral. At year-end, CCCERA had no credit risk exposure to borrowers, because the amount of collateral received exceeded the value of securities on loan. As of December 31, 2016, there were no violations of legal or contractual provisions. CCCERA had no losses on securities lending transactions resulting from the default of a borrower for the year ended December 31, 2016.

At year-end, additional funds of $0.5 million are owed to borrowers for CCCERA's collateral overpayments on CCCERA's securities on loan. This is known as the "calculated mark" and will settle on the first business day of January 2017. CCCERA has no credit risk exposure to borrowers because the collateral exceeds the amount borrowed. The fair value of investments on loan at December 31, 2016 is $222.8 million which was collateralized by cash and securities in the amount of $228.3 million. The fair value of the cash collateral in the amount of $204.2 million has been reported both as an asset and liability in the accompanying Statement of Fiduciary Net Position.

Securities Lending
The following securities were on loan and collateral received as of December 31, 2016:

(Dollars in Thousands)

Securities on Loan	Fair Value of Securities on Loan	Cash Collateral*	Non-Cash Collateral	Calculated Mark*	Collateral Percentage
U.S. Corporate Fixed and Equity	$152,468	$133,029	$23,770	($729)	102.4%
U.S. Government	70,283	71,167	340	211	102.0%
TOTAL	**$222,751**	**$204,196**	**$24,110**	**($518)**	**102.3%**

*Additional funds known as the "calculated mark" are due from/to the borrower to bring collateral to 102% for domestic securities.

Note 6.
Net Pension Liability

Statement No. 67 of the Governmental Accounting Standards Board (GASB) requires public pension plans to provide a net pension liability. The net pension liability is measured as the total pension liability less the amount of the pension plan's fiduciary net position. The net pension liability is an accounting measurement for financial statement reporting purposes. The components of CCCERA's (the Plan's) net pension liability as of December 31, 2016 and 2015 are as follows:

Net Pension Liability

	(Dollars in Thousands)	
	December 31, 2016	**December 31, 2015**
Total Pension Liability (a)	$8,838,975	$8,483,709
Plan Fiduciary Net Position (b)	7,438,520	6,976,582
Net Pension Liability (a-b)	**$1,400,455**	**$1,507,127**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (b/a)	**84.2%**	**82.2%**

Actuarial Assumptions

In preparing an actuarial valuation, the actuary employs generally accepted actuarial methods and assumptions to evaluate the Plan's assets, liabilities, and future contributions requirements. The actuary utilizes member data and financial information provided by the Plan with economic and demographic assumptions made about the future to estimate the Plan's financial status as of a specified point in time. Examples of estimates include assumptions about future employment, mortality, future investment returns, future salary increases, expected retirements and other relevant factors. Actuarially determined amounts are subject to continual review or modification. The Board reviews the economic and demographic assumptions of the Plan every three years.

The actuarial assumptions used to determine the total pension liability as of December 31, 2016 were based on the results of the most recent Actuarial Experience Study which covered the period from January 1, 2012 through December 31, 2014. These same assumptions were used in the December 31, 2016 actuarial valuation, which is used to determine contribution rates for funding purposes. Key methods and assumptions used in the latest actuarial valuation and the total pension liability are presented below.

Key Methods and Assumptions Used In Annual Actuarial Valuation and Total Pension Liability	
Valuation Date	December 31, 2016
Actuarial Experience Study	3 Year Period Ending December 31, 2014
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll
Remaining Amortization Period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 7 years remaining as of December 31, 2015. Any changes in UAAL after December 31, 2007 is separately amortized over a fixed 18-year period effective with that valuation. Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.
Asset Valuation Method	Fair value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Investment Rate of Return	7.00%, net of pension plan investment expenses, including inflation
Inflation Rate	2.75%
Administrative expenses	1.14% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member
Real across-the-board salary increase	0.50%
Projected Salary Increases[1]	General: 4.00 % to 13.25 % Safety: 4.00 % to 13.75 %, varying by service, including inflation

(Table continued on next page)

Key Methods and Assumptions Used In Annual Actuarial Valuation and Total Pension Liability (Continued)	
Cost-of-Living Adjustments	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in Consumer Price Index (CPI).
Other Assumptions:	Same as those used in the December 31, 2016 funding actuarial valuation

(1) Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus promotional and merit increases for December 31, 2016 and December 31, 2015.

Long-Term Expected Real Rate of Return

The long-term expected rate of return on Plan investments was determined in 2016 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. This information is 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 allocations (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption for each major asset class are summarized in the following table.

Long-Term Expected Real Rate of Return

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Large Cap U.S. Equity	6.00%	5.75%
Developed International Equity	10.00%	6.99%
Emerging Markets Equity	14.00%	8.95%
Short-Term Govt/Credit	24.00%	0.20%
U.S. Treasury	2.00%	0.30%
Real Estate	7.00%	4.45%
Cash & Equivalents	1.00%	(0.46%)
Risk Diversifying Strategies	2.00%	4.30%
Private Credit	17.00%	6.30%
Private Equity	17.00%	8.10%
TOTAL	100.00%	

Mortality Rates

Mortality rates used in the latest actuarial valuation are based on the RP-2000 Combined Healthy Mortality Table projected to 2030 using Projection Scale AA, set back one year for General Members and two years for Safety Members. The rates used in evaluating allowances were based on the RP-2000 Combined Healthy Mortality Table projected to 2030 using Projection Scale AA, set forward six years for males and seven years for females for General and three years for Safety.

Discount Rate

The discount rate used to measure the total pension liability as of December 31, 2016 and December 31, 2015 was 7.00%. The projection of cash flows used to determine the discount rate assumed Plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current Plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future Plan members and their beneficiaries, as well as projected contributions from future Plan members, are not included. Based on those assumptions, the 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 of 7.00% was applied to all periods of projected benefit payments to determine the total pension liability as of December 31, 2016 and December 31, 2015, respectively.

The following table presents the net pension liability of participating employers calculated using the discount rate of 7.00% as of December 31, 2016 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.

Sensitivity of Net Pension Liability to Changes in the Discount Rate
As of December 31, 2016

(Dollars in Thousands)

	1% Decrease (6.00%)	Current Rate Discount (7.00%)	1% Increase (8.00%)
Net Pension Liability	$2,611,814	$1,400,455	$413,398

Note 7.
Derivative Financial Instruments

A derivative is a security with a price that is dependent upon or derived from one or more underlying assets. As of December 31, 2016, the derivative instruments held by CCCERA are considered investments and not hedges for accounting purposes. The term hedging, as it is used elsewhere in the notes to these financial statements, denotes an economic activity and not an accounting method. The gains and losses from this activity are recognized as incurred in the Statement of Changes in Fiduciary Net Position.

CCCERA currently employs external investment managers to manage its assets as permitted by the California Government Code and CCCERA's investment policy and specific managers hold investments in swaps, options, futures, forward settlement contracts, and warrants and enter into forward foreign currency exchange security contracts within fixed income financial instruments. The fair value of options, futures, and warrants is determined based upon quoted market prices. The fair value of derivative investments that are not exchange traded, such as swaps, and TBAs (To Be Announced) is determined by an external pricing service using various proprietary methods, based upon the type of derivative instrument. Futures contracts are marked to market at the end of each trading day, and the settlement of gains or losses occur on the following business day through variation margins. The fair value of international currency forwards represents the unrealized gain or loss on the related contracts, which is calculated as the difference between the specified contract exchange rate and the exchange rate at the end of the reporting period.

Forward foreign currency exchange contracts are used primarily to hedge against changes in exchange rates related to foreign securities. Due to the level of risk associated with certain derivative investment securities, it is conceivable that changes in the values of investment securities will occur in the near term, and such changes could affect the amounts reported in the financial statements.

CCCERA could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. CCCERA's investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits, and exposure monitoring procedures. CCCERA anticipates that the counterparties will be able to satisfy their obligations under the contracts. The following is a summary of derivative instruments at December 31, 2016 with the net appreciation/(depreciation) that has occurred during the year:

Fair Value
As of December 31, 2016

(Dollars in Thousands)

Investment Derivatives by Type	Net Appreciation/ (Depreciation) in Fair Value Amount	Classifications	Fair Value	Notional Amount
Credit Default Swaps Bought	($197)	Debt Securities	$0	$0
Credit Default Swaps Written	(21)	Debt Securities	569	22,487
Fixed Income Futures Long	(3,206)	Debt Securities	-	135,344
Fixed Income Futures Short	(1,296)	Debt Securities	-	(56,360)
Fixed Income Options Bought	(96)	Debt Securities	3,786	536,920
Fixed Income Options Written	(18)	Debt Securities	(1,266)	(560,600)
Foreign Currency Options Bought	(30)	Debt Securities	366	10,799
Foreign Currency Options Written	1,062	Debt Securities	(230)	(34,683)
Futures Options Bought	(66)	Debt Securities	-	-
Futures Options Written	358	Debt Securities	(52)	(93)
FX Forwards	6,662	Debt Securities	5,627	145,092
Index Futures Long	3,405	Debt Securities	-	65
Index Options Bought	(100)		151	53
Index Options Written	77	Debt Securities	(247)	(106)
Pay Fixed Interest Rate Swaps	1,853	Debt Securities	2,796	359,803
Receive Fixed Interest Rate Swaps	5,891	Debt Securities	(717)	149,480
Total Return Swaps Equity	28,823	Equities	2,340	(201,851)
Warrants	12	Equities	-	448
TOTAL	**$43,113**		**$13,123**	

Valuation methods are more fully described in Note 2, *Summary of Significant Accounting Policies*, and Note 4, *Fair Value Measurements*, to the basic financial statements. CCCERA's derivative instruments that are not exchange traded, including the swaps disclosed above, are valued using methods employed for debt securities. CCCERA's investment policy does not require collateral to be held for derivative investments.

Futures contracts are instruments that derive their value from underlying indices or reference rates and are marked to market daily. Settlement of gains or losses occur the following business day. As a result, those instruments and other similar instruments do not have a fair value at December 31, 2016, or any other trading day. Daily settlement of gains and losses enhances internal controls as it limits counterparty credit risk. Futures variation margin accounts are also settled daily and recognized in the financial statements under net appreciation/(depreciation) in fair value as they are incurred.

Foreign currency contracts are obligations to buy or sell a currency at a contractual exchange rate and quantity on a specific date in the future. The fair value of the foreign currency forwards is the unrealized gain or loss calculated as the difference between the contractual exchange rate and the closing exchange rate as of December 31, 2016.

Counterparty Credit Risk

Counterparty credit ratings of CCCERA's non-exchange traded investment derivative instruments (approximately $15.3 million) and subject to loss as of December 31, 2016, ranged from AA- to A- per Standard & Poor's rating with similar ratings from Moody's and Fitch Ratings (Fitch). No instruments that were non-exchange traded lacked ratings. In a case where a wholly owned broker–dealer does not engage the rating companies for a standalone rating, the subsidiary is assigned the parent company rating as the broker-dealer is an integral part of their business model(s). With the exception of forward trade commitments, CCCERA has a policy of requiring collateral posting provisions in non-exchange traded derivative instruments where it is market practice. As of December 31, 2016, CCCERA does not hold any collateral related to its non-exchange traded derivative instruments. The approximate $15.3 million represents the maximum loss that would be recognized at December 31, 2016 should the counterparties fail to perform. While no netting arrangements are used by CCCERA, the amount represents a net position of exposure for similar instruments.

Derivative Instruments Subject to Credit Risk

As of December 31, 2016, the following is a table of investment providers that are subject to credit risk, percentage of net exposure, and ratings:

Investment Provider Exposure to Credit Risk
At December 31, 2016

Counterparty	Percentage of Net Exposure	Standard & Poor's
MORGAN STANLEY CME	15%	BBB+
CITIBANK N.A.	15%	A+
MORGAN STANLEY LCH	14%	BBB+
BANK OF AMERICA, N.A.	12%	A+
JPMORGAN CHASE BANK N.A	10%	A+
BNP PARIBAS, S.A.	9%	A
BARCLAYS CAPITAL	5%	A-
MORGAN STANLEY ICE	5%	BBB+
HSBC BANK USA	4%	AA-
BNP PARIBAS SA	3%	A
GOLDMAN SACHS BANK USA	2%	BBB+
BANK OF NEW YORK	2%	A
CREDIT SUISSE FOB CME	1%	A
STANDARD CHARTERED BANK	1%	A
DEUTSCHE BANK AG	1%	BBB+
JPMORGAN CHASE BANK	1%	A+
UBS AG	1%	A+
4 OTHERS	Less than 1%	A, A+ and AA-

Custodial Credit Risk

The custodial credit risk for exchange traded derivative instruments is made in accordance with custodial credit risk disclosure requirements outlined in Generally Accepted Accounting Principles (GAAP). As of December 31, 2016, all of CCCERA's investments are held in CCCERA's name and are not subject to custodial credit risk.

Interest Rate Risk

As of December 31 2016, CCCERA is exposed to interest rate risk on its swaps and options. Since CCCERA's investment managers can buy and sell the swaps and options on a daily basis, the investment managers actively manage the portfolio to minimize interest rate risk and it is unlikely that the swaps and options will be held to maturity. The total fair value subject to interest rate risk as of December 31, 2016 and maturities are as follows:

Interest Rate Risk

(Dollars in Thousands)

Investment Derivatives by Type	Fair Value	Less Than 1 Year	1-5 Years	6-10 Years	More than 10 Years
Credit Default Swaps Written	569	-	697	-	(128)
Fixed Income Options Bought	3,786	135	3,650	-	-
Fixed Income Options Written	(1,266)	(125)	(1,141)	-	-
Pay Fixed Interest Rate Swaps	2,796	-	(644)	2,400	1,041
Receive Fixed Interest Rate Swaps	(717)	-	(344)	(332)	(41)
Total Return Swaps Equity	2,340	2,340	-	-	-
TOTAL	**$7,508**	**$2,350**	**$2,218**	**$2,068**	**$872**

The interest rate swaps and options are highly sensitive to interest rate changes. As of December 31, 2016, they had a fair value of approximately $7.5 million and an approximate notional value of $385.2 million.

