Sonoma County Employees' Retirement Association 2019

(A Pension Trust Fund for The County of Sonoma, Santa Rosa, California)
Comprehensive Annual Financial Report For the Year ended December 31, 2019

Comprehensive Annual Financial Report
For the year ended December 31, 2019

Sonoma County Employees' Retirement Association
A Pension Trust Fund for the County of Sonoma`

ISSUED BY

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Introductory Section

Sonoma County Employees' Retirement Association
433 Aviation Boulevard, Suite 100
Santa Rosa, California 95403
(707) 565-8100 Fax (707) 565-8102

Julie Wyne
Chief Executive Officer

June 5, 2020

Sonoma County Employees' Retirement Association
Board of Retirement
Santa Rosa, California

Dear Board Members:

As the Chief Executive Officer (CEO) of the Sonoma County Employees' Retirement Association (the System or SCERA), I am pleased to present this Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2019.

The Sonoma County Employees' Retirement Association is a public employee defined benefit retirement system that was established by the County of Sonoma on January 1, 1946. SCERA is administered by the Board of Retirement (Board) to provide retirement, disability, and survivor benefits for its members under the California State Government Code, Section 31450 et seq. (County Employees Retirement Law of 1937 "CERL") and Section 7522 et seq. the California Public Employees' Pension Reform Act of 2013 (PEPRA). SCERA provides benefits to the safety and general members employed by Sonoma County and five other participating agencies as listed below:

Sonoma County Water Agency (Water Agency)
Valley of the Moon Fire Protection District (Valley of the Moon Fire)
Community Development Commission
Sonoma County Transportation Authority (Transportation Authority)
Superior Court of California – County of Sonoma (Superior Court)

Responsibility for the accuracy of the data, along with the completeness and fairness of the information presented in this CAFR, rests with SCERA's management. To the best of our knowledge, the enclosed data is accurate in all material respects and is reported in a manner designed to fairly present both SCERA's financial position and operating results.

Introductory Section

SCERA is governed by the California Constitution, the CERL, PEPRA, and the bylaws, regulations, resolutions, policies and procedures adopted by the Board. The Sonoma County Board of Supervisors may also adopt resolutions, as permitted by the CERL, which may affect benefits of SCERA members. SCERA operates its plan in conformance with Internal Revenue Service rules and regulations.

The SCERA Board is responsible for establishing policies governing the administration of the retirement plan, setting actuarial funding policies, making benefit determinations and managing the investment of the System's assets. The day-to-day management of SCERA is delegated to a CEO appointed by the Board and employed directly by the System.

The SCERA Board is a nine member Board, four of whom are appointed by the Sonoma County Board of Supervisors, four of whom are elected by SCERA's membership, and the Sonoma County Treasurer. In addition, the SCERA Board has an Alternate Retired Board Member position. Board members, with the exception of the Sonoma County Treasurer, serve three-year terms of office with no term limits. The Sonoma County Treasurer serves in an ex officio capacity as a function of the office of Treasurer.

Financial Information

Brown Armstrong Accountancy Corporation provides financial statement independent audit services to SCERA. The independent audit, for the plan year ending December 31, 2019, states that SCERA's financial statements are presented in conformity with accounting principles generally accepted in the United States of America (GAAP), are free of material misstatement and sufficient internal accounting controls exist to provide safekeeping of assets and fair presentation of the financial statements and supporting schedules. SCERA recognizes that even sound internal controls have inherent limitations. We believe that SCERA's internal controls are designed to provide reasonable, but not absolute, assurance that these objectives are met. Because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements.

GAAP requires that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of a Management's Discussion and Analysis (MD&A). This Letter of Transmittal complements the information in the MD&A and should be read in conjunction with it. The MD&A can be found on pages 15 through 20.

Actuarial Funding Status

SCERA's funding objective is to meet benefit promises by achieving long-term full funding of the cost of benefits, seeking reasonable and equitable allocation of those costs, minimizing volatility of contributions where possible and consistent with other policy goals, and obtaining optimum returns consistent with the assumption of prudent risk. The greater the level of overall plan funding, the larger the ratio of assets accumulated to the actuarial accrued liability and the greater the level of investment potential.

Pursuant to provisions in the County Employees Retirement Law of 1937, SCERA engages an independent actuarial firm to perform actuarial valuations of the System annually. As of this latest actuarial valuation, the funding status (the ratio of System assets to System liabilities) is 89.4%.

Additionally, every three years, a triennial experience study is completed, comparing the System's experience over the prior three years to the System's assumptions. The economic and non-economic assumptions are updated at the time each triennial valuation is performed and the updated assumptions are used in the annual valuation, which serves as the basis for changes in member and employer contribution rates necessary to properly fund the System. In advance of each triennial experience study, the System procures an asset liability modeling study conducted by its investment consultant, Aon. This study, and any resulting asset allocation changes, helps SCERA's actuary in the development of the System's investment return assumption recommendation. The most recent triennial experience study was completed by Segal Consulting in 2018 and performed on data for the period of January 1, 2015 through December 31, 2017. The results of this study were applied to the annual actuarial valuation for the plan year ending December 31, 2018.

SCERA adopted an interest crediting policy that describes the financial and actuarial reserves and defines interest crediting rates on those reserves, changing the Member Reserve interest crediting rate to the yield on the 10 year Treasury note, credited semiannually on June 30 and December 31. Trustees were concerned about members who terminate employment and withdraw their funds in lieu of a retirement allowance, and felt that those members should not benefit from interest credited at the plan's investment earnings rate, which is intended to be a long term crediting rate. All other reserves will be credited at the plan's investment earnings rate, and the difference between the Member Reserve interest crediting rate and the Systems's investment earnings rate will be credited to the Employer Reserve.

Investments

The Board has exclusive control of all investments of the retirement system and is responsible for the establishment of investment objectives, strategies and policies. The Board is authorized to invest in any form or type of investment deemed prudent in the informed opinion of the Board. Members of the Board serve in a fiduciary capacity in discharging their duties with respect to SCERA and the investment portfolio and are bound to act in the best interests of the plan participants when making investment decisions. The assets of SCERA are exclusively managed by external professional investment management firms (a listing of all investment professionals who provide services to SCERA can be found on page 10 of this report).

The investment staff closely monitors the activity of these managers and assists the Board with implementation of investment policies and long-term investment strategies. The Investment Policy Statement establishes the investment program goals, risk philosophy, asset allocation policies, performance objectives, investment management policies and risk controls. A summary of the asset allocation can be found in the Investment Section of this report.

For the year ended December 31, 2019, the SCERA investment portfolio experienced a return of 17.0% compared to a return of -3.0% for the year ended December 31, 2018. The SCERA fund annualized rates of return over the last 3, 5, 10 and 20-year periods, were 9.8%, 8.1%, 9.4% and 6.1%, respectively.

Service Efforts and Accomplishments

Operations

SCERA procured an asset liability modeling study through its investment consultant, Aon, to review the System's current asset allocation, provide capital market assumptions to estimate future performance, and suggest possible changes to SCERA's asset mix based on expressed views from the SCERA Board and executive staff. This study, which will be completed in 2020, will form the basis of discussions with the Board on the proper alignment of liabilities and assets, and is a precursor to the triennial experience study.

In anticipation of additional unfunded actuarial accrued liability payments from SCERA's plan sponsors, SCERA updated its Actuarial Funding Policy to add flexibility in applying the additional payments so that the Plan Sponsor and the System can work together to maximize the impact of these payments. The policy was also updated to comply with provisions in the Public Employees' Pension Reform Act regarding plan surpluses.

SCERA adopted a felony forfeiture policy to evaluate and implement the felony forfeiture statutes and ensure the member is provided with the appropriate due process before any retirement benefits are impacted. The felony forfeiture statutes require that earned public pension benefits be forfeited if a member is convicted of a felony that arises out of or is connected to his or her official duties. Those pension benefits earned from the date of first commission of the felony to the date of conviction are subject to forfeiture.

Budget

The Board of Retirement approves SCERA's annual budget. The CERL limits SCERA's annual administrative expenses, excluding the costs of administration for computer software and hardware and computer technology consulting service ("IT costs"), to twenty-one hundredths of one percent (0.21%) of the System's actuarial accrued liability. SCERA's administrative expenses have historically been far below this limitation. In 2019, SCERA's administrative expense of $2.6 million, excluding IT costs of $0.6 million, was 0.08% of SCERA's actuarial accrued liability.

Governance

SCERA's Strategic Plan covers a five year period from 2018 through 2022, and in line with its strategic goals SCERA adopted an annual Business Plan. SCERA updated its Business Plan format to highlight the routine actions that staff performs each year and indicate how these actions keep SCERA in line with its strategic goals. If there are projects above and beyond those routine actions, they will also be highlighted in the Business Plan. By reformatting the Business Plan to recognize the daily work that keeps SCERA's operations running, in addition to highlighting special projects, SCERA is providing a more comprehensive view of the strategic work that staff is performing annually.

Governance, *continued*

SCERA discussed the status of its reserves, pursuant to the Cost of Living Adjustment (COLA) policy, and communicated to the Sonoma County Administrator and Sonoma County Association of Retired Employees' Board President the inability to recommend a COLA based upon the insufficiency of the reserves, the loss of purchasing power since the last COLA was granted, and the cost of a COLA should one be able to be granted.

Retirement Board

2019 saw the reelection of Brian Williams, the Safety Member, and the appointment of Sonoma County Board of Supervisors member Susan Gorin, who replaced Supervisor David Rabbitt. Ms. Gorin began her tenure on the Board in January of 2019. We are very pleased with the election and appointment of these Trustees and greatly appreciate the continuity of our Board. The Board officers consist of Michael Gossman, Chair, and Robert Williamson, Vice Chair, and our Investment Committee officers consist of Greg Jahn, Chair, and Brian Williams, Vice Chair.

Certificates of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to SCERA for its Comprehensive Annual Financial Report (CAFR) for the fiscal year ended December 31, 2018. In order to be awarded a Certificate of Achievement, a government agency must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for a period of one year only. This is the twentieth consecutive year that a Certificate of Achievement has been received for the SCERA Comprehensive Annual Financial Report.

SCERA received from the GFOA an Award for Outstanding Achievement in Popular Annual Financial Reporting for its Popular Annual Financial Report (PAFR) for the fiscal year ended December 31, 2018. The PAFR is sent to all SCERA members and includes highlights of the annual CAFR. This was the fifteenth year the PAFR was submitted to the GFOA and we are very pleased that the PAFR again received the Certificate of Achievement.

The Public Pension Coordinating Council (PPCC) presented its Public Pension Standards Award to SCERA in recognition of compliance with professional standards for plan funding and administration for 2018. This is the fourth year SCERA participated in and received an award from the PPCC program which judges a retirement system's Comprehensive Benefit Program, Funding Adequacy, Actuarial Valuation, Independent Audit, Investments and Communications.

Acknowledgements

The compilation of this report reflects the combined and dedicated effort of SCERA's staff under the leadership of the Board of Retirement. It seems disasters are becoming commonplace in Sonoma County and 2019 was no different with another wildfire evacuation and power outages that impacted SCERA operations. Despite these hurdles staff and the Board kept SCERA operations running smoothly. I would like to take this opportunity to express my appreciation to the Board of Retirement for its leadership, collaborative decision making process, strong support for staff and dedication to the members and beneficiaries of this system. The administration of the retirement system depends on many people and I greatly appreciate the depth of knowledge, talent and dedication of the team assembled here at SCERA. In addition to the Board and staff, I am sincerely grateful to the advisors and to the many people whose diligent efforts ensure the successful operation of SCERA.