FOREIGN CURRENCY RISK IN INTERNATIONAL INVESTMENT SECURITIES

CCCERA is exposed to foreign currency risk on its various investments denominated in foreign currencies. As of December 31, 2016, the following currencies were either in a receivable position (purchased) or payable position (sold) with net exposure, denominated in United States Dollars:

Foreign Currency Risk in International Investment

(Dollars in Thousands)

Currency Name	Options	Net Receivable (Purchased)	Net Payable (Sold)	Swaps	Exposure
AUSTRALIAN DOLLAR		$14	$108	$0	$122
BRAZILIAN REAL	-	280	(683)	-	(403)
CANADIAN DOLLAR	-	19	75	-	94
YUAN RENMINBI	-	(111)	241	-	130
EURO CURRENCY	(92)	(1)	133	-	40
POUND STERLING	293	(2)	19	(259)	51
JAPANESE YEN	-	19	5,673	256	5,948
SOUTH KOREAN WON	-	-	-	246	246
MEXICAN PESO	-	(145)	-	(336)	(481)
RUSSIAN RUBLE	-	103	(115)	-	(12)
SUBTOTAL	$201	$176	$5,451	($93)	$5,735
US DOLLAR	2,307	-	-	5,082	7,389
TOTAL	**$2,508**	**$176**	**$5,451**	**$4,989**	**$13,124**

Contingent Features

As of December 31, 2016, CCCERA held no investments with contingent features.

Note 8.
Contributions

Participating employers and active Plan members are required to contribute a percentage of covered salary to the Plan. This requirement is pursuant to Government Code Sections 31453.5, 31454 and 7522.52, for participating employers, and Government Code Sections 31621.6, 31639.25 and 7522.30 for active Plan members. The contribution requirements are established and may be amended by the Board pursuant to Article 1 of CERL, which is consistent with the Plan's Actuarial Funding Policy. The contribution rates are adopted yearly, based on an annual actuarial valuation, conducted by an independent actuary, that considers the mortality, service (including age at entry into the Plan, if applicable, and tier), and compensation experience of the members and beneficiaries, and also includes an evaluation of the Plan's assets and liabilities. Participating employers may pay a portion of the active Plan members' contributions through negotiations and bargaining agreements subject to restrictions in the CERL and PEPRA.

Employers are required to contribute at an actuarially determined rate calculated on the alternate funding method permitted by Government Code Section 31453.5. Pursuant to provisions of the CERL, the Retirement Board recommends annual contribution rates for approval by the Board of Supervisors. These contribution rates are determined in accordance with the Plan's Actuarial Funding Policy, which has the following goals:

1. To determine future contributions that, together with current plan assets, are expected to be sufficient to provide for all benefits provided by CCCERA;

2. To seek reasonable and equitable allocation of the cost of benefits over time including the goal that annual contributions should, to the extent reasonably possible, maintain a close relationship to both the expected cost of each year of service and to variations around that expected cost;

3. To manage and control future contribution volatility to the extent reasonably possible, consistent with other policy goals; and,

4. To support the general public policy goals of accountability and transparency by being clear as to both intent and effect, allowing for an assessment of whether, how and when the plan sponsors will meet the funding requirements of the Plan.

The "Entry Age" method is used to determine the normal cost and the Actuarial Accrued Liability (AAL). Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize the Unfunded Actuarial Accrued Liability (UAAL). Normal cost under the Entry Age method is the annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement benefit if all underlying assumptions are met. The UAAL is the difference between the Actuarial Accrued Liability and the Actuarial Value of Assets.

The rates for Legacy members (those subject to a benefit formula in CERL) are set to provide a retirement benefit equal to a fractional part of the highest year(s) salary, based on membership and tier. The rates for PEPRA members (new members on or after January 1, 2013) are equal to one-half the normal cost of their defined benefit plan.

Member contribution rates for CCCERA members are between 8.02% and 22.89% of annual covered salary, depending on employer and tier. Certain Safety members including Legacy members with Contra Costa Fire Protection District and Moraga-Orinda Fire District contribute an additional percent of base pay towards the employer's increase in cost of the enhanced (3% at 50) safety benefit. Contra Costa Fire Protection District members pay 3% of base pay and Moraga-Orinda members contribute 9% of base pay. Member contributions are refundable upon termination of employment.

As of December 31, 2016, Contra Costa County and eight other CCCERA employers subsidize some portion of the employee basic retirement contribution for at least some employees.

During the year ended December 31, 2016, contributions totaled approximately $396.7 million which included $307.5 million in employer contributions and $89.2 million in employee contributions. The contribution figures also include employee and employer purchase, redeposit, and conversion amounts.

Government Code Section 31582(b) allows the Board of Supervisors to authorize the County auditor to make an advance payment of all or part of the County's estimated annual contribution to the retirement fund. Government Code Section 31585 makes the same appropriations and transfers available to districts. Contra Costa County and 9 participating employers "prepay" or make advance payments of all of the employer's estimated annual contributions discounted by the assumed interest rate in effect on July 1. At the end of the fiscal year, a "true-up" is completed and employers are either billed for an underpayment or apply their overpayment towards the following year contributions.

Ten-year historical trend information, designed to provide information about CCCERA's progress in accumulating sufficient assets to pay benefits when due, is presented in the Actuarial Section of this report on page 77.

As noted in Note 1, *Plan Description*, the Governor approved Assembly Bill 1380 (AB 1380) in September 2013, which makes various technical corrections and conforming changes that align the CERL with the provisions of the PEPRA. In particular, the bill stipulates that the Board may, but is not required to, round the member contribution rates for PEPRA members to the nearest quarter of one percent, and those rates may be adjusted for any change in the normal cost rate. AB 1380 was effective January 1, 2014. On January 22, 2014, CCCERA's Board exercised the discretion made available by AB 1380 to no longer round the member's contribution rates for PEPRA members to the nearest quarter of one period as previously required. This should allow for exactly one-half of the Normal Cost to be paid by the employees and by the employers covered under the PEPRA plan.

The CERL requires an actuarial valuation to be performed at least every three years for the purpose of measuring the Plan's funding progress and setting contribution rates. CCCERA exceeds this requirement by engaging an independent actuarial consulting firm to perform an actuarial valuation for the pension plan annually. The purpose of the valuation is to evaluate the assets and liabilities of the Plan and determine necessary changes in member and employer contribution rates. The actuarial assumptions and methods have been selected in order to help ensure the systematic funding of future benefit payments for CCCERA members, and to maintain equity among generations of participants and taxpayers.

Actuarial standards guide the frequency to which an investigation of experience (experience study) is performed. CCCERA engages an independent actuarial consulting firm to perform the experience study at least every three years. The economic and demographic assumptions are reviewed and updated as required each time an experience study is performed. If assumptions are modified as a result of the experience study, member and employer contribution requirements are adjusted to take into account the change in the projected experience of the Plan. The most recent complete review of economic and demographic assumptions was for the period January 1, 2012 through December 31, 2014.

The valuation discloses the actuarial value of assets at $7.1 billion with an actuarial accrued liability of $8.4 billion for a funded ratio of 84.5%. The UAAL is $1.3 billion, which is 175.8% of the $746.4 million covered payroll. A schedule of CCCERA's funding progress may be found in the Actuarial Section on page 77. The schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing relative to the actuarial accrued liability for benefits over time. Additional information regarding the actuarial methods and significant assumptions used as of the latest actuarial valuation of plan assets and liabilities is shown in the following table.

Methods and Assumptions Used to Establish Actuarially Determined Contribution Rates	
Valuation Date	Actuarially determined contribution rates are calculated as of December 31, one and a half years prior to the beginning of the fiscal year in which contributions are to be reported.
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll for total unfunded liability (3.25% payroll growth assumed)
Remaining Amortization Period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 7 years remaining as of December 31, 2015. Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation. Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.
Asset Valuation Method	Fair value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Actuarial Assumptions:	
Investment Rate of Return	7.00%, net of pension plan investment expenses, including inflation
Inflation Rate	2.75%
Administrative Expenses	1.14% of payroll allocated to both the employer and member based on the components
Real Across-the-Board Salary Increases	0.50%
Projected Salary Increases - General	4.00% to 13.25%*
Projected Salary Increases - Safety	4.00% to 13.75%*
Cost-of-Living Adjustments	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.
Other Assumptions	Same as those used in the December 31, 2015 funding actuarial valuation.

*Includes inflation at 2.75%, plus "across the board" salary increases of 0.50%, plus merit and promotional increases for December 31, 2015

Note 9.
Reserves and Designations

All employer and Plan member contributions are allocated to various reserve accounts based on the recommendation of the Plan's actuary, as approved by the Board and, where applicable, as required by the CERL. CCCERA currently does not set aside a separate reserve for purposes of benefit increases or reduced employer contributions. Reserves are established from member and employer contributions and the accumulations of investment income after satisfying investment and administrative expenses. The reserves do not represent the present value of assets needed, as determined by actuarial valuation, to satisfy retirements and other benefits as they become due. Following are brief explanations of the major classes of reserves and designations used by CCCERA:

Member Deposits Reserve represents the balance of members' accumulated contributions. Additions include member contributions and credited interest; deductions include refunds of member contributions and transfers to Retired Member Reserve upon retirement.

Employer Advance Reserve represents the balance of employer contributions for future retirement payments to current active members. Additions include contributions from the employer and related earnings; deductions include transfers to Retired Member Reserve, lump sum death benefits, and supplemental disability payments under legislated rehabilitation programs.

Retired Member Reserve represents transfers of accumulated contributions of members who have retired, employer contributions needed to fund retired member benefits as determined by the actuary and credited interest less payments to retired members.

Contra Tracking Account represents the amount of interest credited to the reserve accounts that has not been paid for out of current or excess earnings. A balance in this account is the result of applying the full interest crediting policy of the Board and will be reduced to zero before replenishing the Contingency Reserve or allocating earnings to any discretionary uses.

Post Retirement Death Benefit Reserve represents the balance of transfers from excess earnings and related earnings, less lump sum death benefit payments to the beneficiaries of retirees.

Contingency Reserve represents reserves accumulated for future earnings deficiencies, investment losses and other contingencies. Additions include investment income and other revenues. Deductions include investment expenses, administrative expenses, interest allocated to other reserves, funding of Supplemental COLA, and transfers of excess earnings to other Reserves and other Designations. The Contingency Reserve is used to satisfy the California Government Code requirement that CCCERA reserve one percent of its assets against deficiencies in interest earnings in other years, losses on investments, and other contingencies. As of December 31, 2003, the Contingency Reserve was completely used to pay interest to the reserve accounts. This account will be replenished in subsequent periods when there are sufficient earnings according to the interest crediting policy for CCCERA.

Total Deferred Return represents the unrecognized return after smoothing of investment gains and losses based on a five-year smoothing method. This method smoothes only the semi-annual deviation of total market return (net of expenses) from the actuarial assumption, currently 7.00 percent per annum.

Reserves and designated fiduciary net position as of December 31, 2016 and 2015 are as follows:

Reserved and Designated Fiduciary Net Position
As of December 31, 2016 and 2015

(Dollars in Thousands)	2016	2015
Valuation Reserves:		
Member Deposits Reserve		
Basic	$729,443	$659,742
Cost-of-Living	387,381	351,692
Employer Advance Reserve		
Basic	1,834,548	1,718,272
Cost-of-Living	824,863	696,901
Retired Member Reserve		
Basic	3,292,925	3,145,208
Cost-of-Living	2,333,428	2,260,504
New Dollar Power Cost-of-Living Supplement	5,348	6,867
Contra Tracking Account	(1,800,938)	(1,702,385)
TOTAL VALUATION RESERVES	**7,606,998**	**7,136,801**
Supplemental Reserves:		
Post Retirement Death Benefit Reserve	15,354	15,135
Other Reserves/Designations		
Contingency Reserve (one percent)	-	-
TOTAL ALLOCATED RESERVES/DESIGNATIONS	**7,622,352**	**7,151,936**
Total Deferred Return	(183,832)	(175,354)
NET POSITION - RESTRICTED FOR PENSIONS	**$7,438,520**	**$6,976,582**

Note 10.
Lease Obligation

CCCERA was owner of the Willows Office Park headquarters building located at 1355 Willow Way, Concord, California and had held this property as a real estate investment since 1984. The property was sold on March 24, 2016 and CCCERA entered into a fair value lease agreement with the new property manager, Paramount Company, to remain and occupy a portion of the building. A commitment under an operating lease agreement for office facilities provides for minimum future rental payments through September 30, 2019. These future minimum rental payments as of December 31, 2016 are as follows:

Lease Obligation

Year Ending December 31	*Amount*
2017	$421,110
2018	433,091
2019*	331,558
TOTAL	**$1,185,759**

* Lease expires September 30, 2019.

Note 11.
Paulson Lawsuit Settlement

During the year ended December 31, 1999, CCCERA settled its litigation, entitled Vernon D. Paulson, et al. vs. Board of Retirement of the Contra Costa County Employees' Retirement Association, et al. The lawsuit was brought on behalf of a class of retired members of CCCERA regarding the inclusions and the exclusions from "final" compensation that are used in calculating members' retirement benefits. A settlement agreement was entered into with all parties and each employer was invoiced for their share of the $34.2 million additional liability plus interest up to the date of the payment. All employers except Contra Costa County have paid off their liability. Contra Costa County chose to pay its share of the liability due over 19.5 years and entered into an agreement with CCCERA. The following summary lists the pertinent details of the County's agreement plus the amounts due at December 31, 2016.

Installment Payments Due from Paulson Final Liability

(Dollars in Thousands)	Contra Costa County
Agreement Details:	
Effective Date of Agreement	December 16, 2003
First Payment Due	August 1, 2004
Last Payment Due	February 1, 2024
Rate of Interest	8%
Annual Principal and Interest Payment	$2,760
Original Principal	$28,065
Receivable at December 31, 2016:	
Future Principal Payments	$15,129
Interest Accrued for 2016	$504
	$15,633

Note 12. Litigation, Commitments, and Contingencies

CCCERA is subject to legal proceedings and claims arising in the ordinary course of its operations. CCCERA's management and legal counsel estimate that the ultimate outcome of such litigation will not have a material effect on CCCERA's financial statements.

On November 28, 2012, the Contra Costa County Deputy Sheriffs Association (DSA) and other employee groups filed a petition for a writ of mandate with the Contra Costa County Superior Court, seeking to prevent CCCERA from implementing AB 197. AB 197 added Subdivision 31461(b) to the CERL, mandating certain exclusions from compensation for retirement purposes. Final judgment was entered on May 12, 2014, and the matter has been appealed. Final resolution of this lawsuit in the courts could take several years.

On August 21, 2014, the DSA and other employee groups filed a petition for a writ of mandate with the Contra Costa County Superior Court, seeking a permanent injunction requiring CCCERA to include multiple in-service leave cash outs in pensionable pay so long as the cash outs were paid or payable during the final average salary period. The lawsuit is related to the 2012 lawsuit referenced above, in that it involves questions regarding whether certain leave payments are "earned and payable" in the final average salary period and therefore pensionable. Final resolution in the court could take several years.

As of December 31, 2016, CCCERA was committed to future investments in real estate of $375 million and $810 million in alternative investments.

Note 13. Administrative Expenses

The Board of Retirement annually adopts the administrative budget for the administration of CCCERA. The administrative expenses are charged against the earnings of the Plan.

California Government Code Section 31580.2(a) states that the annual budget for administrative expenses of a CERL retirement system may not exceed the greater of either of the following:

1. Twenty-one hundredths of one percent (0.21 percent) of the actuarial accrued liability of the retirement system or,

2. Two million dollars ($2,000,000), as adjusted annually by the amount of the annual cost-of-living adjustment computed in accordance with Article 16.5 (commencing with Section 31870).

Expenses for Disaster Recovery as well as the Investment and Legal Departments are not to be considered a cost of administration expenses subject to the budget limit.

The Board approved the administrative budgets for fiscal years ended December 31, 2016 and December 31, 2015, which were prepared based upon the twenty-one hundredths of one percent (0.21 percent) CERL limit.

The following budget-to-actual analysis of administrative expenses schedule is based upon the budget as approved by the CCCERA Board in comparison to actual administrative expenses:

Budget-to-Actual Analysis of Administrative Expense
As of December 31, 2016 and 2015

(Dollars in Thousands)

	2016	2015
Basis for Budget Limitation, Actuarial Accrual Liability	$8,027,438	$7,731,097
Maximum Allowable for Administrative Expense	16,858	16,235
Approved Administrative Budget	9,262	9,078
Actual Administrative Expenses	(8,486)	(8,115)
Actual (over)/ under Administrative Budget	776	963
Actual Administrative Expenses	8,486	8,115
Basis for Budget Limitation, Actuarial Accrual Liability	8,027,438	7,731,097
Percent of Actual Administrative Expenses to Budget Limit	0.11%	0.11%
Percent Limit Per CERL	0.21%	0.21%

Note 14.
Subsequent Events

Subsequent events were evaluated through June 14, 2017, which is the date the financial statements were available to be issued. CCCERA did not have any other events requiring recording or disclosure in the financial statements for the year ended December 31, 2016.

Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios

The schedule of changes in net pension liability and related ratios displays the components of the total pension liability and plan fiduciary net position for the Plan, calculated in conformity with the requirements of GASB Statement No. 67. Covered employee payroll represents the collective total of the Plan eligible wages of all Plan employers.

Schedule of Changes in Net Pension Liability and Related Ratios
For the Years ended December 31, 2013 through 2016

(Dollars In Thousands)

	December 31, 2016	December 31, 2015	December 31, 2014	December 31, 2013
Total Pension Liability				
Service cost	$202,697	$192,923	$192,257	$196,463
Interest	591,972	582,343	561,216	564,441
Changes of benefit terms	-	-	-	-
Differences between expected and actual experience	(19,957)	(62,118)	(183,605)	(77,223)
Changes of assumptions	-	72,186	(76)	(232,887)
Actual benefit payments, including refunds of employee contributions	(419,446)	(406,236)	(394,948)	(374,639)
Net Change in Total Pension Liability	$355,266	$379,098	$174,844	$76,155
Total Pension Liability - Beginning	8,483,709	8,104,611	7,929,767	7,853,611
Total Pension Liability - Ending (a)	$8,838,975	$8,483,709	$8,104,611	$7,929,766
Plan Fiduciary Net Position				
Contributions - employer	$307,457	$323,720	$293,760	$235,017
Contributions - employee	89,240	85,360	78,258	72,373
Net investment income, including prepayment discount	493,874	73,611	480,502	877,761
Benefit payments, including refunds of employee contributions	(419,446)	(406,236)	(394,948)	(374,639)
Administrative expense	(8,486)	(8,115)	(6,980)	(6,776)
Other	(701)	(668)	-	-
Net Changes in Plan Fiduciary Net Position	$461,938	$67,672	$450,592	$803,736
Plan Fiduciary Net Position - Beginning	6,976,582	6,908,910	6,458,318	5,654,581
Plan Fiduciary Net Position - Ending (b)	$7,438,520	$6,976,582	$6,908,910	$6,458,317
Net Pension Liability/(Asset) - Ending (a) - (b) = (c)	$1,400,455	$1,507,127	$1,195,701	$1,471,449
PLAN FIDUCIARY NET POSITION AS A PERCENTAGE OF THE TOTAL PENSION LIABILITY (b) / (a)	84.2%	82.2%	85.3%	81.4%
COVERED EMPLOYEE PAYROLL (d)	$755,139	$709,819	$671,486	$638,636
NET PENSION LIABILITY AS PERCENTAGE OF COVERED EMPLOYEE PAYROLL (c) / (d)	185.5%	212.3%	178.1%	230.4%

*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Schedule of Employer Contributions

Schedule of Employer Contributions
For the Years 2007 through 2016

(Dollars In Thousands)

Year Ended December 31	Actuarially Determined Contributions (a)	Contributions in Relation to the Actuarially Determined Contributions (b)		Contribution Deficiency/ (Excess) (b) - (a)	Covered Employee Payroll (c)	Contributions as a Percentage of Covered Employee Payroll (b) / (c)
2007	$196,930	$196,930		$-	$653,953	30.11%
2008	206,519	206,519		-	671,618	30.75%
2009	195,632	195,632		-	704,948	27.75%
2010	183,951	183,951		-	694,444	26.49%
2011	200,389	200,389		-	687,443	29.15%
2012	212,321	212,321		-	666,394	31.86%
2013	228,017	228,017	(1)	-	638,636	35.70%
2014	288,760	288,760	(2)	-	671,486	43.00%
2015	321,220	321,220	(3)	-	709,819	45.25%
2016	307,457	307,457		-	755,139	40.72%

(1) Excludes additional contributions towards unfunded actuarial liability (UAAL) of $7,000; (2) Excludes additional contributions towards UAAL of $5,000; (3) Excludes additional contributions towards UAAL of $2,500. See accompanying notes to this schedule on page 59.

Schedule of Investment Returns

Schedule of Investment Returns
For Years 2013 through 2016*

	2016	2015	2014	2013
Annual Money-Weighted Rate of Return, Net of Investment Expense	7.10%	1.19%	7.51%	15.62%

*Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to the Required Supplementary Information

Note 1.
Schedule of Changes in Net Pension Liability and Related Ratios

The total pension liability contained in this schedule was provided by the Plan's actuary, Segal Consulting. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Plan.

Note 2
Schedule of Employer Contributions

The required employer contributions and percent of those contributions actually made are presented in this schedule. Actuarial assumptions used for this schedule are presented below.

Additional Actuarial Information for 2016 Methods and assumptions used to establish "actuarially determined contribution" rates:	
Valuation Date	Actuarially determined contribution rates are calculated as of December 31, two and a half years prior to the end of the fiscal year in which contributions are reported.
Actuarial Experience Study	3 Year Period Ending December 31, 2014
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll
Remaining Amortization Period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 7 years remaining as of December 31, 2015. Any changes in UAAL after December 31, 2007 is separately amortized over a fixed 18-year period effective with that valuation. Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.

Additional Actuarial Information for 2016 (Continued)	
Asset Valuation Method	Fair value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Actuarial Assumptions:	
Investment Rate of Return	7.00%, net of pension plan investment expenses, including inflation.
Inflation Rate	2.75%
Administrative expenses	1.14% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member
Real Across-the-Board Salary Increases	0.50%
Projected Salary Increases*	General: 4.00 % to 13.25 % Safety: 4.00% to 13.75 %, varying by service, including inflation
Cost-of-Living Adjustments	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA). Benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in Consumer Price Index (CPI).

*Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus promotional and merit increases for December 31, 2016 and December 31, 2015.

The information presented in the required supplementary schedules was determined as part of the Governmental Accounting Standards (GAS) 67 actuarial valuation as of December 31, 2016 provided by the Plan's actuary. Additional information as of the actuarial valuation as of December 31, 2015 is in the Actuarial Section.

Note 3
Schedule of Investment Returns

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the timing of cash flows and the changing amounts actually invested.

Other Supplementary Information
Schedule of Administrative Expenses

Schedule of Administrative Expenses
For the Year Ended December 31, 2016 (with Comparative Totals)

(Dollars In Thousands)

	2016	2015
Personnel Services:		
Salaries and Wages	$3,748	$3,524
Employee Retirement	2,882	2,529
TOTAL PERSONNEL SERVICES	**6,630**	**6,053**
Professional Services:		
Actuary - Benefit Statement	65	70
Computer and Software Services and Support	254	279
Disability Hearing Officer/Medical Reviews	91	80
External Audit Fees	59	65
Contra Costa Dept of Information Technology	29	41
Newsletters	9	9
Other Professional Services	150	253
TOTAL PROFESSIONAL SERVICES	**657**	**797**
Office Expenses:		
Office Leases	377	382
Office Supplies	69	70
Minor Equipment and Computer Supplies	6	11
Postage	67	80
Equipment Lease	18	29
Requested Maintenance	3	4
Communications/Telephone	74	106
Printing and Publications	17	22
TOTAL OFFICE EXPENSES	**631**	**704**
Miscellaneous:		
Board and Staff - Education/Travel/Meetings	116	137
Insurance	230	186
Memberships	13	20
TOTAL MISCELLANEOUS	**359**	**343**
DEPRECIATION AND AMORTIZATION	**209**	**218**
TOTAL ADMINISTRATIVE EXPENSES	**$8,486**	**$8,115**

Schedule of Investment Expenses

Schedule of Investment Expenses For the Year Ended December 31, 2016 (With Comparative Totals)	*(Dollars In Thousands)* 2016	2015
Investment Management Fees, by portfolio:		
Stocks:		
Domestic Equity	$6,191	$5,864
Global & International Equity	6,750	6,554
Real Estate - REIT	527	874
Total Stock Securities	13,468	13,292
Bonds:		
Liquidity	2,427	2,804
Domestic Equity	427	388
High Yield	1,301	1,277
Risk Diversifying	970	1,037
Total Bond Securities	5,125	5,506
Real Assets:		
Risk Diversifying	732	1,089
Real Estate:		
Value Added	3,098	2,648
Opportunistic & Distressed	7,590	6,644
Total Real Estate Funds	10,688	9,292
Alternatives:		
Private Equity	11,735	9,667
Private Credit	1,889	1,599
Total Alternative Funds	13,624	11,266
Cash and Short Term	21	4
TOTAL INVESTMENT MANAGEMENT FEES	**43,658**	**40,449**
Investment Consulting Fees:		
Consulting Services	432	491
Attorney Services	103	76
Actuarial Services	251	313
TOTAL INVESTMENT CONSULTING FEES	**786**	**880**
INVESTMENT CUSTODIAN FEES	**780**	**623**
OTHER INVESTMENT RELATED EXPENSES	**1,104**	**1,107**
TOTAL INVESTMENT EXPENSE	**$46,328**	**$43,059**

Schedule of Payments to Consultants

Schedule of Payments to Consultants
For the Year Ended December 31, 2016 (With Comparative Totals)

	(Dollars In Thousands)	
Type of Service	**2016**	**2015**
ACTUARIAL SERVICES	**$251**	**$314**
BENEFIT STATEMENT SERVICES	**65**	**70**
DATA PROCESSING	**29**	**41**
AUDIT SERVICES	**59**	**65**
Legal Services:		
Investment Legal Counsel	103	76
Disabilities	67	73
Other Legal Services	310	333
TOTAL LEGAL SERVICES	**480**	**482**
INVESTMENT CONSULTANT FEES	**408**	**468**
CUSTODIAN FEES	**801**	**627**
PROXY GUIDELINE VOTING AGENT SERVICE	**24**	**23**
TOTAL PAYMENTS TO CONSULTANTS	**$2,117**	**$2,090**

INVESTMENT
SECTION

Chief Investment Officer's Report

June 14, 2017

Trustees, Board of Retirement
Contra Costa County Employees' Retirement Association

Re: Chief Investment Officer Review of 2016 Investment Activity

Members of the Board:

The Contra Costa County Employees' Retirement Association (CCCERA) experienced good absolute performance in calendar year 2016 despite a market environment colored by Brexit, a continued strong dollar and the uncertainty surrounding the U.S. presidential election. The positive returns at the total fund level were driven by domestic equity, high yield and to a lesser extent by the private equity. Despite the strong absolute results, several areas of the CCCERA lineup lagged their benchmarks, most notably in the public and private equity spaces. CCCERA's fixed income and real estate programs performed well vs. their benchmarks. As noted later in this letter, CCCERA is in the midst of restructuring several of these asset segments.

All return figures in this review are presented gross of fees and time-weighted, and are calculated by CCCERA's investment consultant, Verus.

Total Fund Performance

CCCERA's Total Fund returned 7.4% (gross of investment management fees) for the year ending December 31, 2016. This was greater than the long-term objective of delivering a real return of 4% annually (measured as CPI plus 400 basis points), which was 6.2% for 2016. Relative to the peer universe, CCCERA's 2016 performance lagged the median public fund return of 7.9% and ranked in the 72nd percentile of public funds. Over the past 10 years ending December 31, 2016, CCCERA has returned 6.0% and ranked in the 10th percentile of public funds.

Strategic Review of Asset Allocation and Portfolio Construction

The Board has adopted an internally developed portfolio construction methodology, known as the Functionally Focused Portfolio (FFP), to assign portfolio allocations according to strategic priorities as defined by the Board. Key to the FFP approach is the adoption of a dedicated portfolio to provide monthly cash flows to fund benefit payments. The Board selected a version of FFP that will target 48 months of projected benefits in this dedicated allocation. The remainder of the CCCERA funds will be deployed in a long-term growth allocation and a smaller diversifying allocation.

During 2016, the portion of the portfolio dedicated to making benefit payments, known as the Liquidity sub-portfolio, was fully funded. This portion of the portfolio is invested with three managers who utilize short-duration fixed income securities. The portfolios are designed to produce monthly cash flows that fund the benefit payments. During the remainder of 2017, CCCERA is focused on repositioning the Growth and Diversifying sub-portfolios.

Asset Allocation

As of December 31, 2016, CCCERA's market value of assets was $7.4 billion, an increase of approximately $0.4 billion from the December 31, 2015 market value of $7.0 billion. This was primarily the result of investment returns generated in 2016. CCCERA assets as of December 31, 2016 were within 1% of their respective target allocations.

Sincerely,

Timothy Price, CFA
Chief Investment Officer

General Information

Contra Costa County Employees’ Retirement Association (CCCERA’s) funding objective is to meet long-term benefit obligations through contributions and investment income. The plan’s main investment objective is for the total fund return to exceed the Consumer Price Index (CPI) plus 400 basis points over a market cycle. This is accomplished by the implementation of a carefully planned and executed long-term investment program.

The California Constitution and Government Code Sections 31594 and 31595 authorize the Board of Retirement (Board) to invest in any investment deemed prudent in the Board’s opinion. Investment decisions are to be made in the sole interest and for the exclusive purpose of providing benefits, minimizing employer contributions, and defraying reasonable expenses for administering the system. Investments are to be diversified to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent to not do so.