Respectfully submitted,

Julie Wyne
Chief Executive Officer

Members of the Board of Retirement

As of December 31, 2019

Chair
Michael Gossman

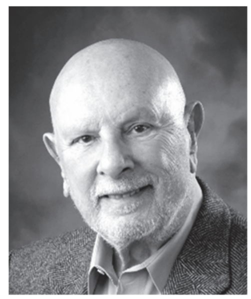
Elected by General Members.
Present term expires
December 31, 2019

Trustee
Erick Roeser

Auditor/Controller/
Treasurer/Tax Collector
Ex-Officio Trustee

Trustee
Susan Gorin

Appointed by Board of Supervisors.
Present term expires
December 31, 2021



Trustee
Joe Tambe

Appointed by Board of Supervisors.
Present term expires
December 31, 2020

Trustee
Greg Jahn

Appointed by Board of Supervisors.
Present term expires
December 31, 2020

Trustee
Brian Williams

Elected by Safety Members.
Present term expires
December 31, 2021

Trustee
John Pels

Elected by Retiree Members.
Present term expires
December 31, 2020

Trustee
Robert Williamson

Appointed by Board of Supervisors.
Present term expires
December 31, 2019

Trustee
Christel Querijero

Elected by General Members.
Present term expires
December 31, 2020

Alternate Trustee
Neil Baker

Elected by Retiree Members.
Present term expires
December 31, 2020

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Sonoma County

Employees' Retirement Association

California

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2018

Christopher P. Morrill

Executive Director/CEO

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2018

Presented to

Sonoma County Employees' Retirement Association

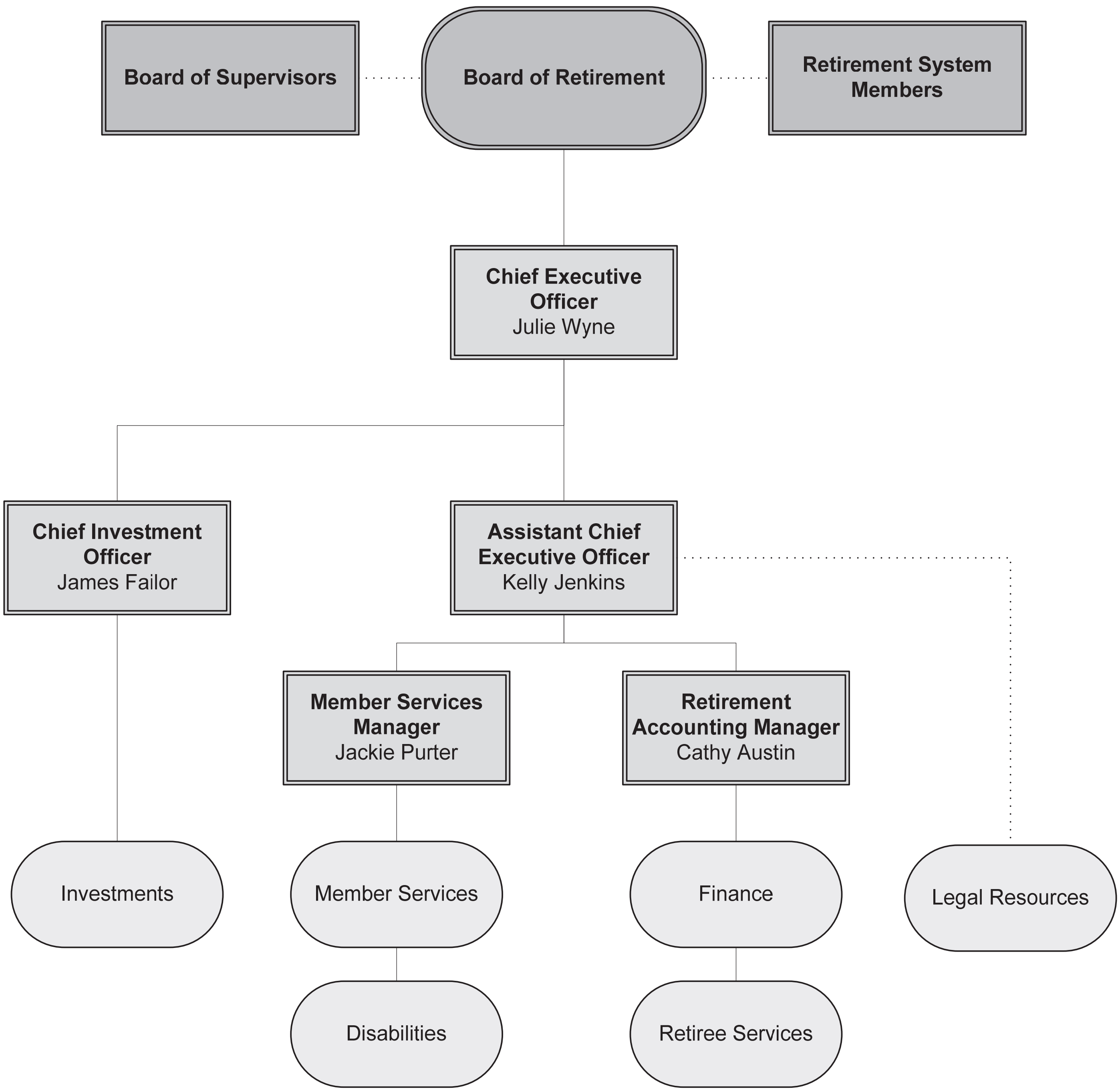
In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

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

Administrative Organization Chart



See page 10 for consulting services and investment managers and page 58 for a schedule of management fees and commissions.

List of Professional Consultants
as of December 31, 2019

Consulting Services

Actuary
Segal Consulting

Auditors
Brown Armstrong Accountancy Corporation

Investment Custodians
State Street, Inc.

Data Processing
Information Systems, County of Sonoma
Levi, Ray and Shoup

Investment Consultants
Aon Hewitt Investment Consulting, Inc. (Aon)

Legal Counsel
County Counsel, County of Sonoma
Ice Miller, LLP
Mayer Brown LLP
Nossaman, LLP
Public Pension Consultants

Investment Managers

Enhanced Core Fixed Income
DoubleLine Capital LP
Guggenheim Partners Investment Management LLC
Pacific Investment Management Company (PIMCO)
Reams Asset Management Company

Broad Mandate Equity
Jacobs Levy

Large Cap Equity
State Street Global Advisors

Small Cap Equity
Systematic Financial Management

Non-US Equity
Arrowstreet Capital
State Street Global Advisors
Templeton Investment Counsel

Global Equity
Dodge and Cox
Grantham, Mayo, Van Otterloo and Company
Hexavest

Real Estate
J.P. Morgan
UBS Realty Investors

Infrastructure
IFM Investors
Axium

Opportunistic
Davidson Kempner

Cash Overlay
Parametric

Financial Section

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BROWN ARMSTRONG
Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

To the Board of Retirement of the
Sonoma County Employees' Retirement Association
Santa Rosa, California

Report on the Financial Statements

We have audited the accompanying Statement of Fiduciary Net Position of the Sonoma County Employees' Retirement Association (SCERA), a pension trust fund of the County of Sonoma, as of December 31, 2019, 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 SCERA'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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the basic financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the basic financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to SCERA's preparation and fair presentation of the basic 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 SCERA'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 presentation of the basic 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 basic financial statements referred to above present fairly, in all material respects, the fiduciary net position of SCERA as of December 31, 2019, 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.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (MD&A) and required supplementary information (RSI), 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 the Governmental Accounting Standards Board (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 MD&A and RSI 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 SCERA'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 SCERA's December 31, 2018, financial statements, and our report dated May 15, 2019, expressed an unmodified opinion on those audited financial statements. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2018, 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 5, 2020, on our consideration of SCERA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of SCERA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering SCERA's internal control over financial reporting and compliance.

BROWN ARMSTRONG
ACCOUNTANCY CORPORATION

Brown Armstrong
Accountancy Corporation

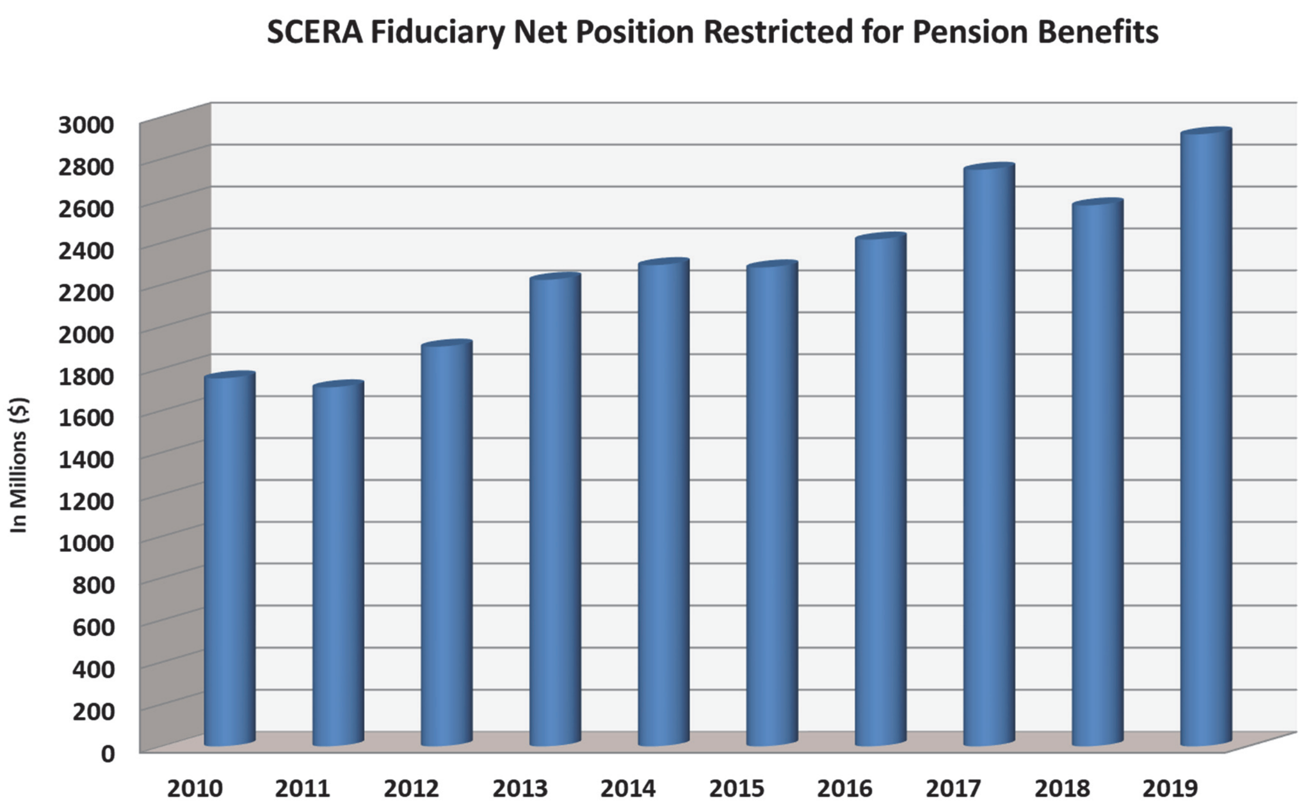
Bakersfield, California
June 5, 2020

Sonoma County Employees' Retirement Association
433 Aviation Boulevard, Suite 100
Santa Rosa, California 95403
(707) 565-8100 Fax (707) 565-8102

The following section provides an overview and analysis of SCERA's financial activities for the year ended December 31, 2019. We encourage readers to take into account the information presented here in conjunction with additional information we have furnished in the Letter of Transmittal beginning on page 2 of this report.

Financial Highlights

- SCERA's fiduciary net position as of December 31, 2019 is $2,916.9 million. This amount reflects an increase of 13% in fiduciary net position during 2019, primarily as a result of a net investment gain of $415.6 million.
- SCERA's funding objective is to meet the long-term benefit obligations through contributions and investment income. As of December 31, 2019, the date of our last actuarial valuation, the funding ratio for SCERA was 89.4%. The funding ratio is computed by the actuary and uses the actuarial value of assets that incorporate smoothing of investment returns over a five-year period. If the market value of assets were used as of December 31, 2019, the funded ratio for SCERA would be approximately 92.8%.
- Revenues (additions to plan assets) for the year were $525.4 million. This was comprised of $65.2 million of employer contributions, $44.7 million of member contributions, and an investment gain of $415.6 million.
- Expenses (deductions in plan assets) for the year were $186.3 million, an increase of $10.1 million (6%) over the prior year. The majority of the increase in expenses came from $10.2 million (6%) increase in pension benefit payments and refunds. Administrative and other expenses remained basically flat from the prior year.



Overview of the Financial Statements

The following discussion and analysis are intended to serve as an introduction to SCERA's financial statements, which are comprised of the following components:

- Statement of Fiduciary Net Position (page 21)
- Statement of Changes in Fiduciary Net Position (page 22)
- Notes to the Financial Statements (pages 23 thru 40)

The Statement of Fiduciary Net Position is a snapshot of account balances at year-end. It indicates the assets available for future payments to retirees and any current liabilities owed at this time.

The Statement of Changes in Fiduciary Net Position provides a view of the current year additions to and deductions from the System. This statement covers the activity over a one-year period.

These statements are in compliance with various pronouncements of the Governmental Accounting Standards Board (GASB) in accordance with Generally Accepted Accounting Principles (GAAP).

These pronouncements require certain disclosures and also require the state and local governments to report using the full accrual method of accounting. SCERA complies with all material, applicable aspects of these pronouncements.

The Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position report information about SCERA's activities. These statements include all assets and liabilities, using the full 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 taken into account regardless of when the cash is received or paid. All investment gains and losses are shown at trade date, not settlement date. In addition, both realized and unrealized gains and losses are shown on investments. All capital assets are depreciated over their useful lives.