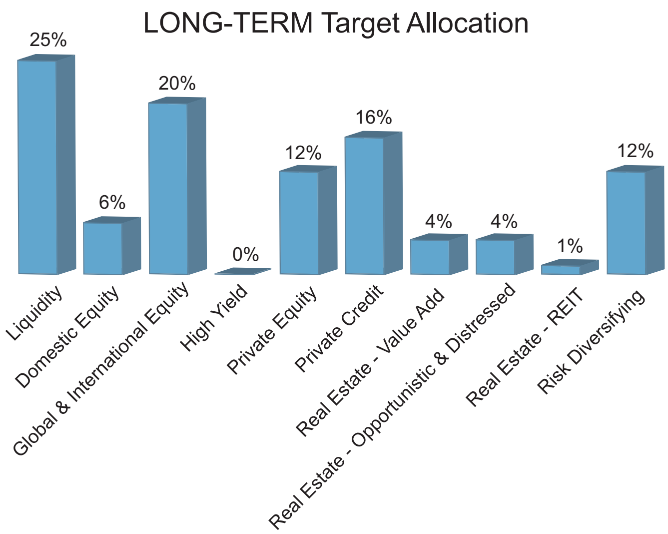
This Policy establishes CCCERA’s investment policies and objectives and defines the principal duties of the Board, staff, custodian bank and investment managers. For the year ended December 31, 2016, the total fund gain was 7.4%; greater than the targeted return of 6.2% (CPI plus 400 basis points) but less than the median public fund return of 7.9%.

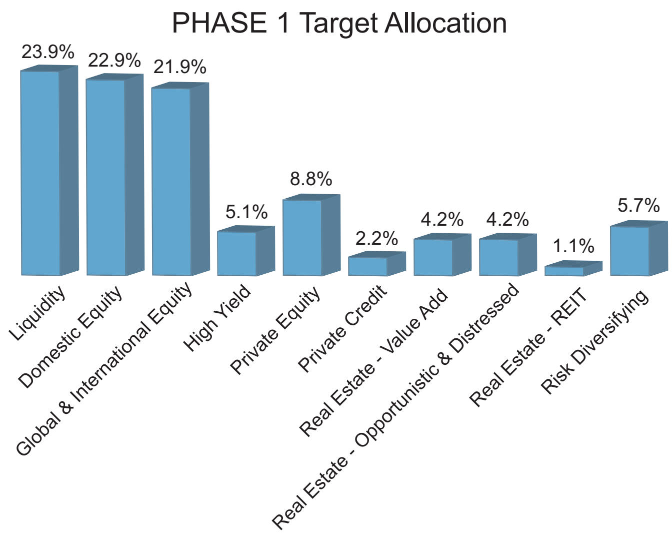
Summary of Proxy Voting Guidelines and Procedures

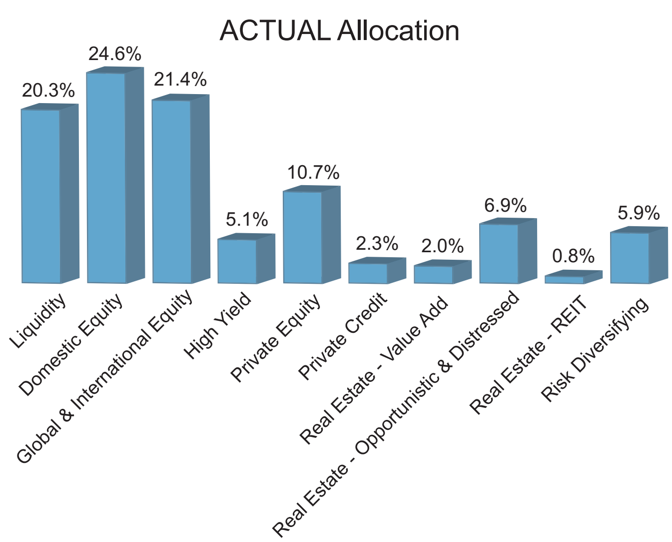
Voting of proxy ballots shall be in accordance with CCCERA’s Proxy Voting Guidelines. CCCERA utilizes the services of Institutional Shareholder Services to research and vote CCCERA’s U.S. proxy ballots in order to protect and enhance returns.

Asset Allocation

The asset allocation is an integral part of the Investment Policy. When a new asset class is implemented or a current asset class is expanded, the plan's policy is modified to reflect the change or revision. The Board implements the asset allocation plan by hiring investment managers to invest assets on CCCERA's behalf, subject to specific guidelines incorporated into each firm's contract. On September 28, 2016, the Board adopted a new investment policy along with supporting procedures required to implement a new long-term asset allocation over a three phase approach. The new policy calls for sub-dividing the portfolio into three unique functions; liquidity, growth, and risk diversifying. The first phase, liquidity sub-portfolio, was implemented in October 2016. Growth and diversifying sub-portfolios are scheduled for implementation during next fiscal year 2017. CCCERA's Chief Investment Officer and the outside investment consultant (Verus) assisted the Board with the design and implementation of the new asset allocation as depicted in the following chart:







Investment Results Based on Fair Value*

Investment Results Based on Fair Value*
As of December 31, 2016

Asset Class/Benchmark:	Current Year	3 Year	5 Year	10 Year
		Annualized (gross of fees)		
Domestic Equity	11.5%	7.9%	15.1%	7.7%
Benchmark:				
Russell 3000	12.7%	8.4%	14.7%	7.1%
International Equity	1.2%	0.1%	7.0%	0.7%
Benchmarks:				
MSCI ACWI ex-USA Gross	5.0%	-1.3%	5.5%	1.4%
MSCI EAFE Gross	1.5%	-1.2%	7.0%	1.2%
Global Equity	7.6%	5.0%	9.7%	-
Benchmark:				
MSCI ACWI	7.9%	3.1%	9.4%	-
Domestic Fixed Income	4.8%	4.5%	4.9%	5.6%
Benchmarks:				
BBgBarc US Aggregate TR Universal	2.6%	3.0%	2.2%	4.3%
BBgBarc US Govt/Credit 1-3 TR	1.3%	0.9%	0.9%	2.4%
High Yield	14.3%	3.7%	6.7%	7.5%
Benchmark:				
BofA ML High Yield Master II	17.5%	4.7%	7.4%	7.3%
Inflation Hedge	7.4%	0.5%	-	-
Benchmark:				
CPI + 4%	6.2%	5.2%	-	-
Real Estate	5.5%	13.1%	13.3%	4.6%
Benchmarks:				
Real Estate Benchmark	6.7%	11.1%	10.8%	6.9%
NCREIF (ODCE) Index	8.8%	12.1%	12.2%	5.8%
NCREIF Property Index	8.0%	11.0%	10.9%	6.9%
Alternatives	9.0%	13.2%	13.1%	11.6%
Benchmark:				
S&P 500 + 4% Lagged	20.0%	15.6%	21.0%	11.5%
Opportunistic	10.1%	1.7%	6.9%	-
Benchmark:				
CPI + 4	6.2%	5.2%	5.4%	-
Total Fund	**7.4%**	**6.1%**	**9.7%**	**6.0%**
Benchmark:				
Policy Index	**8.8%**	**6.1%**	**9.6%**	**-**
CPI + 4%	**6.2%**	**5.2%**	**5.4%**	**-**

*Using time-weighted rate of return based on the market rate of return.

Investment Summary

Investment Summary
For the year ended December 31, 2016

Type of Investment	Fair Value	Percent of Total Fair Value
	(Dollars in Thousands)	
Short-Term		
Deposit	$440,128	5.6%
Short-Term Investments held by Fiscal Agent	204,196	2.6%
TOTAL SHORT-TERM INVESTMENTS	**644,324**	**8.2%**
Long-Term		
Investments By Fair Value Level		
Stocks		
Domestic Equity	1,410,933	18.0%
Global & International Equity	680,870	8.7%
Real Estate - REIT	62,151	0.8%
Public Market Commingled Funds	852,451	10.9%
TOTAL STOCK SECURITIES	**3,006,405**	**38.4%**
BONDS		
Liquidity Program	1,459,712	18.6%
Held In Equity Portfolios	362,945	4.6%
High Yield	369,449	4.7%
Public Market Commingled Funds	236,464	3.0%
TOTAL BOND SECURITIES	**2,428,570**	**30.9%**
REAL ASSETS		
Risk Diversifying	187,667	2.4%
REAL ESTATE		
Value Added, Opportunistic & Distressed Funds	639,448	8.2%
ALTERNATIVES		
Private Equity & Private Credit Funds	929,674	11.9%
Total Long-Term Investments at Fair Value	**7,191,764**	**91.8%**
TOTAL SHORT AND LONG-TERM INVESTMENTS	**$7,836,088**	**100.0%**

Investment Managers *(As of December 31, 2016)*

GROWTH

Domestic Equity
Ceredex Value Advisors
Robeco Boston Partners
Jackson Square Partners
Emerald Advisors, Inc.
Intech
PIMCO

International Equity
Pyrford International
William Blair & Company

Global Equity
J.P. Morgan Asset Management
First Eagle Investment Management
Artisan
Intech

High Yield Fixed Income
Allianz Global Investors

Private Equity
Adams Street Partners
Carpenter Bancfund
DBL Investors
Ares Energy Investors Funds
Nogales Investors LLC
Ocean Avenue Capital Partners
Paladin Capital Management
Pathway Capital Management
Siguler Guff
Aether Investment Partners
Commonfund
Equilibrium Capital
Oaktree Capital

Real Estate
Angelo Gordon
DLJ Real Estate Capital Partners LP
Long Wharf Real Estate Partners
Hearthstone Advisors
Invesco Real Estate
Oaktree Capital
Siguler Guff
LaSalle
Paulson & Co.

Real Estate Investment Trust (REIT)
Adelante Capital Management

Private Credit
Torchlight
Angelo Gordon Energy

RISK DIVERSIFYING

Wellington
AFL-CIO Housing Investment Trust

LIQUIDITY

Dimensional Fund Advisors
Insight
SIT Investments
Goldman Sachs
PIMCO
Lazard Asset Management
State Street Bank

Securities Lending Program
State Street Corporation

Schedule of Investment Management Fees

Investment Management Fees
For the year ended December 31, 2016

(Dollars in Thousands)

Investment Activity	Assets Managed	Fees
Stock Managers		
Domestic Equity	$1,410,932	$6,191
Global & International Equity	1,533,321	6,750
Real Estate - REIT	62,152	527
TOTAL STOCK MANAGERS	**3,006,405**	**13,468**
Bond Managers		
Liquidity	1,459,712	2,427
Domestic Equity	362,945	427
High Yield	369,449	1,301
Risk Diversifying	236,464	970
TOTAL BOND MANAGERS	**2,428,570**	**5,125**
Real Asset Managers		
Risk Diversifying	**187,667**	**732**
Real Estate Managers		
Value Added	141,692	3,098
Opportunistic & Distressed	497,756	7,590
TOTAL REAL ESTATE MANAGERS	**639,448**	**10,688**
Alternative Investment Managers		
Private Equity	766,888	11,735
Private Credit	162,786	1,889
TOTAL ALTERNATIVE INVESTMENT MANAGERS	**929,674**	**13,624**
CASH & SHORT-TERM	**644,324**	**21**
TOTAL FEES FROM INVESTMENT ACTIVITY	**N/A**	**43,658**
Securities Lending Activity		
Management Fee	-	543
Borrower Rebate	-	142
TOTAL FEES FROM SECURITIES LENDING ACTIVITY	**N/A**	**685**
TOTAL ASSETS MANAGED & INVESTMENT MANAGEMENT FEES	**$7,836,088**	**$44,343**

Schedule of Top Ten Equities and Fixed Income Securities

Top 10 Equity Securities*
As of December 31, 2016

(Dollars in Thousands)

CUSIP	Shares	Security Name	Fair Value
ACI00DVB8	40,763,809	PYRFORD INTERNATIONAL TRUST MUTUAL FUND	$403,813
12999N909	14,953,550	CIF II REAL TOTAL RETURN	187,667
99S0REMC3	10,640	SWU00H9D3 TRS USD R E	45,525
99S0RCKF2	9,708	SWU00H711 TRS USD R E	41,537
99S0R0UL4	8,487	SWU00GPH8 TRS USD R E	36,313
594918104	491,404	MICROSOFT CORP COMMON STOCK USD.00000625	30,536
99S0REM66	6,251	SWU00H9C5 TRS USD R E	26,746
99S0R5ER8	5,747	SWU00GW80 TRS USD R E	24,590
92826C839	247,403	VISA INC CLASS A SHARES COMMON STOCK USD.0001	19,302
989TGM908	16,459	GOLD COMMODITY IN OUNCES	18,887
		TOTAL LARGEST EQUITY HOLDINGS	**$834,916**

Top 10 Fixed Income Securities*
As of December 31, 2016

(Dollars in Thousands)

CUSIP	Security Name	Cost	Fair Value
8574809S8	STATE STREET BANK + TRUST CO SHORT TERM INVESTMENT FUND	$364,918	$364,918
99S0QMW68	SWU00G580 IRS USD R F 1.10000 SWU00G580 CCPVANILLA	104,223	104,082
99S0O0S63	BWU00D8Q4 IRS USD R V 03MLIBOR SWUV0D8Q6 CCPVANILLA	59,112	59,400
912828T83	US TREASURY N/B 10/18 0.75	58,792	58,730
912828Q52	US TREASURY N/B 04/19 0.875	51,292	51,196
99S0O36O2	BWU00DAD0 IRS USD R V 03MLIBOR SWUV0DAD2 CCPVANILLA	50,026	49,800
99S0O3MC0	BWU00DAQ1 IRS USD R V 03MLIBOR SWUV0DAQ3 CCPVANILLA	47,213	47,400
912828L24	US TREASURY N/B 08/22 1.875	44,453	42,994
99S0O0VC6	BWU00D991 IRS USD R V 03MLIBOR SWUV0D993 CCPVANILLA	37,090	38,800
99S0SM2C6	BWU00IN94 IRS USD R V 03MLIBOR SWUV0IN96 CCPVANILLA	38,245	37,700
	TOTAL LARGEST FIXED INCOME HOLDINGS		**$855,020**

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

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ACTUARIAL
SECTION

Actuary Certification Letter

Segal Consulting

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T 415.263.8200 www.segalco.com

May 10, 2017

Board of Retirement
Contra Costa County Employees' Retirement Association
1355 Willow Way, Suite 221
Concord, CA 94520

Re: Contra Costa County Employees' Retirement Association
December 31, 2015 Actuarial Valuation for Funding Purposes

Dear Members of the Board:

Segal Consulting (Segal) prepared the December 31, 2015 annual actuarial valuation of the Contra Costa County Employees' Retirement Association (CCCERA). We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and CCCERA's funding policy that was last reviewed with the Board in 2014. 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).

As part of the December 31, 2015 actuarial valuation, Segal conducted an examination of all participant data for reasonableness. However, the scope of this examination does not qualify as an audit. 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, however, the Association's auditor attested to 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 market value by recognizing the semi-annual differences between the total return at market value and the expected investment return over a five-year period.

One of the general goals of an actuarial valuation is to establish contribution rates, which, over time, will remain level as a percentage of payroll for each generation of active members. 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).

In 2008, the Board of Retirement elected to amortize the remaining balance of the Association's unfunded actuarial accrued liability as of December 31, 2007 over a declining (or closed) period with 7 years remaining as of December 31, 2015. Any change in unfunded actuarial accrued liability that arises due to actuarial gains or losses or due to changes in actuarial assumptions or

Board of Retirement
Contra Costa County Employees' Retirement Association
May 10, 2017
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methods at each valuation after December 31, 2007 is amortized over its own declining (or closed) 18-year period. Effective with the December 31, 2013 valuation, any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining (or closed) 10-year period (with the exception of a change due to retirement incentives, which is funded in full upon adoption of the incentive). The progress being made towards meeting the funding objective through December 31, 2015 is illustrated in the Schedule of Funding Progress.

Certain information found in the Notes to Basic Financial Statements and the Required Supplementary Information (RSI) included in the Financial Section was prepared by the Association based on the results of the Governmental Accounting Standards Board (GASB) Statement No. 67 actuarial valuation as of December 31, 2016 prepared by Segal. For the Financial Section of the Comprehensive Annual Financial Report (CAFR), Segal provided the Schedule of Changes in Net Pension Liability of Participating Employers and Schedule of Employer Contributions as shown in the RSI. A listing of the other supporting schedules prepared by the Association based on additional information provided by Segal and the results of the actuarial valuation as of December 31, 2015 for funding purposes is listed below.

- Schedule of Funding Progress
- Schedule of Employer Contributions
- Latest Actuarial Valuation Methods and Assumptions
- Summary of Valuation Results
- Summary of Significant Results
- Schedule of Active Member Valuation Data
- Retirants and Beneficiaries Added to and Removed from Retiree Payroll
- Solvency Test
- Actuarial Analysis of Financial Experience
- Summary of Statistical Data
- Schedule of Benefits Expenses by Type
- Schedule of Retired Members by Type of Benefit
- Schedule of Average Benefit Payment Amounts
- Participating Employers and Active Members

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The valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on the December 31, 2014 Experience Study (for both the economic and non-economic assumptions). It is our opinion that the assumptions used in the December 31, 2015 valuation produce results which, in aggregate, reflect the future experience of the retirement plan. Actuarial valuations are performed on an annual basis. An experience analysis is performed every three years and the next experience analysis is due to be performed as of December 31, 2017.

In the December 31, 2015 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities (funded percentage) increased from 81.7% to 84.5% while the funded percentage on a market value of assets basis decreased from 86.1% to 82.6%. The aggregate employer contribution rate has decreased from 40.06% of payroll to 39.23% of payroll, while the aggregate member contribution rate has increased from 11.84% of payroll to 12.09% of payroll.

Under the asset smoothing method, the total unrecognized investment losses are $175 million as of December 31, 2015. These investment losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. The deferred losses of $175 million represent about 2.5% of the market value of assets as of December 31, 2015. Unless offset by future investment gains or other favorable experience, the recognition of the $175 million market losses is expected to have an impact on the Association's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:

- If the deferred losses were recognized immediately in the valuation value of assets, the funded percentage would decrease from 84.5% to 82.4%.

- If the deferred losses were recognized immediately in the valuation value of assets, the aggregate employer rate would increase from 39.2% to about 41.0% of payroll.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

John Monroe

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

John Monroe, ASA, MAAA, EA
Vice President and Actuary

JEM/bbf

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Schedule of Funding Progress

Funded Ratio is a measurement of the funded status of the plan. The Funded Ratio is calculated by dividing the Valuation Assets by the Actuarial Accrued Liability. In the following table, Contra Costa County Employees' Retirement Association's (CCCERA) Funded Ratio indicates assets are approximately 16% less than liabilities. The most significant reasons for the increase in the funded ratio have been market appreciation of investments and contributions by the employer and employee.

Schedule of Funding Progress
For Years 2006 through 2015

(Dollars in Thousands)

Actuarial Valuation Date	Valuation Value of Assets* (a)	Actuarial Accrued Liability (AAL)** (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
12/31/2006	$4,460,871	$5,293,977	$833,106	84.3%	$653,953	127.4%
12/31/2007	5,016,137	5,581,048	564,911	89.9%	671,618	84.1%
12/31/2008	5,282,505	5,972,471	689,966	88.5%	704,948	97.9%
12/31/2009	5,290,114	6,314,787	1,024,673	83.8%	694,444	147.6%
12/31/2010	5,341,822	6,654,037	1,312,215	80.3%	687,443	190.9%
12/31/2011	5,426,719	6,915,312	1,488,593	78.5%	666,394	223.4%
12/31/2012	5,482,257	7,761,316	2,279,059	70.6%	652,312	349.4%
12/31/2013	5,907,416	7,731,097	1,823,681	76.4%	679,429	268.4%
12/31/2014	6,557,496	8,027,438	1,469,942	81.7%	697,832	210.6%
12/31/2015	7,136,801	8,448,624	1,311,823	84.5%	746,353	175.8%

*Excludes Accounts Payable. Restated to exclude non-valuation reserves.
**Excludes liabilities for non-valuation reserves.

Latest Actuarial Valuation Methods and Assumptions

The Entry Age Actuarial Cost Method was used in conjunction with the following actuarial assumptions. The actuarial assumptions used in the valuations are intended to estimate the future experience of the members of CCCERA and of CCCERA itself in areas that affect the projected benefit flow and anticipated investment earnings.

The actuarial assumptions used to determine the liabilities for the December 31, 2015 valuation are based on the results of the actuarial experience study for the period January 1, 2012, through December 31, 2014. The study was prepared using updated economic and demographic assumptions, and mortality rates adopted by the Board of Retirement (Board) in April 2016. The experience study was adopted by the Board on June 8, 2016. An actuarial valuation is performed annually.

The actuarial assumptions and methods listed below were recommended by the Plan's independent actuary, Segal Consulting, and were approved by the Board.

Latest Actuarial Valuation of Plan Assets and Liabilities	
Valuation Date	December 31, 2015
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level Percent of payroll for total unfunded liability (3.25% payroll growth assumed)
Remaining Amortization Period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 7 years remaining as of December 31, 2015. Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation. Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.
Asset Valuation Method	Fair value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Actuarial Assumptions:	
Investment Rate of Return	7.00%, net of pension plan investment expenses, including inflation
Inflation Rate	2.75%
Administrative Expenses	1.14% of payroll allocated to both the employer and member based on the components of the Normal Cost rates for the employer and member
Real Across-the-Board Salary Increases	0.50%
Projected Salary Increases - General	4.00% to 13.25%*
Projected Salary Increases - Safety	4.00% to 13.75%*
Cost-of-Living Adjustments (COLA)	2.75% per year except for Safety Tier C, PEPRA Tier E benefits and PEPRA Tier 4 (2% COLA) and Tier 5 (2% COLA) benefits for members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in Consumer Price Index (CPI).
Other Assumptions	Same as those used in the December 31, 2015 funding actuarial valuation.

* Includes inflation at 2.75%, plus "across the board" salary increases of 0.50%, plus merit and promotional increases for December 31, 2015.

Latest Actuarial Valuation Methods and Assumptions *(Continued)*

Actuarial Assumptions and Methods (Continued)	
Healthy	
General Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional MP-2015 projection scale.
Safety Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back three years, projected generationally with the two-dimensional MP-2015 projection scale.
Disabled	
General Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward eight years, projected generationally with the two-dimensional MP-2015 projection scale.
Safety Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward three years, projected generationally with the two-dimensional MP-2015 projection scale.
Beneficiaries	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.
	The RP-2014 mortality tables and adjustments as shown above reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.
Member Contribution Rate	
General Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, projected to 2034 with the two-dimensional MP-2015 projection scale, weighted 30% male and 70% female.
Safety Members	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table, set back three years, projected to 2034 with the two-dimensional MP-2015 projection scale, weighted 85% male and 15% female.
Pre-Retirement Mortality	Headcount-Weighted RP-2014 Employee Mortality Table times 75%, projected generationally with the two-dimensional MP-2015 projection scale.
Disability Rates	Based upon the Experience Analysis as of 12/31/14
Withdrawal Rates	Based upon the Experience Analysis as of 12/31/14
Service Retirement Rates	Based upon the Experience Analysis as of 12/31/14
Salary Scales	Total increase of 5.30% per year reflecting approximately 2.75% for inflation, 0.50% for additional real "across-the-board" salary increases and approximately 2.05% for merit and longevity.
Marriage Assumption At Retirement	
Male members	75%
Female members	50%
Value of Assets for Contribution Rate Purposes	Actuarial Value as described in Actuarial Valuation Methods Section of Valuation Report.

Retirement Rates (%)

	General				Safety			
Age	Tier 1 (Enhanced)	Tier 3 (Enhanced)	Tier 1 (Non-Enhanced)	Tiers 4 and 5 (PEPRA)	Tier A (Enhanced)	Tier C (Enhanced)	Tier A (Non-Enhanced)	Tiers D and E (PEPRA)
45	-	-	-	-	4.00	2.00	0.00	0.00
50	5.00	4.00	3.00	0.00	30.00	18.00	5.00	5.00
55	20.00	10.00	10.00	5.00	28.00	18.00	10.00	10.00
60	28.00	15.00	25.00	10.00	35.00	30.00	20.00	18.00
65	35.00	35.00	40.00	25.00	100.00	100.00	100.00	30.00
70	50.00	40.00	50.00	50.00	-	-	-	-
75	100.00	100.00	100.00	100.00	-	-	-	-

Termination Rates (%) Before Retirement
Mortality

	General		Safety	
Age	Male	Female	Male	Female
25	0.05	0.02	0.05	0.02
30	0.05	0.02	0.05	0.02
35	0.05	0.03	0.05	0.03
40	0.06	0.04	0.06	0.04
45	0.09	0.06	0.09	0.06
50	0.16	0.10	0.16	0.10
55	0.26	0.16	0.26	0.16
60	0.42	0.23	0.42	0.23
65	0.73	0.33	0.73	0.33

All pre-retirement deaths are assumed to be non-service connected.

Termination Rates (%) Before Retirement
Disability

Age	General Tier 1 and Tier 4*	General Tier 3 and Tier 5**	Safety***
20	0.01	0.01	0.02
25	0.02	0.02	0.22
30	0.04	0.03	0.42
35	0.08	0.05	0.56
40	0.22	0.08	0.66
45	0.36	0.13	1.00
50	0.52	0.16	2.88
55	0.60	0.20	4.60
60	0.60	0.28	5.00
65	0.60	0.32	5.00
70	0.60	0.32	5.00

*65% of General Tier 1 and Tier 4 disabilities are assumed to be duty disabilities. The other 35% are assumed to be ordinary disabilities.
**30% of General Tier 3 and Tier 5 disabilities are assumed to be duty disabilities. The other 70% are assumed to be ordinary disabilities.
***100% of Safety disabilities are assumed to be duty disabilities.

Termination Rates (%) Before Retirement
Withdrawal*

Years of Service	General	Safety
Less than 1	13.50	13.00
1	9.25	8.00
2	9.00	7.00
3	6.00	5.50
4	4.50	3.75
5	4.25	3.25
6	3.75	3.00
7	3.50	2.75
8	3.25	2.50
9	3.00	2.25
10	2.75	2.00
11	2.50	1.90
12	2.40	1.80
13	2.30	1.70
14	2.20	1.60
15	2.10	1.50
16	2.00	1.40
17	2.00	1.30
18	2.00	1.20
19	1.75	1.10
20 or more	1.50	1.00

*The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

Summary of December 31, 2015 Valuation Results

Summary of December 31, 2015 Valuation Results

Average Employer Contribution Rates:*	December 31, 2015 Total Rate	Estimated Annual Amount
General		
Cost Group #1 - County and Small Districts (Tiers 1 and 4)	32.49%	$7,512,572
Cost Group #2 - County and Small Districts (Tiers 3 and 5)	28.67%	154,482,818
Cost Group #3 - Central Contra Costa Sanitary District	52.90%	16,024,427
Cost Group #4 - Contra Costa Housing Authority	42.21%	2,206,611
Cost Group #5 - Contra Costa County Fire Protection District	31.16%	1,162,968
Cost Group #6 - Small Districts (Non-Enhanced Tiers 1 and 4)	25.38%	210,590
Safety		
Cost Group #7 - County (Tiers A and D)	76.40%	47,859,008
Cost Group #8 - Contra Costa and East Contra Costa County Fire Protection Districts	81.96%	26,136,961
Cost Group #9 - County (Tiers C and E)	68.42%	15,800,464
Cost Group #10 - Moraga-Orinda Fire District	70.17%	4,709,426
Cost Group #11 - San Ramon Valley Fire Protection District	83.14%	14,556,108
Cost Group #12 - Rodeo-Hercules Fire District	86.23%	2,120,310
ALL EMPLOYERS COMBINED	**39.23%**	**$292,782,263**

Average Member Contribution Rates:*		
General		
Cost Group #1 - County and Small Districts (Tiers 1 and 4)	10.77%	$2,489,883
Cost Group #2 - County and Small Districts (Tiers 3 and 5)	10.84%	58,411,126
Cost Group #3 - Central Contra Costa Sanitary District	11.65%	3,528,812
Cost Group #4 - Contra Costa Housing Authority	11.40%	595,980
Cost Group #5 - Contra Costa County Fire Protection District	10.99%	410,238
Cost Group #6 - Small Districts (Non-Enhanced Tiers 1 and 4)	13.03%	108,119
Safety		
Cost Group #7 - County (Tiers A and D)	17.74%	11,112,405
Cost Group #8 - Contra Costa and East Contra Costa County Fire Protection Districts	17.28%	5,511,118
Cost Group #9 - County (Tiers C and E)	15.34%	3,542,648
Cost Group #10 - Moraga-Orinda Fire District	17.12%	1,148,954
Cost Group #11 - San Ramon Valley Fire Protection District	16.91%	2,960,537
Cost Group #12 - Rodeo-Hercules Fire District	16.28%	400,294
ALL CATEGORIES COMBINED	**12.09%**	**$90,220,114**

Key Actuarial Assumptions	
Annual Interest Rate:	7.00%
Annual Inflation Rate:	2.75%
Across-the-Board Salary Increase:	0.50%
Average Annual Salary Increase:	5.30%

* Based on projected payroll as of each valuation date shown. These rates do not include any employer subvention of member contributions or any member subvention of employer contributions. The rates shown are averages based on all members regardless of their membership date.