Over time, increases and decreases in SCERA's fiduciary net position are one indicator of whether its financial health is improving or deteriorating. There are other factors that should also be considered in measuring SCERA's overall financial health.

The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements. Please note that this report also contains required supplementary information and other supplementary information in addition to the basic financial statements themselves.

SCERA Fiduciary Net Position

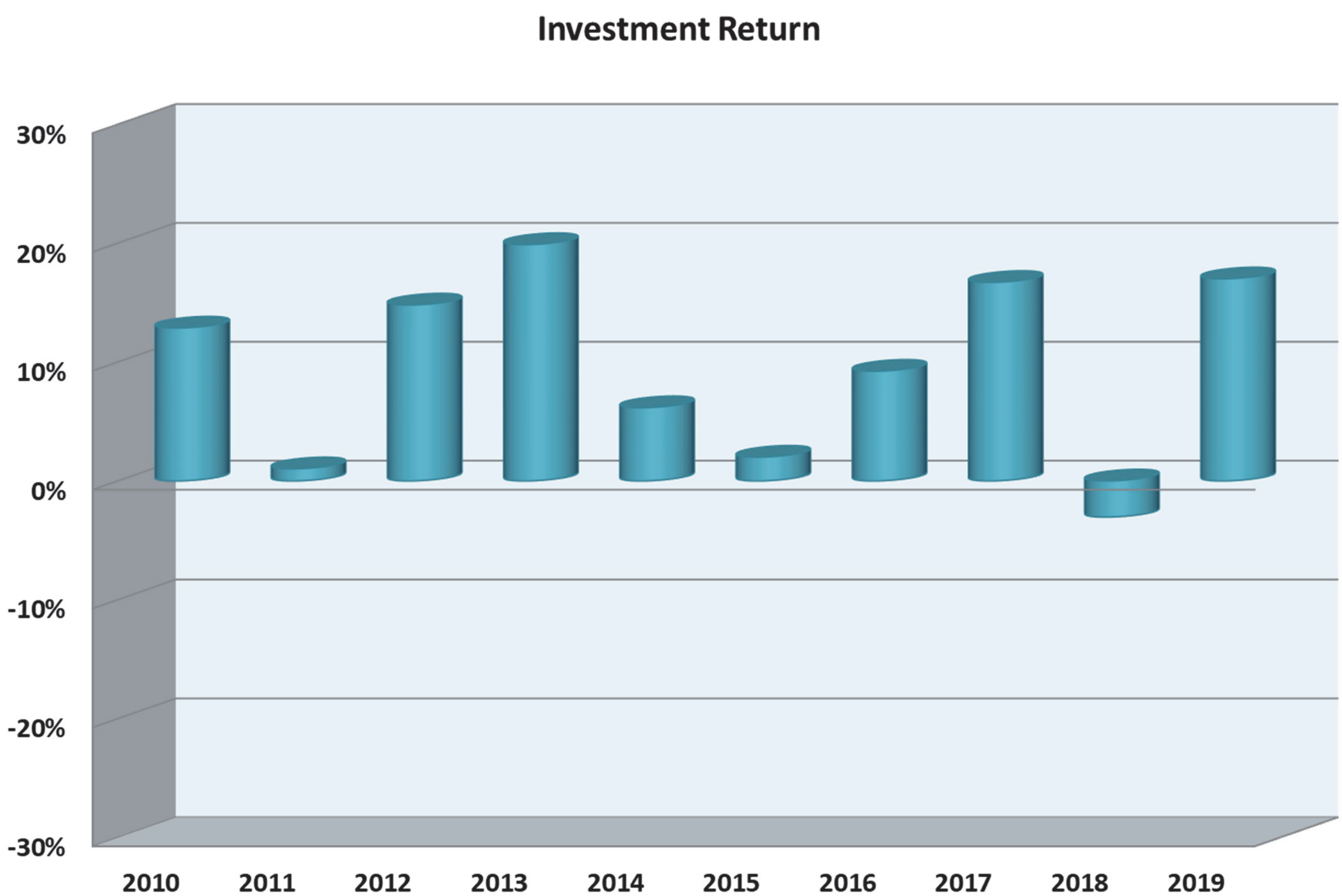
(Dollars in Thousands)	**12/31/2019**	**12/31/2018**	Increase (Decrease) Amount	% Change
Cash and Short-Term Investments	$ 165,029	$ 162,870	$ 2,159	1%
Receivables	51,929	12,700	39,229	309%
Investments	2,857,435	2,511,064	346,371	14%
Securities Lending Collateral	105,224	9,740	95,484	980%
Prepaid Expense	98	65	33	51%
Capital Assets, net	2,093	2,460	(367)	(15)%
Total Assets	3,181,808	2,698,899	482,909	18%
Accounts Payable	4,195	3,039	1,156	38%
Security Purchases Payable	95,312	51,042	44,270	87%
Collateral Held for Securities Lent	105,224	9,740	95,484	980%
Unearned Revenue	60,187	57,269	2,918	5%
Total Liabilities	264,918	121,090	143,828	119%
Fiduciary Net Position Restricted for Pension Benefits	$2,916,890	$2,577,809	$339,081	13%

The Retirement Fund as a Whole

SCERA's fiduciary net position increased 13% in 2019 reflecting investment returns of 17.0%, combined with pension benefit and refund payment increases of 6%. However, as you can see from the ten-year investment return graph below, investment returns can vary significantly from year to year. SCERA maintains a diversified investment portfolio and asset allocation that is structured to meet the long-term funding requirements of the System. Reflective of variations in the stock market, the five, ten and twenty year returns are 8.1%, 9.4% and 6.1%, respectively. This illustrates the importance of a long-term investment strategy incorporating structured diversification and a balanced investment portfolio. SCERA Management and Actuary concur that SCERA remains in a financial position that will enable the System to meet its obligations to participants and beneficiaries. The current financial position results from a strong and successful investment program, risk management and strategic planning.

Investment Analysis

Investment returns, gross of fees, were very strong in 2019 with a gain of 17.0%. However, they were unfavorable in 2018 with a -3.0% return at the total portfolio level. SCERA's asset allocation includes 21.5% US equities, 21.5% international equities, 15% global equities, 5% global asset allocation, 19% fixed income, and 18% real assets. SCERA's asset allocation is set based on a comprehensive investment policy. SCERA's equity returns were 24.1%, 12.1% and 9.7% for the one, three and five-year periods ended December 31, 2019, respectively. SCERA's returns for fixed income over these same periods were 7.0%, 4.3% and 3.6%, respectively. Real assets produced returns of 4.3%, 6.5% and 7.7%, respectively, for the same one, three and five year periods. For additional information on SCERA investments see the Investment Section (pages 50 thru 62).



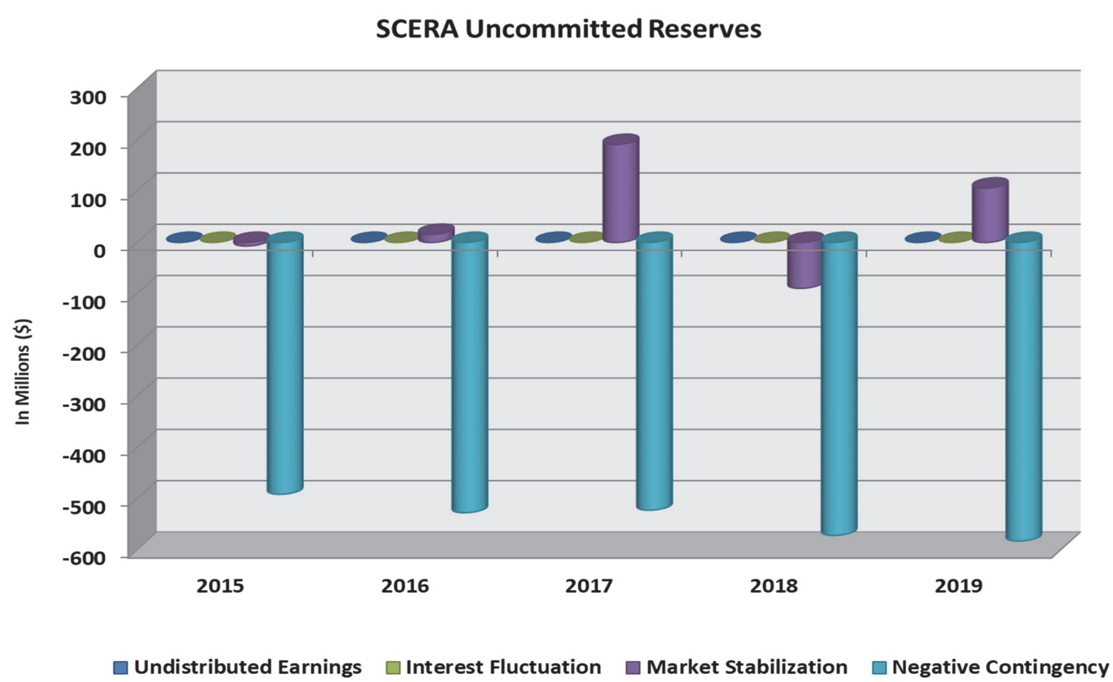
SCERA Reserves

(Dollars in Thousands)	12/31/2019	12/31/2018	12/31/2017
Member Reserve	$ 593,656	$ 600,487	$ 569,375
Employer Reserve	835,234	755,645	723,551
Annuitant Reserve	1,930,871	1,847,309	1,746,945
Cost of Living Reserve-Current	32,193	35,157	38,505
Interest Fluctuation Reserve	0	0	0
Market Stabilization Reserve	105,598	(89,536)	190,741
Negative Contingency Reserve	(580,662)	(571,253)	(521,077)
Unreserved	0	0	0
Total	**$2,916,890**	**$2,577,809**	**$2,748,040**

Reserves

SCERA's reserves are established from contributions and the accumulation of investment income after satisfying investment and administrative expenses. They are not required by GAAP, but they equate to the fiduciary net position restricted for pension benefits. Under GAAP, investments are stated at fair value instead of cost and include the recognition of unrealized gains and losses in the current period. SCERA has adopted a five-year smoothing methodology for investment gains and losses. As a result, investment gains and losses are held in the Market Stabilization Reserve account and recognized over a five-year period. This has the effect of smoothing both positive and negative fluctuations in investment performance versus assumptions and has a stabilizing effect on contribution rates. An understanding of the smoothing methodology is an essential part of measuring SCERA's overall financial health.

Investment returns were 17.0% in 2019, which is much better than the assumed rate of 7.0%. The 2019 results were included in 5-year smoothing bringing the Market Stabilization Reserve to a positive $105.6 million as of December 31, 2019. The Market Stabilization Reserve can vary widely from year to year as noted in this summary of reserves over the past three years. The fluctuation from year to year is due to investment performance versus the actuarial assumed rate-of-return and the five-year recognition of prior investment experience.