Summary of Significant Results

Summary of Significant Results	
Association Membership	**December 31, 2015**
Active Members:	
1. Number of Members	9,642
2. Average Age	45.9
3. Average Service	9.9
4. Projected Total Payroll (Compensation)	$746,352,665
5. Average Projected Monthly Payroll	$6,451
Retired Members and Beneficiaries:	
1. Number of Members:	
Service Retirement	6,738
Disability Retirement	925
Beneficiaries	1,405
2. Average Age	69.9
3. Actual Retired Payroll	$399,843,820
4. Average Monthly Benefit	$3,706
Vested Terminated Members:	
1. Number of Terminated Vested Members*	2,790
2. Average Age	46.5
Summary of Financial Data:	
Market Value of Assets	$6,976,582,428
Return on Market Value of Assets	0.95%
Actuarial Value of Assets	$7,151,936,096
Return on Actuarial Value of Assets	8.78%
Valuation Value of Assets	$7,136,801,380
Return on Valuation Value of Assets	8.79%
Funded Status:	
Actuarial Accrued Liability (AAL)	$8,448,624,096
Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	$1,311,822,716
Funded Ratio	
GASB Statement No. 25	84.5%

* Includes 1,244 terminated members with members contributions on deposit as of December 31, 2015.

Schedule of Active Member Valuation Data

Schedule of Active Member Valuation Data

Valuation Date	Plan Type	Number	Projected Payroll	Average Annual Salary	% Increase/ (Decrease) in Average Salary
12/31/2006	General	7,602	$505,165,640	$66,452	5.13%
	Safety	1,608	148,787,523	92,530	1.04%
	Total	**9,210**	**653,953,163**	**71,005**	**4.15%**
12/31/2007	General	7,806	518,874,107	66,471	0.03%
	Safety	1,615	152,743,825	94,578	2.21%
	Total	**9,421**	**671,617,932**	**71,289**	**0.40%**
12/31/2008	General	7,781	544,409,663	69,967	5.26%
	Safety	1,604	160,538,005	100,086	5.82%
	Total	**9,385**	**704,947,668**	**75,114**	**5.37%**
12/31/2009	General	7,406	536,090,505	72,386	3.46%
	Safety	1,532	158,353,494	103,364	3.28%
	Total	**8,938**	**694,443,999**	**77,696**	**3.44%**
12/31/2010	General	7,325	533,351,975	72,813	0.59%
	Safety	1,486	154,091,231	103,695	0.32%
	Total	**8,811**	**687,443,206**	**78,021**	**0.42%**
12/31/2011	General	7,183	518,213,291	72,144	(0.92%)
	Safety	1,446	148,180,855	102,476	(1.18%)
	Total	**8,629**	**666,394,146**	**77,227**	**(1.02%)**
12/31/2012	General	7,244	513,920,662	70,944	(1.66%)
	Safety	1,396	138,391,516	99,134	(3.26%)
	Total	**8,640**	**652,312,178**	**75,499**	**(2.24%)**
12/31/2013	General	7,682	540,431,355	70,350	(0.84%)
	Safety	1,442	138,997,556	96,392	(2.77%)
	Total	**9,124**	**679,428,911**	**74,466**	**(1.37%)**
12/31/2014	General	7,774	561,430,096	72,219	2.66%
	Safety	1,385	136,401,741	98,485	2.17%
	Total	**9,159**	**697,831,837**	**76,191**	**2.32%**
12/31/2015	General	8,213	602,047,448	73,304	1.50%
	Safety	1,429	144,305,217	100,983	2.54%
	Total	**9,642**	**$746,352,665**	**77,406**	**1.60%**

Solvency Test

Solvency Test
(Dollars in Thousands)

Valuation Data	Aggregate Accrued Liabilities (AAL) For: 1 Active Member Contributions*	2 Retirants and Beneficiaries	3 Active Members Employer Portion	Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets: 1	2	3
12/31/2006	$399,864	$2,820,634	$2,073,479	$4,460,871	100%	100%	60%
12/31/2007	446,284	3,070,770	2,063,994	5,016,137	100%	100%	73%
12/31/2008	554,267	3,239,593	2,178,611	5,282,505	100%	100%	68%
12/31/2009	598,973	3,523,414	2,192,400	5,290,114	100%	100%	53%
12/31/2010	645,975	3,811,751	2,196,311	5,341,822	100%	100%	40%
12/31/2011	637,614	4,268,202	2,009,496	5,426,719	100%	100%	26%
12/31/2012	653,236	4,990,760	2,117,320	5,482,257	100%	97%	0%
12/31/2013	844,668	5,086,529	1,799,900	5,907,416	100%	100%	0%
12/31/2014	899,220	5,328,622	1,799,596	6,557,496	100%	100%	18%
12/31/2015	$1,011,434	$5,525,212	$1,911,978	$7,136,801	100%	100%	31%

*Beginning 12/31/2013, Active Member Contributions are set equal to the reserve account maintained for member contributions.

Retirants and Beneficiaries Added To and Removed From Retiree Payroll

Retirants and Beneficiaries Added To and Removed From Retiree Payroll

Year	At Beginning of Year	Added During Year	Allowances Added	Removed During Year	Allowances Removed	At End of Year	Retiree Payroll	% Increase in Retiree Payroll	Average Annual Allowance	% Increase in Annual Allowance
2006	6,437	357	$23,469,814	(148)	$(3,518,632)	6,646	$216,057,476	10.17%	$32,509	6.71%
2007	6,646	492	24,184,795	(227)	(4,586,247)	6,911	235,656,024	9.07%	34,099	4.89%
2008	6,911	317	20,853,808	(216)	(6,065,270)	7,012	250,444,562	6.28%	35,717	4.74%
2009	7,012	505	22,693,682	(225)	(6,271,784)	7,292	266,866,460	6.56%	36,597	2.47%
2010	7,292	486	27,459,315	(219)	(5,356,600)	7,559	288,969,175	8.28%	38,228	4.46%
2011	7,559	758	37,949,896	(232)	(6,621,254)	8,085	320,297,817	10.84%	39,616	3.63%
2012	8,085	657	34,622,498	(225)	(7,351,271)	8,517	347,569,044	8.51%	40,809	3.01%
2013	8,517	379	30,637,741	(271)	(8,397,382)	8,625	369,809,403	6.40%	42,876	5.07%
2014	8,625	494	25,732,590	(248)	(8,515,665)	8,871	387,026,328	4.66%	43,628	1.75%
2015	8,871	391	$19,997,703	(194)	$(7,180,211)	9,068	$399,843,820	3.31%	$44,094	1.07%

Actuarial Analysis of Financial Experience

Actuarial Analysis of Financial Experience
Changes in the Unfunded Actuarial Accrued Liability (UAAL) for Years Ended December 31, 2005 through 2015
(Dollars in Thousands)

				(Gain) or Loss			
December 31	Expected UAAL	Change in Plan Provisions	Change in Assumptions/ Methods	Investment Return	Active Salary Increases	Other*	UAAL
2005	$681,825	$2,552	$-	$81,310	$(12,311)	$(23,005)	$730,371
2006	715,423	-		(30,120)	(46,757)	(15,598)	833,106
2007	809,840	-	-	(171,935)	(47,443)	(25,550)	564,912
2008	515,421	1,100	-	154,986	5,838	12,618	689,966
2009	674,485	-	63,871	394,647	(47,181)	(61,149)	1,024,673
2010	1,050,996	-	15,521	313,478	(83,073)	15,293	1,312,215
2011	1,293,836	-	-	264,597	(77,127)	7,287	1,488,593
2012	1,463,568	-	570,155	297,215	(102,697)	50,817	2,279,058
2013	2,238,120	-	(205,332)	(96,259)	(114,771)	1,923	1,823,681
2014	1,773,291	-	(52)	(244,463)	(68,060)	9,226	1,469,942
2015	1,409,789	-	115,137	(100,727)	(37,960)	(74,416)	1,311,823

*Other experience includes employer and employee contributions, mortality, disability, withdrawal and retirement other than expected.

Summary of Major Pension Plan Provisions

Major Provisions of the Present System

Briefly summarized below are the major provisions of CERL and PEPRA, as amended through December 31, 2013, and as adopted by Contra Costa County and special district employers.

A. GENERAL MEMBERS —

- Tier 1 and Tier 3 Plans Non-Enhanced (Government Code (GC) 31676.11)
- Tier 1 and Tier 3 Plans Enhanced (GC 31676.16)
- Tier 2 Plan (GC 31752)
- PEPRA Tier 4 and Tier 5 Plan (GC 7522.20 (a))

Coverage

Tier 1:

a. All General Members hired before July 1, 1980, and electing not to transfer to Tier 2 Plan.

b. Reciprocal General Members hired before October 1, 2002, electing to not enter Tier 2 Plan.

c. Participating agencies who have elected Tier 1.

d. Certain General Members with membership dates before January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 1.

Tier 2:

a. All General Members hired before July 1, 1980, and most General Members hired on or after August 1,1980, electing to transfer to the Tier 2 Plan. Effective October 1, 2002, Tier 2 was eliminated for all County employees (except CNA employees); employees were placed in Tier 3.

   CNA employees in Tier 2 were placed in Tier 3 as of January 1, 2005.

   One special district's Tier 2 employees were placed in Tier 3 effective February 1, 2006.

Tier 3:

All County General Members (except CNA employees) hired on or after October 1, 2002, are placed in Tier 3. All CNA employees hired on or after January 1, 2005, are placed in Tier 3. All Contra Costa Mosquito and Vector Control District employees hired on or after February 1, 2006 are placed in Tier 3. General Members with membership dates before January 1, 2013 who are not placed in Tier 1 are placed in Tier 3.

All Tier 2 members for each of the agencies listed above were placed in Tier 3 as of the above respective dates.

PEPRA Tier 4:

All General Members hired on or after January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 4.

PEPRA Tier 5:

All General Members hired on or after January 1, 2013 who are not placed in Tier 4 are placed in Tier 5.

Final Compensation (FC)

Tier 1 and Tier 3 Plans (GC 31462.1, 31462):

a. Highest consecutive twelve months of compensation earnable.

Tier 2 Plan (GC 31462):

a. Highest consecutive thirty-six months of compensation earnable.

PEPRA Tier 4 and Tier 5 Plans (GC 7522.32, 7522.34):

a. Highest consecutive thirty-six months of pensionable compensation. Base compensation subject to annual limit.

Service Retirement

Tier 1 and Tier 3 Plans:

a. Requirement (GC 31672): Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age.

b. Non-Enhanced Benefit (GC 31676.11)

Retirement Age	Benefit Formula
50:	(1.24%xFC-1/3x1.24%x$350x12)x Yrs
55:	(1.67%xFC-1/3x1.67%x$350x12)x Yrs
60:	(2.18%xFC-1/3x2.18%x$350x12)x Yrs
62:	(2.35%xFC-1/3x2.35%x$350x12)x Yrs
65 or later:	(2.61%xFC-1/3x2.61%x$350x12)x Yrs

Maximum Benefit: 100% of Final Compensation.

Tier 2 Plan:

a. Requirement: Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age.

b. Benefit (GC 31752)

Retirement Age	Benefit Formula
50:	(0.83%xFCxYrs-0.57%xYrs*xPIA)
55:	(1.13%xFCxYrs -0.87%xYrs*xPIA)
60:	(1.43%xFCxYrs-1.37%xYrs*xPIA)
62:	(1.55%xFCxYrs-1.67%xYrs*xPIA)
65 or later:	(1.73%xFCxYrs-1.67%xYrs*xPIA)

Maximum Benefit: None.

**Not greater than 30 years, where PIA is the Social Security Primary Insurance Amount.*

c. Tier 1 and 3 Plan Enhanced Benefit (GC 31676.16)

Retirement Age	Benefit Formula
50:	(1.43%xFC-1/3x1.43%x $350x12)xYrs
55:	(2.00%xFC-1/3x2.00%x $350x12)xYrs
60:	(2.26%xFC-1/3x2.26%x $350x12)xYrs
62:	(2.37%xFC-1/3x2.37%x $350x12)xYrs
65 or later:	(2.42%xFC-1/3x2.42%x $350x12)xYrs**

Maximum Benefit:100% of Final Compensation

*** Current Tier 1 and Tier 3 members retiring at age 62½ or older will receive the higher benefits formula under GC 31676.11. Employees with membership dates on or after the benefit enhancement effective date will retire with benefits computed under GC 31676.16.*

The offsets shown in all of the above formulas only apply to members integrated with Social Security.

PEPRA Tier 4 and Tier 5 Plans

a. Requirement (GC 7522.20 (a), 31672.3): Age 52 with 5 years of service, or age 70 regardless of service.

b. Benefit (GC 7522.20 (a))

Retirement Age	Benefit Formula
52:	1.00%xFC3x Yrs
55:	1.30%xFC3x Yrs
60:	1.80%xFC3x Yrs
62:	2.00%xFC3x Yrs
65:	2.30%xFC3x Yrs
67 or later:	2.50%xFC3xYrs

Maximum Benefit: None.

Disability Retirement

Tier 1 and Tier 4:

a. Requirements (GC 31720)
   (1) Service-connected: None
   (2) Nonservice-connected: five years of service

b. Benefit
   (1) Service-connected: 50% Final Compensation or Service retirement benefit, if greater. (GC 31727.4)
   (2) Nonservice-connected: 1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but total benefit cannot be more than one-third of Final Compensation. (GC 31727)

Tier 2, Tier 3, and Tier 5:

a. Requirements (GC 31720.1)
   (1) Service-connected: None
   (2) Nonservice-connected: ten years of service

(3) Definition of disability is more strict than in Tier 1 Plan.

b. Benefit (GC 31727.01)
(1) Service-connected or nonservice-connected is 40% Final Compensation plus 10% Final Compensation for each minor child (maximum of three).
(2) Disability benefits are offset by other plans of the County except Workers' Compensation and Social Security.

Death Before Retirement

All tiers other than General Tier 2:
a. No eligibility requirement: Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of 6 months compensation (GC 31781); 50% of Final Compensation payable to spouse if Line of Duty Death (GC 31787);

- OR -

b. 5 years of service (10 years for Tiers 3 and 5): Option 2 (100%) continuance of Service Retirement or Ordinary Disability benefit payable to designated beneficiary.

General Tier 2:
a. Prior to eligibility to retire (less than ten years):
(1) $2,000 lump sum benefit offset by any Social Security payment Return of contributions

b. While eligible to retire (ten years or service-connected death) 60% of Service or Disability Retirement Benefit (minimum benefit is 24% of Final Compensation) plus, for each minor child, 10% of the allowance otherwise paid to the member. Minimum family benefit is 60% of the member's allowance. Maximum family benefit is 100% of member's allowance.