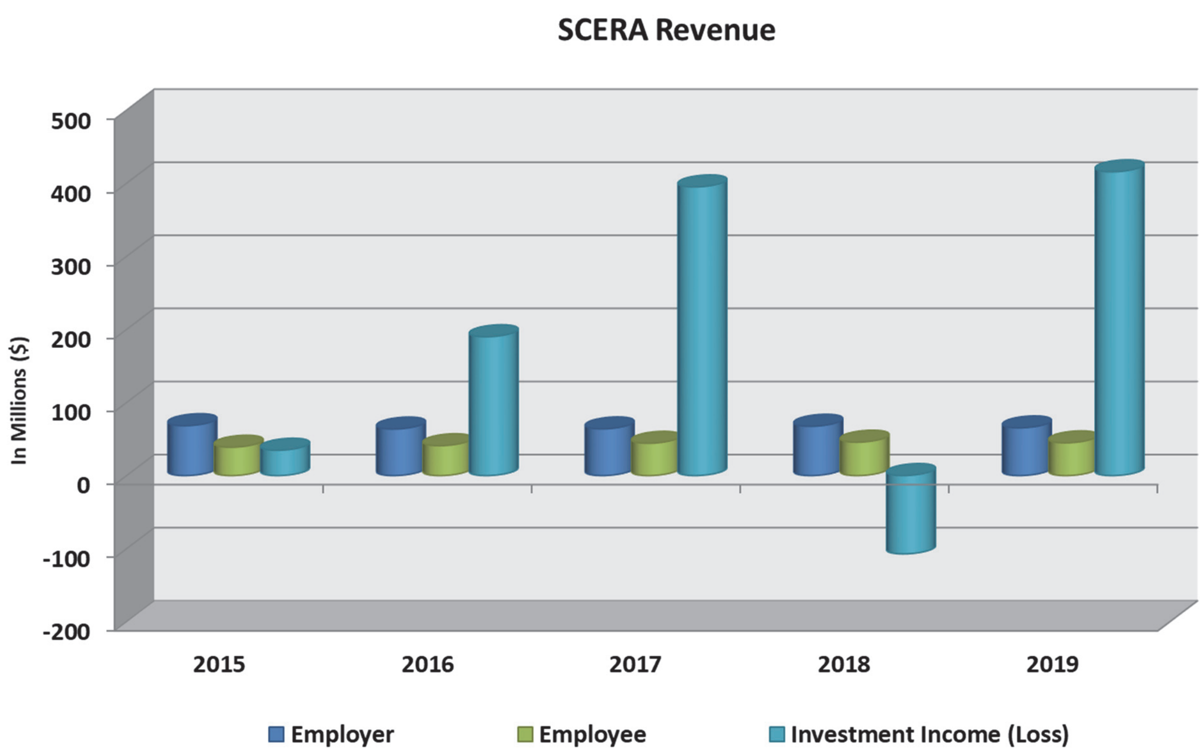
Changes in SCERA Fiduciary Net Position

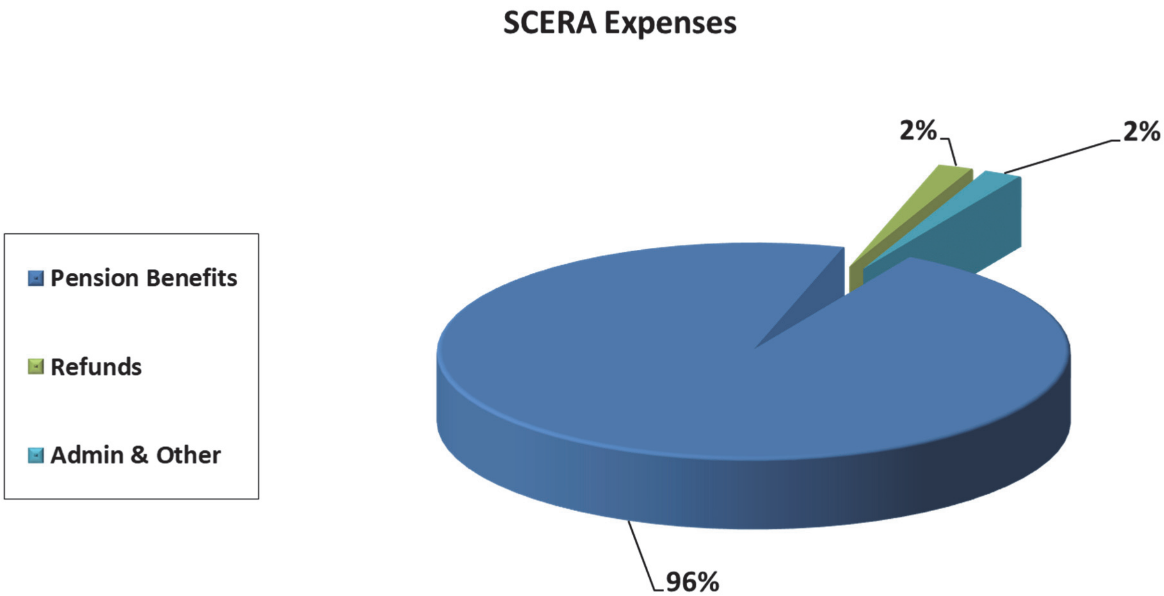
(Dollars in Thousands)	2019	2018	Increase (Decrease) Amount	% Change
Additions				
Employer Contributions	$ 65,155	$ 67,425	$ (2,270)	(3)%
Member Contributions	44,659	45,567	(908)	(2)%
Net Investment Income/(Loss)	415,299	(107,354)	522,653	487%
Net Securities Lending Income	260	276	(16)	(6)%
Total Additions	525,373	5,914	519,459	8,784%
Deductions				
Pension Benefits	179,424	170,370	9,054	5%
Refunds of Contributions	3,322	2,192	1,130	52%
Administrative and Other Expenses	3,546	3,583	(37)	(1)%
Total Deductions	186,292	176,145	10,147	6%
Change in Fiduciary Net Position	339,081	(170,231)	509,312	299%
Fiduciary Net Position at Beginning of Year	2,577,809	2,748,040	(170,031)	(6)%
Fiduciary Net Position at End of Year	$2,916,890	$2,577,809	$ 339,081	13%

Revenues (Additions to Plan Assets)

The primary sources to finance the benefits SCERA provides to its members are accumulated through income on investments and through the collection of employee and employer contributions. These income sources for the fiscal year ended December 31, 2019 totaled $525.4 million. Revenues in 2019 can be attributed primarily to positive investment earnings as well as both employer and employee contributions.

Strong investment income in 2019 was the result of excellent equity returns along with good fixed income and real asset returns. The 2019 return on investments was a positive 17.0% which followed a negative return of -3.0% in 2018. The total balance of investment assets (less collateral held for securities on loan) increased from approximately $2,511 million in 2018 to $2,857 million in 2019.





Expenses (Deductions in Plan Assets)

The primary uses of SCERA assets are in the payment of benefits to retirees and their beneficiaries, refunds of contributions to terminated employees, and the cost of administering the System. These expenses for the fiscal year ended December 31, 2019 were $186.3 million, an increase of $10.1 million, or 6%, compared to expenses of $176.1 million for the year ended December 31, 2018. Pension benefits and refunds increased 6% due to an increasing number of retirees and withdrawals in 2019. Administrative and other expenses remained basically flat in 2019.

Fiduciary Responsibility

SCERA's Board of Retirement and management staff are fiduciaries of the pension trust fund. Under the California Constitution and California state 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 administering the System.

Requests for Information

The financial report is designed to provide the Retirement Board, our membership, taxpayers, investment managers and creditors with a general overview of SCERA finances and to account for the money it receives. Questions concerning any of the information in this report or requests for additional financial information should be addressed to:

SCERA
433 Aviation Boulevard, Suite 100
Santa Rosa, CA 95403

Respectfully submitted,

Cathy Austin
Retirement Accounting Manager

Statement of Fiduciary Net Position

As of December 31, 2019 (with Comparative Totals)

(Dollars in Thousands)	2019 Total	2018 Total
Assets		
Cash and Short-term Investments (Note D)	$ 165,029	$ 162,870
Receivables		
Employer Contributions	2,199	1,875
Interest and Dividends	5,738	6,411
Securities Sold	43,992	4,414
Total Receivables	51,929	12,700
Investments at Fair Value (Note E)		
Fixed Income	536,928	559,183
Equities	1,748,498	1,402,727
Real Assets	510,911	490,785
Opportunistic	61,098	58,369
Collateral Held for Securities Lent (Note F)	105,224	9,740
Total Investments	2,962,659	2,520,804
Prepaid Expense	98	65
Capital Assets Net of Depreciation (Note I)	2,093	2,460
Total Assets	**3,181,808**	**2,698,899**
Liabilities		
Accounts Payable (Note J)	4,195	3,039
Security Purchases Payable	95,312	51,042
Collateral Held for Securities Lent (Note F)	105,224	9,740
Unearned Revenue (Note K)	60,187	57,269
Total Liabilities	**264,918**	**121,090**
Fiduciary Net Position Restricted for Pension Benefits	**$2,916,890**	**$2,577,809**

The notes to the financial statements are an integral part of this statement.

Statement of Changes in Fiduciary Net Position

For the Year Ended December 31, 2019 (with Comparative Totals)

(Dollars in Thousands)	2019 Total	2018 Total
Additions		
Contributions (Note M)		
Employer	$ 65,155	$ 67,425
Member	44,659	45,567
Total Contributions	109,814	112,992
Investment Income		
From Investing Activities		
Net Appreciation/(Depreciation) in Fair Value of Investments	372,488	(172,454)
Investment Income	61,745	85,087
Commission Recapture	0	1
	434,233	(87,366)
Less Expenses From Investing Activities	14,887	15,770
Less Allowance for Earnings on Unearned Revenue (Note K)	4,047	4,218
Net Investing Activity Income/(Loss)	415,299	(107,354)
From Securities Lending Activities		
Gross Securities Lending Income	668	615
Plus: Borrower Rebates	(348)	(285)
Less: Agent Fees	60	54
Net Securities Lending Income	260	276
Total Net Investment Income/(Loss)	415,559	(107,078)
Total Additions	**525,373**	**5,914**
Deductions		
Pension Benefits	179,424	170,370
Refunds of Contributions	3,322	2,192
Actuarial Study Fees	295	177
Attorney Fees	99	334
Administrative Expenses	3,152	3,072
Total Deductions	**186,292**	**176,145**
Change in Fiduciary Net Position	339,081	(170,231)
Fiduciary Net Position Restricted for Pension Benefits		
Balance at Beginning of Year	2,577,809	2,748,040
Balance at End of Year	**$2,916,890**	**$2,577,809**

The notes to the financial statements are an integral part of this statement.

Notes To The Financial Statements

The Sonoma County Employees' Retirement Association was organized under the provisions of the County Employees Retirement Law of 1937 on January 1, 1946. The Sonoma County Board of Supervisors may adopt resolutions, as permitted by the County Employees Retirement Law of 1937, which may affect benefits of SCERA members. On September 12, 2012, the California Public Employees' Pension Reform Act (PEPRA) was signed into law. In order to comply with this law, a new tier, Plan B, was established for both General and Safety members who enter the System on or after January 1, 2013. SCERA administers a cost-sharing, multiple-employer Defined Benefit Pension Plan (DBPP) and serves as a distribution agent for Post-Employment Healthcare Plans (PHP) for both the County of Sonoma and the Superior Court.

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

SCERA, with its own governing board, is an independent governmental entity separate and distinct from the County of Sonoma. SCERA's annual financial statements are referenced by footnote in the County of Sonoma's Comprehensive Annual Financial Report.

Basis of Accounting

SCERA follows the accounting principles and reporting guidelines as set forth by the Governmental Accounting Standards Board (GASB). The financial statements are prepared using the accrual basis of accounting in accordance with the 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. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment income is recognized as revenue when earned, and expenses are recognized when incurred. The net appreciation (or depreciation) in the fair value of investments is recorded as an increase (or decrease) to investment income, which includes both realized and unrealized gains and losses on investments, based upon investment valuations.

Valuation of Investments

Investments in securities are reported at fair value based upon closing sales prices reported on recognized securities exchanges on the last business day of the period, or for listed securities having no sales reported and for unlisted securities, based upon last reported bid prices. Purchases and sales of securities are accounted for on a trade date basis, and dividends declared but not received are accrued on the ex-dividend date. Realized gains and losses are determined on the basis of average costs.

Unsettled investment trades as of year-end are reported in the financial statements on an accrual basis of accounting. The corresponding funds receivable from a sale and funds payable for a purchase are reported in receivables-securities sold and liabilities-security purchases payable, respectively.

Investment Concentrations

The Board of Retirement Trustees' policies and guidelines enable the portfolio to develop into numerous asset classes and to take advantage of professional investment managers with diverse management styles. The result is a well-diversified portfolio. The investment portfolio contained no concentration of investments in any one entity that represented 5% or more of the total investment portfolio or the fiduciary net position.

Use of Estimates in the Preparation of Financial Statements

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

A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, *continued*

Capital Assets

Capital assets are carried at cost less accumulated depreciation. Depreciation is calculated using the straight-line method with a 5-year life for computer hardware and software, 5-year life for equipment and furniture, 10-year life for building improvements, 10-year life for integrated pension systems and 30-year life for buildings. Leasehold improvements are depreciated over the life of the lease.

Administrative Expenses

SCERA's Board of Retirement (Board) annually adopts the operating budget for the administration of SCERA. The administrative expenses are charged against SCERA's earnings and are limited to twenty-one hundredths of one percent of the accrued actuarial liability of the retirement system, as set forth under Government Code Section 31580.2.

B. PENSION PLAN DESCRIPTION

General Information

Members include employees in a permanent position of at least half time in the County of Sonoma, Water Agency, Valley of the Moon Fire, Transportation Authority, Superior Court, and Community Development Commission. Plan members are classified as either General or Safety. Membership becomes effective on the first day of entrance into eligible service. The System provides member benefits as defined by law upon retirement, death, or disability.

Management of the System is vested in the SCERA Board of Retirement, with the Chief Executive Officer serving at the discretion of the Board. The Board of Retirement consists of nine voting trustees and one alternate trustee. Four trustees are appointed by the County of Sonoma's Board of Supervisors, five trustees (including the one alternate) are elected by the members of SCERA. General members elect two trustees, Safety members elect one trustee, and retired members elect one trustee and one alternate trustee.

The County of Sonoma Treasurer is an ex-officio trustee. Board trustees serve three year terms, with the exception of the County Treasurer, who serves during their tenure in office.

At December 31, 2019, the total annual employees' payroll covered by the System was $350,995,000.

At December 31, 2019, plan membership consisted of the following:

	2019
Retired Members and Beneficiaries	
General Members	4,263
Safety Members	987
Subtotal	**5,250**
Current Members	
General Members	3,334
Safety Members	706
Subtotal	**4,040**
Deferred Members	
General Members	1,164
Safety Members	231
Subtotal	**1,395**
Total General Membership	***8,761***
Total Safety Membership	***1,924***
Total Membership	**10,685**

Benefit Provisions

Vesting and Retirement Eligibility. Upon completing five years of creditable service, employees have non-revocable rights to receive benefits attributable to employer's contributions, provided employee contributions have not been withdrawn. Plan A members are eligible to retire at age 50 with ten years of service or thirty years of service (safety members-twenty years) regardless of age. Plan B General members are eligible to retire at age 52 with five years of service; Plan B Safety members are eligible to retire at age 50 with five years of service. Members in all plans are eligible to retire at age 70, regardless of years of service.

B. PENSION PLAN DESCRIPTION, *continued*

Benefit Provisions, *continued*

Basis of Benefit Payments. Benefits are based upon a combination of age, years of service, highest average compensation and the benefit payment option selected by the member. For Plan A members, highest average compensation is defined as the highest 12 consecutive months of compensation earnable. The maximum benefit payable to a member or beneficiary is 100% of the highest average compensation. For Plan B members, highest average compensation is based on the highest 36 consecutive months of pensionable compensation. Additionally Plan B members are limited in the amount of compensation used to calculate a benefit to 100% of the Social Security taxable wage base limit in 2013, adjusted for inflation (or 120% for non-Social Security integrated positions).

Cost of Living Benefits. SCERA has approved, on an ad hoc basis, several one-time, post-retirement cost of living increases (COLAs), the last of which was in 2008. These cost of living increases have been fully funded by transfers from the Undistributed Earnings Reserve or Interest Fluctuation Reserve into the Cost of Living Reserve account.

Disability Benefits. Members with 5 years of service, regardless of age, are eligible to apply for a non-service connected disability. The benefit for Plan A General members, Plan A Safety members, and Plan B Safety members is 1.8% of highest average compensation for each year of service; the benefit for Plan B General members is 1.5% of highest average compensation for each year of service. The maximum benefit for both Plans is 1/3 of highest average compensation.

All employees, regardless of years of service, are eligible for service connected disability. A service connected disability benefit is the greater of 50% of highest average compensation or a service retirement benefit.

Death Benefit - Prior to Retirement. In addition to the return of contributions, a death benefit is payable to the member's beneficiary or estate equal to one month's salary for each completed year of service under the retirement system (based on the final compensation preceding the member's death), but not to exceed 6 months of salary.

If a member dies while eligible for service retirement or non-service connected disability, the member’s spouse/registered domestic partner receives 60% of the allowance that the member would have received for retirement on the day of the member’s death.

If a member dies in the performance of duty, the spouse/registered domestic partner will receive a lifetime benefit equal to 50% of the member's highest average compensation or a service retirement benefit, whichever is higher.

Death Benefit - After Retirement. As part of the retirement process, members are required to select among several options for benefits continuation upon the member's death. For married / registered domestic partner retirees, the most common retirement option is the unmodified option, which pays the retiree's eligible spouse or registered domestic partner a lifetime benefit equal to 60% of the benefit the retiree was receiving.

Return of Contributions. If a member should resign or die before becoming eligible for retirement, the member’s contributions plus interest may be refunded. In lieu of receiving a return of contributions, a resigning member may elect to leave the member’s contributions on deposit.

C. POST-EMPLOYMENT HEALTHCARE PLAN DESCRIPTION

General Information

The County of Sonoma and the Superior Court provide other post-employment benefits to retirees. Both of these employers currently reimburse Medicare premiums to each retired employee who is covered under Medicare Parts A and B.

SCERA does not determine eligibility nor negotiate for the healthcare benefits, but acts solely as a conduit which deducts premiums from benefit payments and forwards these deductions to the employers. The County of Sonoma and Superior Court pay an annual fee to SCERA for the processing of retiree health insurance deductions. Benefit eligibility, coverage and premium cost negotiations are the responsibility of the employers. As such, GASB Statement No. 74 does not apply.

D. CASH AND SHORT-TERM INVESTMENTS

Cash and short-term investments consist of short-term investments with fiscal agents as well as deposits held in a pooled account with the County of Sonoma. All participants in the pool share earnings and losses. Short-term investments consist of cash held in money market accounts and securities readily convertible to cash. All cash, deposits and short-term investments are carried at cost, which approximates fair value. The Sonoma County Treasury Oversight Committee has regulatory oversight for all monies deposited into the Sonoma County Treasury Pool. Such amounts are invested in accordance with investment policy guidelines established by the County Treasurer and reviewed by the County Board of Supervisors. The objectives of the policy are, in order of priority, safety of principal, liquidity and yield. Similarly, the short-term investment fund held by State Street Bank (which is a liquidity fund investing in short-term investment securities) is carried at cost, which approximates fair value.

A summary of cash and short-term investments, as of December 31, 2019

Cash and Short-Term Investment Funds (held by)	
(Dollars in Thousands)	2019
County Treasury	$ 2,689
Custodian Bank	162,340
Total	$165,029

The vast majority of the above cash is overlaid with stock and bond futures contracts so there is little to no economic exposure to cash.

E. DEPOSITS AND INVESTMENTS

State Street Bank serves as custodian of SCERA's investments. SCERA's asset classes include US Equity, Non-US Equity, Global Equity, Fixed Income, Real Assets and Opportunistic. Any class may be held in direct form, pooled form, or both. SCERA has 18 investment managers, managing 19 individual portfolios.

Investments at December 31, 2019 consist of the following (excluding collateral held for securities lending as described in Note F):

Investments at Fair Value	
(Dollars in Thousands)	2019
Fixed Income	$ 536,928
Equities	1,748,498
Real Assets	510,911
Opportunistic	61,098
Total Investments	$2,857,435

The Board has established a policy for investing, specifying the following target allocations with a minimum and maximum range for each of these asset classes.

Asset Class	Min	Target	Max
Core Plus Fixed Income	14.0%	16.0%	18.0%
Alternative Fixed Income	2.0%	3.0%	4.0%
Real Assets	15.0%	18.0%	21.0%
U.S. Equities	19.5%	21.5%	23.5%
Non-U.S. Equities	19.5%	21.5%	23.5%
Global Equities	13.0%	15.0%	17.0%
Global Asset Allocation	3.0%	5.0%	7.0%
Opportunistic	0.0%	0.0%	6.0%
Total		100%	

The asset allocation is incorporated into SCERA's Investment Policy Statement, which helps guide the manner in which SCERA invests. The Board has adopted a long-term investment horizon such that the likelihood and durations of investment losses are carefully weighed against the long-term potential for appreciation of assets. The assets of SCERA will be invested in a manner that provides the safeguards and diversity to which a prudent investor would adhere. No more than 5%, or the benchmark weight plus 2.5%, whichever is higher, of any one manager's portfolio shall be invested in the securities of any one issuing corporation at cost. Investments in any corporation should not exceed 10% of the outstanding shares of the corporation.

E. DEPOSITS AND INVESTMENTS, *continued*

The Board's investment policies and guidelines permit investment in numerous specified asset classes to take advantage of the non-correlated economic behavior of diverse asset classes. The risk to be assumed must be considered appropriate for the return anticipated and consistent with the total diversification of the System. The result is a well-diversified portfolio.

Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of its investment or collateral securities that are in the possession of another party. SCERA investment securities are not exposed to custodial credit risk since all securities are registered in the System's name and held by the System's custodial bank.

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the System will not be able to recover its deposits or collateral securities that are in the possession of an outside party. Any cash associated with the System's investment portfolios not invested at the end of a day are temporarily swept overnight to State Street Bank's short-term investment fund.

That portion of the System's cash held by the County of Sonoma as part of the County's treasury pool totaled $2,689,000 as of December 31, 2019. Accordingly, SCERA's investments in the treasury pool are held in the name of the County and are not specifically identifiable.

Disclosure of the legal and contractual provisions of the County's Investment Policy and carrying amounts by type of investments may be found in the notes to the County's separate Comprehensive Annual Financial Report of the fiscal year ended June 30, 2019.

E. DEPOSITS AND INVESTMENTS, *continued*

Credit and Interest Rate Risk

Credit risk associated with SCERA's debt securities is identified by their ratings in the table following. Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. SCERA has no general policy on credit and interest rate risk. SCERA monitors the interest rate risk inherent in its portfolio by measuring the duration of its portfolio.

The average duration of SCERA's debt portfolio in years is also listed in the table below:

Type of Investment	Fair Value (Dollars in Thousands)	Credit Quality	Duration
US Treasury	$149,307	N/A	8.13
Mortgage Pass-Through	116,648	AA+	3.17
Collateralized Mortgage Obligation	81,842	BBB+	3.59
Bank Loans	80,062	B	0.13
Corporate	41,143	BBB+	2.60
Asset Backed	23,898	BB+	1.43
Commingled Fixed Income Funds	20,286	N/R	N/A
Yankees	13,394	BBB	4.83
Foreign	6,274	BB-	3.08
Municipal	1,933	A+	11.05
Euro	979	B-	4.69
Commercial Mortgage Backed Securities	791	BB+	1.43
Agency	371	AA+	11.84
Total	$536,928		

Per SCERA's Investment Policy Statement, fixed income portfolios must have an overall, fair value weighted average quality of at least AA-. At least 80% of the fair value of the portfolio must be rated at least Baa/BBB or the equivalent by a Nationally Recognized Statistical Rating Organization (NRSRO). In cases when the yield spread adequately compensates for additional risk, up to 20% of the value of each fixed income portfolio may be invested in below investment grade securities provided that they are easily tradable and overall fixed income quality is maintained. Up to a maximum of 2% of the portfolio may be invested in bonds rated CCC/Caa or lower. Fixed income securities of any one issuer shall not exceed 10% of the total bond portfolio at the time of purchase. This does not apply to issues of the US Treasury or securities guaranteed by the US Government. Mortgage or asset backed securities that are credit independent of the issuer shall be limited to 25% of the value of the total issue or pool.

Firms that manage fixed income portfolios continually monitor the risk associated with their fixed income investments. They are expected to provide, as a component of their reports, a risk/reward analysis of the management decisions relative to their benchmarks.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. SCERA's Investment Policy Statement expects investment managers will use forward currency exchange contracts and currency and stock index futures contracts and related options and transactions for defensive currency hedging. It is preferred that currency exposures be un-hedged, but may periodically be up to 100% hedged for a specific country or up to 30% of the total portfolio at the manager's discretion. Such transactions should not be speculative in nature and should not exceed the value of underlying securities holdings.

E. DEPOSITS AND INVESTMENTS, *continued*

Foreign Currency Risk, *continued*

The following positions represent SCERA's exposure to foreign currency risk as of December 31, 2019:

Securities Base Currency	Fair Value in USD (Dollars in Thousands)
Euro – EUR	$ 82,213
Japan – JPY	45,166
Great Britain – GBP	34,258
Hong Kong – HKD	17,200
Canada - CAD	13,769
Switzerland – CHF	9,504
South Korea – KRW	8,153
Norway – NOK	5,287
Taiwan – TWD	4,672
Singapore – SGD	4,395
Australia – AUD	3,868
Denmark – DKK	2,164
South Africa – ZAR	787
Brazil – BRL	746
Israel – ILS	37
Sweden – SEK	34
New Zealand – NZD	9
Mexico – MXN	5
Total Non-USD Securities	$232,267

Derivatives

The Board authorized certain investment managers to invest in or otherwise enter into transactions involving derivative financial instruments when, in the judgment of management, such transactions are consistent with the investment objectives established for a specific investment manager's assignment. However such instruments shall not be used to create leverage or for speculative purposes.

The acceptable investment purposes for the use of derivatives include:

1. For defensive currency strategies of non-dollar portfolio holdings.
2. For controlling the duration of fixed income portfolios.
3. For managing yield curve strategies of fixed income portfolios.
4. For control of equity or fixed income exposure during portfolio transitions to overlay cash positions.
5. For effecting transitions to new investment managers.
6. For rebalancing the System's asset allocation toward Investment Policy Statement targets.

Risks arise from the possible inability of counterparties to meet the terms of their contract. The risks of accounting loss from these off-balance sheet transactions include the credit risk and the possibility that future changes in market prices may make such financial instruments less valuable (market risk).