Death After Retirement

All tiers other than General Tier 2 (GC 31760.1, 31760.2)
a. After Service Retirement or Nonservice-Connected Disability - 60% of unmodified allowance continued to eligible spouse.

- OR -

b. After Service-Connected Disability - 100% of the allowance continued to eligible spouse. (GC 31786, 31786.1)

- AND -

c. Lump sum payment of $5,000. (GC 31789.5)

General Tier 2 (GC 31760.11)
a. After Service or Disability Retirement 60% of unmodified allowance continued to eligible spouse plus 20% of allowance to each minor child. Minimum benefit is 60% of allowance. Maximum benefit is 100% of allowance.

- AND -

b. Lump sum payment of $7,000 less any Social Security lump sum payment. (GC 31789.01, 31789.5)

Withdrawal Benefits

May elect a refund of accumulated contributions or defer retirement until eligible.

Less than five years of service: Age 70

At least five years of service:

Tier 1, Tier 2 and Tier 3
The later of age 50 and when the member would have reached 10 years of service had the member remained a full-time employee.

Tier 4 and Tier 5
Age 52

Cost-of-Living (COL) Benefits

Tier 1, Tier 3, Tier 4 and Tier 5

Based on changes in CPI.

3% maximum change per year except for Tier 3 and PEPRA Tier 5 disability benefits which can increase 4% per year. Benefits for PEPRA Tier 4 and Tier 5 members covered under certain Memoranda of Understanding have a maximum of 2% per year.

Tier 2
Based on changes in CPI.

4% maximum change per year.

Employee's Contribution Rates

Tier 1 Non-Enhanced (GC 31621.1)
a. Basic: to provide for an average annuity at age 55 equal to 1/120 of FC1.

b. COL: to provide for one-half of future COL costs.

Tier 1 and Tier 3 Enhanced (GC 31621)
a. Basic: to provide for an average annuity at age 60 equal to 1/120 of FC1.

b. COL: to provide for one-half of future COL costs.

PEPRA General Tiers 4 and 5 (GC 7522.30)
a. 50% of the total Normal Cost rate.

Employer Contribution Rates

Tier 1, Tier 3, Tier 4 and Tier 5
Enough to make up for the balance of the basic and COL contributions needed plus the amount required to amortize the Unfunded Actuarial Accrued Liability.

Other Information

Transfers from the Tier 1 Plan to the Tier 2 Plan were made on an individual voluntary irrevocable basis. Credit is given under the Tier 2 Plan for future service only. The COL maximum is 4% only for the credit under the Tier 2 Plan.

Transferred Tier 2 Plan members keep the five year requirement for nonservice-connected disability. Those who were members on or before March 7, 1973 will be exempt from paying member contributions after 30 years of service.

B. SAFETY MEMBERS —

- Tiers A and C (GC 31664 and 31664.1)
- PEPRA SAFETY MEMBERS Tiers D and E (GC 7522.25(d))

Coverage

Tiers A and C
a. Safety members with membership dates before January 1, 2013.

b. County Sheriff's Department Safety members hired on or after January 1, 2007, but before January 1, 2013 are placed in Safety Tier C Enhanced.

Tiers D and E
a. Safety members with membership dates on or after January 1, 2013. Safety members from certain bargaining units are placed in Safety Tier E.

Final Compensation (FC)

Tiers A and C (GC 31462.1, 31462)
a. Highest consecutive twelve months of compensation earnable.

b. Highest consecutive thirty-six months of compensation earnable for Safety Tier C.

Tiers D and E (GC 7522.32, 7522.34)
a. Highest consecutive thirty-six months of pensionable compensation. Base compensation will be subject to annual limit.

Service Retirement

Tiers A and C
a. Requirement (GC 31663.25): Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years of service, regardless of age.

b. Non-Enhanced Benefit at Retirement (GC 31664) (Rodeo-Hercules Fire Protection District)

Age	Benefit Formula
50	2.00% x FC1 x Yrs
55 or later	2.62% x FC1 x Yrs

Maximum Benefit: 100% of Final Compensation

c. Enhanced Benefit at Retirement (GC 31664.1) - (All others)

Age	Benefit Formula
50 or later	3.00% x FC1 x Yrs (Tier A); 3.00% x FC3 x Yrs (Tier C)

Maximum Benefit: 100% of Final Compensation

PEPRA Tiers D and E

a. Requirement (GC 7522.25(a) and 31672.3): Age 50 with 5 years of service, or age 70 regardless of service.

b. Benefit at Retirement (GC 7522.25 (d))

Age	Benefit Formula
50	2.00% x FC3 x Yrs
55	2.50% x FC3x Yrs
57 or later	2.70% x FC3 x Yrs

Maximum Benefit: None

Disability Retirement

a. Requirements (GC 31720)
   (1) Service-connected: None
   (2) Nonservice-Connected: five years of service

b. Benefit
   (1) Service-connected: 50% Final Compensation or Service Retirement benefit if greater. (GC 31727.4)
   (2) Nonservice-Connected: 1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service projected to 55, but total benefit cannot be more than one-third of Final Compensation. (GC 31727.2)

Death Before Retirement

Non-service Connected

a. Prior to retirement eligibility (less than 5 years)
   (1) One month's salary for each year of service to a maximum of six month's compensation.
   (2) Return of contributions.

b. While eligible to retire (after five years) 60% of Service or Disability Retirement Benefit.

Service connected

a. 50% of Final Compensation

Death After Retirement

a. After Service Retirement or Nonservice-Connected Disability - 60% of unmodified allowance continued to eligible spouse. (GC 31785, 31785.1)

- OR -

b. After Service-Connected Disability - 100% of the allowance continued to eligible spouse. (GC 31786, 31786.1)

- AND -

c. Lump sum payment of $5,000. (GC 31789.5)

Withdrawal Benefits

May elect a refund of accumulated contributions or defer retirement until eligible.

Less than five years of service: Age 70

At least five years of service:

Tier A and Tier C

The later of age 50 and when the member would have reached 10 years of service had the member remained a full-time employee.

Tier D and Tier E

Age 50

Cost-of-Living (COL) Benefits

a. Based on change in CPI; 3% maximum change per year for Safety Tier A and Tier D.

b. Based on change in CPI; 2% maximum change per year for Safety Tier C and Tier E.

Summary of Major Pension Plan Provisions *(Concluded)*

Employees' Safety Tier A Non-Enhanced (Section 31664) Contribution Rates

a. Basic - to provide for an average annuity at age 50 equal to 1/100 of FC1 (Tier A). (GC 31639.25)

b. COL - to provide for one-half of future COL costs.

Employees' Safety Tier A and Tier C Enhanced (Section 31664.1) Contribution Rates

a. Basic - to provide for an average annuity at age 50 equal to 1/100 of FC1 (Tier A). (GC 31139.25)

   Basic - to provide for an average annuity at age 50 equal to 1/100 of FC3 (Tier C).

b. COL - to provide for one-half of future COL costs.

PEPRA Safety Tiers D and E (GC 7522.30) Contribution Rates

a. 50% of the total Normal Cost rate.

Employer Contribution Rate

Tiers A, C, D, and E
Enough to make up the balance of the basic and COL contributions needed plus the amount required to amortize the Unfunded Actuarial Accrued Liability.

Other Information

Safety members under the enhanced benefit formula with membership dates on or before January 1, 2013 will be exempt from paying member contributions after 30 years of service.

STATISTICAL
SECTION

Summary of Statistical Data

The objective of the Statistical Section is to provide users with additional detailed information in order to promote a more comprehensive understanding of CCCERA's financial statements, note disclosures and supplemental information. In addition, the multi-year trend information for the financial and operating segments of CCCERA provided in this section is intended to facilitate understanding of how the financial activities and positions have changed over time. The information is presented in two major categories: Financial Trends Information and Operating Information.

Financial Trends Information is intended to assist readers in understanding how CCCERA's financial activities and positions have changed over time. The Changes in Plan Net Position for Years 2007 – 2016 presents additions by source, deductions by type, and the total change in net position for each year. The Schedule of Benefit Expenses by Type for the Last Ten Years presents benefit deductions by type of benefit, such as by Service Retirement and Disability Retirement, as well as by General and Safety benefits.

Operating Information is intended to provide contextual information about CCCERA's operations and membership to assist readers in using financial statement information to comprehend and evaluate CCCERA's fiscal condition. This section includes the Schedule of Retired Members by Type of Benefit, which presents information for the current year. The Schedule of Average Benefit Payment Amounts for the Last Ten Years shows the average monthly benefit, and number of retirees and beneficiaries, organized by five-year increments. Participating Employers and Active Members for Years 2007 – 2016 presents the employers and number of their corresponding covered employees.

Changes in Fiduciary Net Position For Years 2007 - 2016

Changes in Fiduciary Net Position
For Years 2007 - 2016

(Dollars In Thousands)

	2016	2015	2014	2013	2012
Additions					
Employer Contributions	$307,457	$323,720	$293,760	$235,017	$212,321
Employee Contributions	89,240	85,361	78,258	72,373	73,362
Net Investment Income (Loss)	501,733	82,429	488,873	884,870	680,538
Security Lending Income	1,630	1,165	1,167	1,148	1,535
Total Additions	900,060	492,675	862,058	1,193,408	967,756
Deductions					
Pension Benefits	412,073	400,759	387,026	369,809	347,569
Refunds	7,154	4,434	6,798	3,844	3,276
Administrative Expense	8,486	8,115	6,980	6,776	6,030
Other Expenses	10,409	11,695	10,662	9,242	8,590
Total Deductions	438,122	425,003	411,466	389,671	365,465
CHANGE IN PLAN NET POSITION	**$461,938**	**$67,672**	**$450,592**	**$803,737**	**$602,291**

	2011	2010	2009	2008	2007
Additions					
Employer Contributions	$200,389	$183,951	$195,614	$206,519	$196,930
Employee Contributions	61,575	64,330	66,536	76,452	75,591
Net Investment Income (Loss)	100,363	605,672	748,861	(1,467,872)	306,459
Security Lending Income	951	1,097	2,436	3,392	1,208
Total Additions	363,278	855,050	1,013,447	(1,181,509)	580,188
Deductions					
Pension Benefits	320,297	288,969	266,866	250,445	235,656
Refunds	3,909	2,647	4,628	3,730	3,113
Administrative Expense	7,649	5,283	7,359	5,601	5,942
Other Expenses	-	7,723	7,563	8,133	7,370
Total Deductions	338,145	304,622	286,416	267,909	252,081
CHANGE IN PLAN NET POSITION	**$25,133**	**$550,428**	**$727,031**	**($1,449,418)**	**$328,107**

Schedule of Benefit Expenses by Type *(Annual Benefit Amounts)*

Schedule of Benefit Expenses by Type
Annual Benefit Amounts as of December 31 of Each Year

(Dollars In Thousands)

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Service Retirement Payroll:										
General	$205,760	$198,783	$188,945	$179,079	$163,514	$144,304	$131,646	$121,929	$113,955	$104,164
Safety	107,643	107,103	102,791	96,403	87,198	78,221	70,782	66,953	62,705	56,215
Total	313,403	305,886	291,736	275,482	250,712	222,525	202,428	188,882	176,660	160,379
Disability Retirement Payroll:										
General	12,531	12,215	12,371	12,049	11,974	12,013	12,134	12,072	11,899	11,910
Safety	35,168	33,631	32,346	29,725	28,341	27,349	26,708	24,845	23,529	21,283
Total	47,699	45,846	44,717	41,774	40,315	39,362	38,842	36,917	35,428	33,193
Beneficiary Payroll:										
General	22,938	20,249	19,511	18,011	17,825	16,727	16,144	16,030	15,312	14,449
Safety	16,718	15,044	13,845	12,302	11,445	10,355	9,452	8,616	8,256	8,036
Total	39,656	35,293	33,356	30,313	29,270	27,082	25,596	24,646	23,568	22,485
Total Benefit Expense:										
General	241,229	231,248	220,827	209,139	193,313	173,044	159,924	150,031	141,166	130,523
Safety	159,528	155,777	148,982	138,430	126,984	115,925	106,942	100,414	94,490	85,534
TOTAL	**$400,759**	**$387,026**	**$369,809**	**$347,569**	**$320,297**	**$288,969**	**$266,866**	**$250,445**	**$235,656**	**$216,057**

Schedule of Retired Members by Type of Benefit

Schedule of Retired Members by Type of Benefit
Summary of Monthly Allowances Being Paid as of December 31, 2015

Amount of Monthly Benefit	Number of Retirees & Beneficiaries	Service	Disability	Beneficiary
General Members				
$0 to $999	1,521	1,172	5	344
$1,000 to $1,999	1,717	1,281	125	311
$2,000 to $2,999	1,260	933	162	165
$3,000 to $3,999	813	651	81	81
$4,000 to $4,999	504	432	21	51
$5,000 to $5,999	366	326	10	30
$6,000 to $6,999	237	222	2	13
$7,000 to $7,999	163	153	1	9
$8,000 to $8,999	114	112	0	2
$9,000 to $9,999	78	77	0	1
$10,000 & Over	170	168	0	2
TOTALS	**6,943**	**5,527**	**407**	**1,009**
Safety Members				
$0 to $999	93	49	6	38
$1,000 to $1,999	135	57	6	72
$2,000 to $2,999	166	58	42	66
$3,000 to $3,999	312	86	135	91
$4,000 to $4,999	277	96	123	58
$5,000 to $5,999	180	117	38	25
$6,000 to $6,999	138	103	21	14
$7,000 to $7,999	146	114	28	4
$8,000 to $8,999	173	130	30	13
$9,000 to $9,999	142	105	29	8
$10,000 & Over	363	296	60	7
TOTALS	**2,125**	**1,211**	**518**	**396**

Schedule of Average Benefit Payment Amounts

Schedule of Average Benefit Payment Amounts
Estimates Based on Years of Credited Service - General and Safety Combined