Derivatives are carried as assets when the fair value is positive and as liabilities when the fair value is negative. Gains and losses from derivatives are included in net investment income/(loss). For financial reporting purposes all SCERA derivatives are classified as investment derivatives. The following are types of derivatives: futures contracts, forward contracts, option contracts and swap agreements.

Futures Contracts

A future contract represents an agreement to buy (long position) or sell (short position) an underlying asset at a specified future date for a specified price. Payment for the transaction is delayed until a future date, which is referred to as the settlement or expiration date. Futures contracts are standardized contracts traded on organized exchanges. Futures contracts are priced "mark to markets" and daily settlements are recorded as investment gains or losses.

E. DEPOSITS AND INVESTMENTS, *continued*

Forward Contracts

A forward contract represents an agreement to buy or sell an underlying asset at a specified date in the future at a specified price. Payment for the transaction is delayed until the settlement or expiration date. A forward contract is a non-standardized contract that is tailored to each specific transaction. Forward contracts are privately negotiated and are intended to be held until the settlement date. Currency forward contracts are used to control currency exposure and facilitate the settlement of international security purchase and sale transactions.

Option Contracts

An option contract is a type of derivative security in which a buyer (purchaser) has the right, but not the obligation, to buy or sell a specified amount of an underlying security at a fixed price by exercising the option before its expiration date.

The seller (writer) has an obligation to buy or sell the underlying security if the buyer decides to exercise the option. At expiration, sale, or exercise, realized gains and losses are recognized.

Swap Agreements

A swap is an agreement between two or more parties to exchange a sequence of cash flows over a period of time in the future. No principal is exchanged at the beginning of the swap. The cash flows the counterparties exchange are tied to a notional amount. A swap agreement specifies the time period over which the periodic payments will be exchanged. The fair value represents the gains or losses as of the prior marking-to-market.

Investment Derivatives Summary
(Dollars in Thousands)

Derivative Type	Change in Fair Value	Fair Value	Notional
Futures	$23,830	$ 0	$ 47,075
Forwards	(54)	(322)	99,773
Options	181	(296)	(21)
Swaps – Credit Default	961	333	14,122
Swaps – Interest Rate	(910)	(36)	40,012
Total	$24,008	$(321)	$200,961

Investment Derivative Credit Risk

The credit risk of using derivative instruments may include the risk that counterparties to contracts will not perform and/or the public exchange will not meet its obligation to assume this counterparty risk. SCERA is exposed to credit risk on investment derivatives that are traded over the counter and are reported in asset positions.

Summary of Credit Ratings
(Dollars in Thousands)

Credit Rating	Fair Value
AA	$ 8
AA-	422
A+	57
A	532
Total subject to credit risk	$1,019

E. DEPOSITS AND INVESTMENTS, *continued*

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. These investments are disclosed in the following table.

Interest Rate Risk Analysis
(Dollars in Thousands)

Derivative Type	Interest Rate Derivatives
Fair Value	$297
Notional	$97,435
Reference Rate	Libor - 3 months

F. SECURITIES LENDING

State statutes do not prohibit SCERA from participating in securities lending transactions and SCERA has, via a Securities Lending Authorization Agreement with State Street Bank and Trust Company (collectively "State Street"), authorized State Street to lend its securities to broker-dealers and banks pursuant to a form of loan agreement.

During 2019, State Street lent, on behalf of SCERA, certain securities held by State Street as custodian and received cash (United States and foreign currency), securities issued or guaranteed by the United States government and irrevocable letters of credit as collateral. State Street did not have the ability to pledge or sell collateral securities absent a borrower default.

Borrowers were required to deliver collateral for each loan equal to (i) in the case of loaned securities denominated in United States dollars or sovereign debt issued by foreign governments, 102% of the fair value of the loaned securities; and (ii) in the case of loaned securities not denominated in United States dollars or whose primary trading market was not located in the United States, 105% of the fair value of the loaned securities.

SCERA did not impose any restrictions during 2019 on the amount of the loans that State Street made on its behalf and State Street had indemnified SCERA by agreeing to purchase replacement securities, or return the cash collateral in the event a borrower failed to return a loaned security or pay distributions thereon. There were no failures by any borrowers to return loaned securities or pay distributions thereon during 2019. There were no losses during 2019 resulting from a default of the borrowers.

During 2019, SCERA and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders in a collective investment pool. As of December 31, 2019, such investment pool had an average duration of 27 days and an average weighted final maturity of 95 days. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. On December 31, 2019, SCERA had no credit risk exposure to borrowers.

As of December 31, 2019, the fair value of the securities on loan was $115.3 million. The fair value of associated collateral was $117.7 million ($105.2 million of cash collateral and $12.5 of non-cash collateral). Non-cash collateral, which SCERA does not have the ability to sell unless the borrower defaults, is not reported in the Statement of Fiduciary Net Position.

Due to the nature of the securities lending program and State Street's collateralization of loans at 102% (or 105% for non-dollar securities), we believe that there is no credit risk as defined by GASB Statement No. 28 and GASB Statement No. 40.

G. SUMMARY OF INVESTMENT POLICIES

The County Employees Retirement Law of 1937 (Law) and the California Constitution vest the Board of Retirement with exclusive control over the investment of SCERA's investment portfolio. The Law allows for the Board to invest, or delegate the authority to invest, the investment portfolio through the purchase, holding, or sale of any form or type of investment, financial instrument or financial transaction when prudent in the informed opinion of the Board.

G. SUMMARY OF INVESTMENT POLICIES, *continued*

Additionally, the Law requires that the Board and its officers and employees shall discharge their duties with respect to SCERA and the investment portfolio as follows:

- Solely in the interest of, and for the exclusive purposes of, providing benefits to participants and their beneficiaries, and defraying reasonable expenses of administering SCERA.
- With the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.
- Shall diversify the investment portfolio to minimize the risk of loss and maximize the rate-of-return, unless under the circumstances it is clearly prudent not to do so.

H. FAIR VALUE MEASUREMENTS

In 2016, SCERA adopted GASB Statement No. 72, *Fair Value Measurement and Application.* GASB 72 establishes a fair value hierarchy based on three types of input to develop the fair value measurements for investments. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

Fixed income and equity securities classified in Level 1 are valued using prices quoted in active markets for those securities. Fixed income and equity securities classified in Level 2 are valued using prices determined by the use of matrix pricing techniques maintained by the various pricing vendors for those securities. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Investments classified in Level 3 are determined in good faith by the investment managers who utilize independent third party appraisals and operating results.

The categorization of SCERA's investments within the fair value hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment's risk. Details are provided in the table on page 33.

H. FAIR VALUE MEASUREMENTS, *continued*

INVESTMENT TYPE (Dollars in Thousands)	12/31/2019	Fair Value Measurements Using: Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
Fixed Income Securities				
Corporate Bonds	$ 80,424	$ 6,314	$ 74,110	$ 0
Bank Loans	80,061	0	75,395	4,666
CMO	81,038	0	81,038	0
FHLMC	25,886	0	25,886	0
FNMA	88,348	0	88,348	0
GNMA	2,412	0	2,412	0
U.S. Government Securities	152,243	0	152,243	0
Municipals	2,718	0	2,718	0
Asset-Backed Securities	23,798	0	23,798	0
Total Fixed Income Securities	**536,928**	**6,314**	**525,948**	**4,666**
Equity Securities				
Common Stock	1,748,386	1,546,120	202,266	0
Preferred Stock	112	112	0	0
Total Equity Securities	**1,748,498**	**1,546,232**	**202,266**	**0**
Real Assets	**510,911**	**0**	**0**	**510,911**
Collateral from Securities Lending	**105,224**	**0**	**105,224**	**0**
Limited Partnership (Opportunistic)	**61,098**	**0**	**0**	**61,098**
Total Investments	**$2,962,659**	**$1,552,546**	**$833,438**	**$576,675**

Derivatives				
Options	$(297)	$(297)	$ 0	$0
Swaps	297	0	297	0
Forwards	(321)	(321)	0	0
Total Derivatives	**$ (321)**	**$ (618)**	**$297**	**$0**

I. CAPITAL ASSETS

Capital asset activity for the year ended December 31, 2019 was as follows:

(Dollars in Thousands)	**12/31/2018**	Additions	Retirements	**12/31/2019**
Capital Assets, not being depreciated				
Land	$ 1,025	$ 0	$0	$ 1,025
Total Capital Assets, not being depreciated	1,025	0	0	1,025
Capital Assets, being depreciated				
Building	1,869	0	0	1,869
Building Remodel	1,087	0	0	1,087
Furniture & Equipment	107	0	0	107
Computer Software/Hardware	2,897	0	0	2,897
Total Capital Assets, being depreciated	5,960	0	0	5,960
Less accumulated depreciation for:				
Building	(841)	(64)	0	(905)
Building Remodel	(1,086)	0	0	(1,086)
Furniture & Equipment	(70)	(9)	0	(79)
Computer Software/Hardware	(2,528)	(294)	0	(2,822)
Total Accumulated Depreciation	(4,525)	(367)	0	(4,892)
Total Capital Assets being depreciated, net	1,435	(367)	0	1,068
Total Capital Assets, net	$ 2,460	$(367)	$0	$ 2,093

J. ACCOUNTS PAYABLE

Accounts payable as of December 31 consist of:

(Dollars in Thousands)	**2019**
Administrative Expenses	$ 294
Accrued Sick & Vacation Leave	317
Consulting & Management Fees	3,584
Total	$4,195

K. UNEARNED REVENUE

The County of Sonoma may prepay the current year and up to one additional year of employer "normal costs" and Unfunded Actuarial Accrued Liability (UAAL) contributions. These prepaid contributions are accounted for as unearned revenue. On each regular County payday, the actual earned contributions are transferred and recognized as revenue. The unearned revenue balance was $60.2 million as of December 31, 2019.

For the year ended December 31, 2019 and on a go-forward basis, these prepaid contributions held on account have received, and will continue to receive, a discount for early payment. The discount was calculated at the annual rate of 7.0%, which was the actuarial investment earnings assumption. Contribution revenues have been increased and investment income decreased to reflect this discount. For 2019 the discount earned was $4.0 million.

L. APPORTIONMENT OF EARNINGS

Interest is apportioned semi-annually at June 30th and December 31st (at one-half the annual actuarial investment earnings assumption rate) to the DBPP reserve accounts for all contributions on deposit for a full six months, with the exception of the Member Reserve accounts, which are credited at one-half of the yield on the 10 year Treasury Note at June 30 and December 31. The Employer Reserves are also credited with the dollar difference between the Member Reserve interest crediting rate and the annual actuarial investment earning assumption rate so that, in total, reserves are credited at the annual actuarial investment

L. APPORTION OF EARNINGS, *continued*

earnings assumption rate. At the annual actuarial assumed investment earnings rate of 7.0%, the interest apportioned for the year ended December 31, 2019 was $227.2 million.

In February 2019 CEO Julie Wyne presented to the Board the status of the reserves, loss of purchasing power and cost of a COLA, if one could be granted, and noted that under the COLA policy the reserves were insufficient to fully fund the COLA so one could not be recommended. Pursuant to the COLA policy, after presentation to the Board, this information was sent to the Sonoma County Board of Supervisors and the Sonoma County Association of Retired Employees.

M. CONTRIBUTIONS

Contribution Rates

Contribution rates for the employer and its covered employees are established and may be amended by the SCERA Board of Retirement (and then shall be adopted by the County Board of Supervisors). The contribution rates are determined based on the benefit structure established by the employer. Plan A members are required to contribute between approximately 7% and 15% of their annual covered salary, and the member's particular rate is based upon age at entry into the System. Plan B members are required to contribute a flat rate as calculated by the actuary.

SCERA's funding policy for employer contributions are actuarially determined rates that, expressed as a percentage of annual covered payroll, are required to accumulate sufficient assets to pay benefits when due.

Level percentage of payroll employer contribution rates are determined using the entry age normal actuarial cost method. SCERA also used the level entry age normal cost method with an Unfunded Actuarial Accrued Liability payment to amortize the unfunded liability.

In order to allow the County to more accurately budget for pension contributions (in accordance with the Board's funding policy), the contribution rates determined in each valuation will be assumed to take effect at the beginning of the fiscal year starting at least twelve months after the end of the Valuation Year, except when significant benefit or actuarial assumption changes occur.

SCHEDULE OF EMPLOYER CONTRIBUTIONS
For the three years ending December 31, 2019
(Dollars in Thousands)

Year Ended	Annual Required Contribution (ARC)	Contributions as a % of ARC
12/31/17	$63,822	100%
12/31/18	$67,425	100%
12/31/19	$65,155	100%

Funding Status and Method

The actuarial funding ratio as of December 31, 2019, was 89.4%. SCERA's actuary uses five-year smoothing of market gains and losses to derive the actuarial value of assets. The actuarial value of assets as of December 31, 2019, was $2.8 billion.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, inflation and investment returns. Amounts determined regarding the funded status of the System and the annual required contributions of the employer are subject to continual revisions as actual results are compared with past expectations and new estimates are made about the future.

SCERA's employer rates provide for both normal cost and a contribution to amortize any unfunded or over-funded actuarial accrued liabilities. The funding policy adopted by the Board is to amortize the outstanding balance of the December 31, 2007 UAAL as well as any new UAAL established on each subsequent actuarial valuation after the December 31, 2007 valuation over separate 20-year declining periods.

N. NET PENSION LIABILITY

GASB Statement No. 67 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 report purposes. The components of net pension liability of participating employers as of December 31, 2019:

(Dollars in Thousands)	2019
Total Pension Liability	$3,143,323
Less: Fiduciary Net Position	2,916,890
Net Pension Liability	$ 226,433
Fiduciary Net Position as a Percentage of Total Pension Liability	92.80%

The net pension liability of participating employers was measured as of December 31, 2019 and determined based upon the total pension liability from actuarial valuations as of December 31, 2019.

Actuarial Assumptions

In preparing an actuarial valuation, the actuary employs generally accepted actuarial methods and assumptions to evaluate the System's assets, liabilities, and future contribution requirements. The actuary utilizes member data and financial information provided by the System with economic and demographic assumptions made about the future to estimate the System'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 System every three years.

The actuarial assumptions used to determine the total pension liability as of December 31, 2019 were based on the results of the most recent Actuarial Experience Study which covered the period from January 1, 2015 through December 31, 2017. These same assumptions were used in the December 31, 2019 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 Assumptions Used in Annual Actuarial Valuation and Total Pension Liability

Valuation Date	December 31, 2019
Actuarial Experience Study	3 Year Period Ending December 31, 2017
Actuarial Cost Method	Entry Age Normal Cost Method
Discount Rate	7.00%
Inflation Rate	2.75%
Across the Board Salary Increase	0.50%
Projected Salary Increases	General 3.75% - 8.75% and Safety 4.00% - 10.75%, varying by service, including inflation
Cost of Living Adjustments	0.00% of retirement income
Mortality Rates	Headcount-Weighted RP-2014 Healthy Annuitant Table times 94% for males and 102% for females, projected generationally with the 2-dimensional mortality improvement scale MP2017. Disabled Retiree table projected at 91% for males and 93% for females.
Other Assumptions	Same as those used in the December 31, 2019 funding actuarial valuation.

N. NET PENSION LIABILITY, *continued*

Sensitivity Analysis

In accordance with GASB Statement No. 67, changes to the total pension liability and net pension liability must be reported as of December 31, 2019. The net pension liability changes when there are changes in the discount rate. The following presents the net pension liability, calculated using the discount rate of 7.00 percent, 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 7.00 percent.

SCHEDULE OF SENSITIVITY ANALYSIS

As of December 31, 2019
(Dollars in Thousands)

	1% Decrease (6.00%)	Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability	$588,600	$226,433	$(74,456)

Long-Term Expected Real Rate of Return

The long-term expected real rate-of-return on assets was determined using a building block method in which the expected future real rates-of-return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate-of-return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation 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 from the 2017 experience study are summarized in the table below:

Asset Class	Target	Expected Real (without inflation) Rate of Return	Expected Nominal* (with inflation) Rate of Return
Large Cap Equity	17.97%	5.34%	8.09%
Small Cap Equity	5.45%	6.08%	8.83%
Developed International Equity	16.71%	6.80%	9.55%
Emerging Market Equity	5.57%	8.75%	11.50%
Core Fixed Income	14.75%	1.12%	3.87%
Global Equity	15.55%	6.44%	9.19%
Real Estate	10.0%	4.58%	7.33%
Farmland	5.0%	6.81%	9.56%
Bank Loans	3.0%	3.55%	6.30%
Unconstrained Bonds	3.0%	3.22%	5.97%
Infrastructure	3.0%	6.70%	9.45%
Total	100%		

*Nominal rate-of-return does not include the effect of compounding.

N. NET PENSION LIABILITY, *continued*

Money-Weighted Rate of Return

For the year ended December 31, 2019, the annual money-weighted rate-of-return on pension plan investments, net of pension plan investment expense, was 16.35%. The money-weighted rate-of-return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

The investment rate-of-return assumption used for actuarial funding was 7.00% for the year ended December 31, 2019.

GASB Statement No. 67 requires determination that the System's fiduciary net position is projected to be sufficient to make projected benefit payments. The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate-of-return on System investments was applied to all periods of projected benefit payments to determine the total pension liability.

O. RESERVES

The reserves represent the components of SCERA's assets. Reserves are established from member and employer contributions and the accumulation 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. SCERA has the following major classes of reserves:

- **Member Reserves** represent member contributions and earnings allocations less amounts transferred to Annuitant Reserves for service and disability retirements or refunds.

- **Employer Reserves** represent employer contributions and earnings allocations less amounts transferred to Annuitant Reserves for service and disability retirements or paid out as death benefits.

- **Annuitant Reserves** represent transfers of accumulated contributions of members who have retired, employer contributions needed to fund retired member benefits as determined by the actuary and earnings allocations less amounts paid out as annuitant (retiree) benefits.

- **Cost of Living Reserves** represent amounts transferred from undistributed earnings reserves to fund ad hoc cost of living increases.

    - **COLA Reserves - Current** represent amounts set aside to fund the cost of COLAs that have already been granted to retirees as determined by the actuary, recommended by the SCERA Board of Retirement and authorized by the Sonoma County Board of Supervisors.

- **Unreserved (Undistributed Investment Earnings)** is credited with all investment earnings. Reduction of this account is through payment of administrative expenses and consultant and management expenses. The remaining undistributed earnings can only be used for payment of pension benefits as described in Section 31592.2 of the Government Code.

- **Market Stabilization Reserve** is the difference between the current fair value of assets and the smoothed actuarial value of assets (AVA) that is used in developing the Unfunded Actuarial Accrued Liability (UAAL). The value in this reserve will be recognized in developing the AVA over the next 4 years.

- **Interest Fluctuation Reserve** is a reserve set by the Board at 3% of the fair value of assets to provide funds to offset future deficiencies in interest earnings, losses on investment or other contingencies.

- **Negative Contingency Reserve** is used to track interest crediting shortfalls as a result of negative investment returns.

O. RESERVES, *continued*

A breakdown of the reserve accounts, which comprise total fiduciary net position restricted for pension benefits at December 31, 2019, 2018, and 2017 are as follows:

SCHEDULE OF RESERVES

(Dollars in Thousands)	2019	2018	2017
Member Reserve	$ 593,656	$ 600,487	$ 569,375
Employer Reserve	835,234	755,645	723,551
Annuitant Reserve	1,930,871	1,847,309	1,746,945
Cost of Living Reserve-Current	32,193	35,157	38,505
Interest Fluctuation Reserve	0	0	0
Market Stabilization Reserve	105,598	(89,536)	190,741
Negative Contingency Reserve	(580,662)	(571,253)	(521,077)
Total Reserved For Pension Benefits	2,916,890	2,577,809	2,748,040
Total Unreserved	0	0	0
Total Fiduciary Net Position Restricted for Pension Benefits	$2,916,890	$2,577,809	$2,748,040

P. RISK MANAGEMENT

SCERA is covered by the County of Sonoma's self-insurance program for general liability and workers' compensation coverage. For general liability coverage, the County maintains a self-insured retention of $1,000,000 per occurrence for claims occurring from January 1, 2019 through December 31, 2019, with excess coverage provided through California State Association of Counties, Excess Insurance Authority (CSAC-EIA), Excess Liability Program. For workers' compensation coverage, the County maintains a self-insured retention of $300,000 per occurrence with excess coverage to statutory limits provided through participation in the CSAC-EIA Excess Workers' Compensation program. For each of the above self-insurance coverages, the County maintains a separate Internal Service Fund. Funding for each fund is actuarially evaluated annually.

SCERA participates in a joint-purchase property insurance program through CSAC-EIA. Coverage is "All Risk" for physical loss and damage including flood. Limits of property coverage are $800,000,000 shared per occurrence for all risk and $600,000,000 for flood.

SCERA employees are covered under the County of Sonoma public employee faithful performance / employee dishonesty coverage through a joint-purchase program provided by American International Group (AIG), and administered through the CSAC-EIA. Coverages include forgery and alteration, theft, disappearance and destruction, robbery and safe burglary, and computer fraud, with limits to $15,000,000 and a $25,000 deductible.

SCERA is covered for cyber liability under a CSAC-EIA Cyber Liability Program through Lloyd's of London-Beazley Syndicate in the amount of $2,000,000 aggregate limit for each program member with a $50,000 deductible. Coverage includes information security and privacy liability, privacy notification, regulatory defense, website media content liability, and data protection.

The Board purchases separate Fiduciary Liability coverage for actual or alleged breach of fiduciary duties through Hudson Insurance Company. Limits of coverage are $10,000,000 annual aggregate with a $50,000 deductible, per insured.

Q. COMMITMENTS AND CONTINGENCIES

As of December 31, 2019 SCERA was committed to future purchases of a private credit investment at an aggregate cost of approximately $25.7 million and approximately $70 million to invest in the Axium Infrastructure North America II Fund.

R. SUBSEQUENT EVENTS

The COVID-19 outbreak in the United Sates has caused business disruption through mandated closings of businesses. While the disruption is currently expected to be temporary, there is considerable uncertainly around the duration of the closings. However, the related financial impact on SCERA and the durations cannot be estimated at this time.

S. DATE OF MANAGEMENT'S REVIEW

The date to which events occurring after December 31, 2019 have been evaluated for possible adjustments to the financial statements or disclosures is June 5, 2020, which is the date that the financial statements were available to be issued.

Required Supplementary Information

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

For the years ended December 31, 2019, 2018, and 2017

(Dollars in Thousands)	2019	2018	2017
Total Pension Liability			
Service cost	$ 77,185	$ 73,316	$ 71,798
Interest	214,052	210,532	202,726
Change of benefit terms	0	0	0
Difference between expected and actual experience	(37,245)	12,137	883
Change of assumptions	0	31,798	0
Benefit payments, including refunds of employee contributions	(182,746)	(172,562)	(165,949)
Net Change in Total Pension Liability	$ 71,246	$ 155,221	$ 109,458
Total Pension Liability – Beginning	3,072,077	2,916,856	2,807,398
Total Pension Liability – Ending (a)	$3,143,323	$3,072,077	$2,916,856
Plan Fiduciary Net Position			
Contributions – employer	$ 65,155	$ 67,425	$ 63,822
Contributions – employee	44,659	45,567	44,161
Net investment income/(loss)	415,559	(107,078)	394,909
Benefit payments, including refunds of employee contributions	(182,746)	(172,562)	(165,948)
Administrative expense	(3,546)	(3,583)	(3,732)
Other	0	0	0
Net Change in Plan Fiduciary Net Position	$339,081	$(170,231)	$ 333,212
Plan Fiduciary Net Position – Beginning	$2,577,809	$2,748,040	$2,414,828
Plan Fiduciary Net Position – Ending (b)	2,916,890	2,577,809	2,748,040
Net Pension Liability – Ending (a) – (b)	$ 226,433	$ 494,268	$ 168,816
Plan fiduciary net position as a percentage of the total pension liability	92.80%	83.91%	94.21%
Covered payroll	$ 350,995	$ 355,558	$ 345,631
Net Pension Liability as a percentage of covered payroll	64.51%	139.01%	48.84%

The schedule of changes in net pension liability displays the components of the total pension liability and plan fiduciary net position for the System, calculated in conformity with the requirements of GASB Statements No. 67 and No. 82. Covered payroll represents the collective total of the System eligible wages upon which contributions are based of all System Employers.