	Years of Credited Service							
Retirement Effective Date	0-5	5-10	10-15	15-20	20-25	25-30	30+	Totals
1/1/2015 - 12/31/2015								
Average monthly benefit	$1,344	$1,151	$1,990	$2,478	$3,351	$4,409	$3,619	$2,257
Average Final Compensation	$8,753	$6,379	$6,536	$6,418	$7,670	$8,065	$7,706	$6,867
Number of retired members	13	55	83	53	34	17	7	262
1/1/2014 - 12/31/2014								
Average monthly benefit	$1,292	$1,139	$1,976	$3,048	$4,431	$6,048	$5,318	$3,408
Average Final Compensation	$7,236	$6,426	$6,959	$7,834	$8,740	$9,941	$8,260	$7,959
Number of retired members	11	51	98	77	68	66	33	404
1/1/2013 - 12/31/2013								
Average monthly benefit	$533	$1,150	$1,824	$3,215	$4,454	$5,020	$4,991	$2,739
Average Final Compensation	$7,171	$6,454	$6,399	$8,744	$8,625	$8,993	$9,138	$7,537
Number of retired members	12	52	87	41	43	27	15	277
1/1/2012 - 12/31/2012								
Average monthly benefit	$1,953	$1,160	$2,096	$3,690	$4,897	$5,991	$6,272	$3,871
Average Final Compensation	$10,284	$5,938	$6,949	$8,901	$9,206	$9,710	$8,780	$8,344
Number of retired members	19	70	126	77	149	81	58	580
1/1/2011 - 12/31/2011								
Average monthly benefit	$436	$1,334	$1,853	$2,663	$4,325	$6,315	$6,829	$4,091
Average Final Compensation	$7,653	$5,871	$6,543	$7,091	$8,476	$9,629	$9,410	$8,044
Number of retired members	12	77	102	86	156	114	116	663
1/1/2010 - 12/31/2010								
Average monthly benefit	$559	$1,148	$1,781	$3,019	$4,619	$6,126	$6,837	$4,018
Average Final Compensation	$8,826	$6,015	$6,670	$7,280	$9,422	$9,473	$9,099	$8,081
Number of retired members	9	55	73	56	57	69	81	400
1/1/2009 - 12/31/2009								
Average monthly benefit	$1,039	$1,368	$1,844	$2,697	$4,532	$6,595	$7,046	$3,810
Average Final Compensation	$-	$-	$-	$-	$-	$-	$-	$-
Number of retired members	17	67	70	73	78	62	62	429

(Schedule continued on next page)

Schedule of Average Benefit Payment Amounts
Estimates Based on Years of Credited Service - General and Safety Combined

	Years of Credited Service							
Retirement Effective Date	**0-5**	**5-10**	**10-15**	**15-20**	**20-25**	**25-30**	**30+**	**Totals**
1/1/2008 - 12/31/2008								
Average monthly benefit	$1,499	$1,454	$2,108	$3,334	$4,426	$5,971	$7,145	$3,738
Average Final Compensation	$-	$-	$-	$-	$-	$-	$-	$-
Number of retired members	15	45	38	51	43	42	28	262
1/1/2007 - 12/31/2007								
Average monthly benefit	$862	$1,044	$1,685	$2,350	$3,044	$6,010	$7,608	$3,287
Average Final Compensation	$-	$-	$-	$-	$-	$-	$-	$-
Number of retired members	21	65	71	79	64	66	51	417
1/1/2006 - 12/31/2006								
Average monthly benefit	$624	$1,066	$1,170	$2,365	$3,981	$5,511	$6,864	$3,684
Average Final Compensation	$-	$-	$-	$-	$-	$-	$-	$-
Number of retired members	16	24	50	53	44	48	65	300

* Average Final Compensation is not available on a historical basis due to system constraints. It will be presented starting with the data for 2010 and subsequent years.

Schedule of Average Benefit Payment Amounts

Estimates Based on Annualized Benefit Amounts at December 31 of Each Year

	Years of Retirement								
GENERAL TIER 1	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**
2015 Average Monthly Benefit	$4,178	$4,674	$4,452	$3,570	$3,025	$2,519	$2,006	$2,081	$1,627
Number Retirees & Beneficiaries	387	503	650	550	489	395	341	194	78
2014 Average Monthly Benefit	$4,505	$4,453	$4,203	$3,336	$2,952	$2,325	$1,927	$2,069	$1,543
Number Retirees & Beneficiaries	471	515	612	543	482	405	322	169	59
2013 Average Monthly Benefit	$4,531	$4,417	$3,861	$3,123	$2,784	$2,240	$1,868	$1,999	$1,465
Number Retirees & Beneficiaries	500	559	602	528	487	435	317	158	47
2012 Average Monthly Benefit	$4,697	$4,202	$3,693	$2,854	$2,618	$2,055	$1,986	$1,773	$1,490
Number Retirees & Beneficiaries	535	631	594	510	514	434	324	141	40
2011 Average Monthly Benefit	$4,522	$4,107	$3,419	$2,824	$2,415	$1,936	$1,923	$1,721	$1,483
Number Retirees & Beneficiaries	524	633	621	550	486	440	328	124	32
2010 Average Monthly Benefit	$4,261	$3,933	$3,238	$2,744	$2,336	$1,764	$1,900	$1,531	$1,477
Number Retirees & Beneficiaries	501	658	594	548	506	467	314	107	24
2009 Average Monthly Benefit	$3,997	$3,747	$3,003	$2,628	$2,133	$1,748	$1,843	$1,466	$1,402
Number Retirees & Beneficiaries	530	633	580	550	535	461	293	94	26
2008 Average Monthly Benefit	$4,135	$3,506	$2,897	$2,490	$2,057	$1,773	$1,830	$1,388	$1,509
Number Retirees & Beneficiaries	546	632	560	578	564	478	264	79	23
2007 Average Monthly Benefit	$3,905	$3,326	$2,611	$2,314	$1,874	$1,836	$1,670	$1,295	$1,324
Number Retirees & Beneficiaries	632	631	537	607	578	478	241	59	18
2006 Average Monthly Benefit	$3,856	$3,139	$2,575	$2,164	$1,783	$1,660	$1,604	$1,138	$1,376
Number Retirees & Beneficiaries	617	649	584	584	607	480	223	54	14

NOTE: Average Final Compensation is not available on a historical basis due to system constraints for this schedule.

Schedule of Average Benefit Payment Amounts
Estimates Based on Annualized Benefit Amounts at December 31 of Each Year

	Years of Retirement								
GENERAL TIER 2	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**
2015 Average Monthly Benefit	$366	$731	$940	$1,091	$929	$1,643	$681		
Number Retirees & Beneficiaries	37	72	122	193	120	25	6		
2014 Average Monthly Benefit	$413	$671	$762	$1,109	$1,005	$1,365	$732		
Number Retirees & Beneficiaries	39	73	114	206	100	21	4		
2013 Average Monthly Benefit	$440	$654	$919	$1,003	$1,140	$922	$524		
Number Retirees & Beneficiaries	45	77	136	202	85	15	3		
2012 Average Monthly Benefit	$602	$613	$943	$1,016	$1,082	$951	$517		
Number Retirees & Beneficiaries	58	78	161	186	75	11	2		
2011 Average Monthly Benefit	$600	$651	$1,023	$890	$1,091	$923	$661		
Number Retirees & Beneficiaries	67	80	209	158	51	9	1		
2010 Average Monthly Benefit	$653	$721	$1,039	$821	$1,290	$662			
Number Retirees & Beneficiaries	71	109	215	143	30	8			
2009 Average Monthly Benefit	$611	$713	$1,045	$802	$1,153	$703			
Number Retirees & Beneficiaries	74	126	232	114	27	6			
2008 Average Monthly Benefit	$835	$886	$995	$1,065	$913	$617			
Number Retirees & Beneficiaries	82	144	232	101	17	4			
2007 Average Monthly Benefit	$751	$887	$967	$1,014	$906	$468			
Number Retirees & Beneficiaries	89	176	210	83	13	2			
2006 Average Monthly Benefit	$731	$956	$849	$895	$829	$592			
Number Retirees & Beneficiaries	89	225	176	58	12	1			

NOTE: Average Final Compensation is not available on a historical basis due to system constraints for this schedule.

Schedule of Average Benefit Payment Amounts *(Continued)*

Schedule of Average Benefit Payment Amounts
Estimates Based on Annualized Benefit Amounts at December 31 of Each Year

	Years of Retirement								
GENERAL TIER 3	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**
2015 Average Monthly Benefit	$2,721	$2,742	$2,053	$1,464	$1,986	$1,423			
Number Retirees & Beneficiaries	1368	858	476	77	1	1			
2014 Average Monthly Benefit	$2,772	$2,577	$1,811	$1,520	$1,634				
Number Retirees & Beneficiaries	1364	844	375	46	2				
2013 Average Monthly Benefit	$2,769	$2,374	$1,518	$1,677	$1,594				
Number Retirees & Beneficiaries	1297	776	306	3	2				
2012 Average Monthly Benefit	$2,798	$2,210	$1,397	$680	$1,563				
Number Retirees & Beneficiaries	1286	724	220	1	2				
2011 Average Monthly Benefit	$2,672	$2,020	$1,291	$660	$1,518				
Number Retirees & Beneficiaries	1102	626	164	1	2				
2010 Average Monthly Benefit	$2,443	$1,849	$1,267	$1,698	$1,156				
Number Retirees & Beneficiaries	886	518	90	2	2				
2009 Average Monthly Benefit	$2,347	$1,651	$1,465	$1,213	$1,183	$1,965			
Number Retirees & Beneficiaries	852	398	54	6	3	1			
2008 Average Monthly Benefit	$2,237	$1,441	$1,154	$1,479	$1,035				
Number Retirees & Beneficiaries	768	324	2	2	1				
2007 Average Monthly Benefit	$2,020	$1,327	$1,115	$1,287					
Number Retirees & Beneficiaries	752	224	2	3					
2006 Average Monthly Benefit	$1,831	$1,211							
Number Retirees & Beneficiaries	600	177							

NOTE: Average Final Compensation is not available on a historical basis due to system constraints for this schedule.

Schedule of Average Benefit Payment Amounts
Estimates Based on Annualized Benefit Amounts at December 31 of Each Year

	Years of Retirement								
SAFETY TIER A and TIER C	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**
2015 Average Monthly Benefit	$6,590	$7,444	$7,262	$5,984	$5,033	$4,775	$3,983	$4,336	$3,676
Number Retirees & Beneficiaries	440	412	438	288	213	122	94	69	49
2014 Average Monthly Benefit	$6,837	$7,376	$6,771	$5,715	$5,227	$4,298	$4,157	$4,170	$3,397
Number Retirees & Beneficiaries	487	426	403	263	205	121	89	73	38
2013 Average Monthly Benefit	$6,858	$7,145	$6,583	$5,150	$5,117	$4,155	$4,255	$3,986	$3,093
Number Retirees & Beneficiaries	493	421	404	226	186	123	90	69	33
2012 Average Monthly Benefit	$6,946	$7,113	$6,165	$5,023	$4,738	$3,951	$4,108	$3,599	$3,272
Number Retirees & Beneficiaries	487	471	364	205	158	125	91	61	28
2011 Average Monthly Benefit	$6,763	$7,040	$5,513	$4,892	$4,409	$3,909	$3,880	$3,711	$2,940
Number Retirees & Beneficiaries	437	486	304	215	142	125	87	55	26
2010 Average Monthly Benefit	$6,791	$6,521	$5,452	$4,623	$4,380	$3,637	$3,891	$3,555	$2,818
Number Retirees & Beneficiaries	406	453	287	223	133	107	86	50	21
2009 Average Monthly Benefit	$6,620	$6,093	$5,110	$4,706	$3,929	$3,756	$3,780	$3,178	$2,619
Number Retirees & Beneficiaries	426	406	268	222	126	98	88	41	21
2008 Average Monthly Benefit	$6,644	$6,126	$4,800	$4,813	$3,884	$3,903	$3,810	$2,926	$2,453
Number Retirees & Beneficiaries	409	406	236	202	128	101	83	30	16
2007 Average Monthly Benefit	$6,517	$5,758	$4,573	$4,438	$3,625	$3,909	$3,397	$2,830	$2,420
Number Retirees & Beneficiaries	465	362	229	168	128	107	76	22	19
2006 Average Monthly Benefit	$6,475	$5,143	$4,442	$4,039	$3,451	$3,771	$3,379	$2,508	$2,135
Number Retirees & Beneficiaries	467	301	244	150	132	105	62	25	10

NOTE: Average Final Compensation is not available on a historical basis due to system constraints for this schedule.

Participating Employers and Active Members for Years 2007 - 2016

Participating Employers and Active Members for Years 2007 - 2016											
County of Contra Costa:	**2016**	**% of Totals**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**
General Members	7,436	75.51%	7,306	6,897	6,784	6,357	6,280	6,403	6,429	6,802	6,871
Safety Members	951	9.66%	936	894	951	912	888	935	956	1,020	1,023
TOTAL:	**8,387**	**85.16%**	**8,242**	**7,791**	**7,735**	**7,269**	**7,168**	**7,338**	**7,385**	**7,822**	**7,894**
Participating Agencies:											
Bethel Island Municipal Improvement District	1	0.01%	1	1	2	2	2	3	3	3	3
Byron, Brentwood, Knightsen Union Cemetery District	4	0.05%	5	5	5	5	5	4	3	3	5
Central Contra Costa Sanitary District	282	2.86%	272	262	260	255	248	252	266	266	257
Contra Costa County Employees' Retirement Association	47	0.48%	48	43	44	38	36	37	37	37	35
Contra Costa Housing Authority	87	0.88%	84	82	83	83	91	92	91	90	92
Contra Costa Mosquito and Vector Control District	33	0.34%	33	33	34	33	35	35	35	37	35
Delta Diablo Sanitation District*	-	0.00%	-	-	-	-	-	-	-	-	-
Diablo Water District*	-	0.00%	-	-	-	-	-	-	-	-	-
Local Agency Formation Commission (LAFCO)	2	0.02%	2	2	2	2	2	2	2	2	1
Ironhouse Sanitary District*	-	0.00%	-	-	-	-	-	-	-	-	-
Rodeo Sanitary District	7	0.07%	8	7	7	6	8	7	8	8	7
In-Home Supportive Services Authority (IHSS)	15	0.15%	13	12	12	12	12	12	12	13	16
First 5 - Children & Families Commission	28	0.28%	26	22	21	20	22	24	22	16	14
Contra Costa County Fire Protection District	337	3.42%	304	297	286	299	331	321	349	354	344
East Contra Costa Fire Protection District	43	0.44%	35	38	49	38	48	49	50	50	52
Moraga-Orinda Fire District	63	0.64%	62	62	70	62	65	73	73	71	71
Rodeo-Hercules Fire Protection District	18	0.18%	24	23	15	14	17	21	21	21	21
Superior Court**	330	3.35%	331	324	344	342	357	360	405	407	395
San Ramon Valley Fire District	164	1.67%	152	155	155	160	182	181	180	185	179
TOTAL:	**1,461**	**14.84%**	**1,400**	**1,368**	**1,389**	**1,371**	**1,461**	**1,473**	**1,557**	**1,563**	**1,527**
TOTAL ACTIVE MEMBERSHIP	**9,848**	**100.00%**	**9,642**	**9,159**	**9,124**	**8,640**	**8,629**	**8,811**	**8,942**	**9,385**	**9,421**

*Districts that terminated their membership with CCCERA
** Superior Courts were part of the County prior to January 1, 2005

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