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

Required Supplementary Information, *continued*

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS, *continued*

For the years ended December 31, 2016, 2015, 2014 and 2013

(Dollars in Thousands)	2016	2015	2014	2013
Total Pension Liability				
Service cost	$ 69,834	$ 67,839	$ 70,200	$ 66,133
Interest	194,741	187,756	184,919	176,193
Change of benefit terms	0	0	0	0
Difference between expected and actual experience	5,296	(15,191)	(69,415)	8,772
Change of assumptions	0	93,686	0	0
Benefit payments, including refunds of employee contributions	(157,452)	(149,364)	(141,675)	(135,961)
Net Change in Total Pension Liability	$ 112,419	$ 184,726	$ 44,029	$ 115,137
Total Pension Liability – Beginning	2,694,979	2,510,253	2,466,224	2,351,087
Total Pension Liability – Ending (a)	$2,807,398	$2,694,979	$2,510,253	$2,466,224
Plan Fiduciary Net Position				
Contributions – employer	$ 63,639	$ 68,240	$ 61,179	$ 51,852
Contributions – employee	40,783	38,714	37,126	35,491
Net investment income/(loss)	189,949	34,589	117,663	370,313
Benefit payments, including refunds of employee contributions	(157,452)	(149,364)	(141,676)	(135,960)
Administrative expense	(4,219)	(3,526)	(3,590)	(3,850)
Other	0	0	0	0
Net Change in Plan Fiduciary Net Position	$ 132,700	$ (11,347)	$ 70,702	$ 317,846
Plan Fiduciary Net Position – Beginning	$2,282,128	$2,293,475	$2,222,773	$1,904,927
Plan Fiduciary Net Position – Ending (b)	2,414,828	2,282,128	2,293,475	2,222,773
Net Pension Liability – Ending (a) – (b)	$ 392,570	$ 412,851	$ 216,778	$ 243,451
Plan fiduciary net position as a percentage of the total pension liability	86.02%	84.68%	91.36%	90.13%
Covered payroll	$ 329,078	$ 311,404	$ 299,875	$ 299,142
Net Pension Liability as a percentage of covered payroll	119.29%	132.58%	72.29%	81.38%

The schedule of changes in net pension liability displays the components of the total pension liability and plan fiduciary net position for the System, calculated in conformity with the requirements of GASB Statements No. 67 and No. 82. Covered payroll represents the collective total of the System eligible wages upon which contributions are based of all System Employers.

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

SCHEDULE OF INVESTMENT RETURNS

For fiscal years 2014 through 2019

Year Ended December 31	Annual Money-Weighted Rate of Return, Net of Investment Expense
2014	5.54%
2015	1.50%
2016	8.55%
2017	16.11%
2018	-3.39%
2019	16.35%

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

SCHEDULE OF EMPLOYER CONTRIBUTIONS

(Dollars in Thousands)

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2010	$48,426	$337,761	$(289,335)	$307,526*	109.83%
2011	35,711	35,711	0	291,650*	12.24%
2012	45,079	45,079	0	294,552*	15.30%
2013	51,852	51,852	0	299,142*	17.33%
2014	61,179	61,179	0	299,875*	20.40%
2015	64,687	68,240	(3,553)	311,404	21.91%
2016	63,640	63,640	0	329,078	19.34%
2017	63,822	63,822	0	345,631	18.47%
2018	67,425	67,425	0	355,558	18.96%
2019	$65,155	$ 65,155	$ 0	$350,995	18.56%

* Covered Payroll amounts changed due to payroll system corrections.

NOTES TO REQUIRED SUPPLEMENTARY SCHEDULES

Note A – Schedule of Changes in Net Pension Liability and Related Ratios

The total pension liability contained in this schedule was obtained from the System's actuary, Segal Consulting.

Note B – Schedule of Investment Returns

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

Note C – Actuarial Assumptions Used in Determining the Actuarially Determined Contributions

The employer statutory contribution rates for the first six months of 2019 are calculated based on the December 31, 2016 actuarial valuation; the rates for the last six months of 2019 are calculated based on the December 31, 2017 valuation. Details of the actuarial methods and assumptions used for these valuations are as follows:

Valuation timing	Contribution rates take effect at the beginning of the fiscal year starting at least 12 months after the end of the valuation year, except when significant benefit or actuarial assumption changes occur
Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level percent, open
Remaining amortization period	20 years layered, declining
Asset valuation	5-year, smoothed, market
Investment rate of return	7.25%
Includes inflation at	3.00%
Across the Board salary increase	0.50%
Projected salary increases - General	4.00 to 9.5%
Projected salary increases - Safety	4.00 to 12.00%
Cost of living adjustments	None
Mortality rates	Various rates based on RP-2014 Healthy Annuitant Table projected 20 years with 2-dimensional scale (MP20142D) . See December 31, 2015 and 2016 valuation reports for further details.

Change of Assumptions

Triennially the System requests that the actuary perform an analysis of all economic and non-economic assumptions in the form of an Experience Study. The most recent triennial analysis was performed as of December 31, 2017 for the period of January 1, 2015 through December 31, 2017. Based on the results of this study, the Retirement Board adopted new economic assumptions effective with the December 31, 2018 valuation. These changes included adjusting the investment return from 7.25% to 7.00% and adjusting inflation from 3.00% to 2.75%. These new assumptions will be used to determine the Actuarially Determined Contributions effective in fiscal year 2020-21.

ADMINISTRATIVE EXPENSES

For the year ended December 31 (with Comparative Totals)

(Dollars in Thousands)	2019	2018
Personnel Services		
Salaries, Wages and Benefits	$2,003	$1,897
Office Expenses		
Equipment & Software Maintenance	181	115
Office Supplies	28	52
Postage	47	46
Printing and Stationary	26	25
Telephone Charges	18	18
Total Office Expenses	300	256
Other Services and Charges		
Disability Medical Fees	161	162
Data Processing Charges	84	90
Transportation, Travel and Training	63	83
Insurance	63	80
Audit Fees	63	62
County Services	13	20
Memberships	16	16
Actuarial Retainer Fees	12	12
Professional Services	1	3
Disability Hearing Officer Fees	11	0
Total Other Services and Charges	487	528
Building Expenses		
All Other Building Expenses	28	60
Depreciation	45	45
Utilities	11	11
Total Building Expenses	84	116
Depreciation/Amortization – Capital Assets	303	300
Less: Retiree Medical Service Billing	(25)	(25)
Total Administrative Expenses	**$3,152**	**$3,072**

FEES AND OTHER INVESTMENT EXPENSES

For the year ended December 31 (with Comparative Totals)

(Dollars in Thousands)	2019	2018
Investment Manager Fees		
Equity Managers	$ 6,015	$ 6,374
Real Assets Managers	4,254	4,233
Fixed Income Managers	1,574	1,564
Opportunistic Managers	355	454
Total Investment Manager Fees	12,198	12,625
Other Investment Expense		
Investment Custodian	1,242	1,853
Investment Travel & Staff Salary	587	536
Cash Overlay Manager	385	293
Investment Consultant	320	370
Investment Legal Counsel	90	11
Other Investment Services	39	56
Bloomberg Service	26	26
Total Other Investment Expense	2,689	3,145
Total Fees and Other Investment Expenses[A]	**$14,887**	**$15,770**

(A) This schedule depicts direct expenses relating to the generation of investment income. Not reported on this schedule is the allowance for earnings on unearned revenue totaling $4.0 million and $4.2 million for the years ending December 31, 2019 and 2018, respectively (Please see Note K to the financial statements).

SCHEDULE OF PAYMENTS TO CONSULTANTS

For the year ended December 31 (with Comparative Totals)

(Dollars in Thousands)	2019	2018
Audit		
Brown Armstrong Accountancy Corporation	$ 63	$ 62
Total	63	62
Legal Counsel (Internal)		
Chief Retirement Counsel	55	302
Total	55	302
Legal Counsel (External)		
Mayer Brown, LLP	90	0
County of Sonoma, County Counsel	32	8
Ice Miller, LLP	7	10
Nossaman, LLP	3	12
Public Pension Consultants	2	0
Patrick Richardson, Attorney at Law	0	2
KPMG, LLP	0	11
Total	134	43
Actuarial		
Segal Consulting	295	177
Total	295	177
Total Payments to Consultants	**$547**	**$584**

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Investment Section

AON

April 27, 2020

Ms. Julie Wyne
Chief Executive Officer
Sonoma County Employees' Retirement Association
433 Aviation Boulevard
Santa Rosa, CA 95403

Dear Ms. Wyne:

As your investment consultant, Aon Investments USA, Inc. (Aon Investments) is pleased to provide you with our report on the Sonoma County Employees' Retirement Association (SCERA) for the year ending December 31, 2019.

The SCERA Retirement Fund (Fund) is managed in accordance with a written Investment Policy Statement. The Investment Policy Statement is periodically reviewed and revised by the Retirement Board depending on actuarial assumptions, accrued liabilities, information provided through asset and liability studies and/or other relevant analyses.

Investment Policy

The Fund's Investment Policy started and ended the year with a target allocation of 58% to Equities, 5% to Global Asset Allocation, 19% to Fixed Income, and 18% to Real Assets. However, a new target allocation within Fixed Income was adopted during the year, which included a reduction in the allocation to alternative fixed income and an addition to core fixed income. The current and prior asset allocation policies are represented in the table below. The intent of these asset allocation changes, in totality, is to improve the expected return/risk profile of the Fund.

	Asset Allocation Policy Targets	
Asset Class:	**12/31/2018**	**12/31/2019**
U.S. Equities	*21.5%*	*21.5%*
Non-U.S. Equities	*21.5*	*21.5*
Global Equities	*15.0*	*15.0*
Equities	**58.0%**	**58.0%**
Global Asset Allocation	**5.0%**	**5.0%**
Core Fixed Income	*13.0%*	*16.0%*
Alternative Fixed Income	*6.0*	*3.0*
Fixed Income	**19.0%**	**19.0%**
Real Assets	**18.0%**	**18.0%**
Opportunistic Allocation	**n/a**	**n/a**
Overlay Strategies*	**3.0%**	**3.0%**
Total Fund	***100.0%***	***100.0%***

*Overlay Strategies has a targeted notional value of 3.0% of Fund assets. This is run as an overlay against US equity assets held elsewhere in the Fund and the cash set aside for "margin" is securitized with the cash overlay. Because the equity insurance risk premium strategy within the asset class is run as an overlay, it is excluded from the policy allocations that total 100%.

Aon
200 E. Randolph Street, Suite 700 | Chicago, IL 60601
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Investment advice and consulting services provided by Aon Investments USA, Inc.

Ms. Julie Wyne
Sonoma County Employees' Retirement Association
April 27, 2020
Page 2

Investment Managers

The SCERA Fund's roster of investment management accounts underwent the following changes during 2019:

- Terminated the Neuberger Berman unconstrained fixed income portfolio
- Hired Axium Infrastructure North America Fund, with funding expected to be completed in 2020. This exposure will increase the policy allocation to Real Assets from 18% to 20% with a commensurate policy allocation reduction to come from fixed income.

No managers began 2019 on "watch" status. As of year-end, GMO Global Asset Allocation and Templeton International Equity were on "watch" status.

Capital Markets

The major global capital markets ended calendar-year 2019 with strong results. The U.S. stock market, as measured by the Russell 3000 Index, returned +31.0% in 2019. The non-U.S. stock market, as measured by the MSCI All Country World ex-U.S. Index, returned +21.5% over the same period. Growth stocks outperformed value stocks during the year. Across the capitalization spectrum, large-cap stocks outperformed small-cap stocks. The fixed income market, as measured by the Bloomberg Barclays U.S. Aggregate Bond Index, returned +8.7% in 2019. Meanwhile, the real estate market returned +5.4%, as measured by the NCREIF ODCE Index.

Fund Performance

The SCERA Fund (net-of-fees[1]) finished 2019 with a +16.3% return for the year, underperforming the policy portfolio return of +18.8%. The Fund's annualized returns over the past three- and five-year periods were +9.2% and +7.6%, respectively. The Fund produced an annualized return of +9.0% over the ten-year period ending December 2019. For the 30-year period, the Fund returned +8.1%, annualized. We continue to believe the Fund is positioned to generate strong investment results over the long-term.

Sincerely,

John J. Lee	Shane Schurter
Partner	Senior Consultant

[1] *In reporting investment performance, Aon Investments calculates geometrically linked rates of return for SCERA monthly using statements provided by State Street Bank. Aon Investments reconciles these rates of return with those provided by the investment managers. We monitor any discrepancies (due to computational differences, securities pricing services, etc.) between Aon Investments and the investment managers but find that they generally do not tend to persist over time. All rates of return contained in this report are net of investment management fees. All rates of return presented in this report for time periods greater than one year are annualized.*

SUMMARY OF INVESTMENT OBJECTIVES

The Board of Retirement has adopted an Investment Policy Statement, which reflects the Board's policy for the management of SCERA's investments. The Board is responsible for overseeing the investment activities for SCERA. This includes, but is not limited to, selecting acceptable asset classes; defining allowable ranges of holdings by asset class and by individual investment managers as a percent of assets; defining acceptable securities within each class; and establishing investment performance expectations. The Board will make revisions to this Investment Policy Statement as necessary.

The Board has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully weighed against the long-term potential for appreciation of assets. The assets of SCERA will be invested in a manner that provides the safeguards and diversity to which a prudent investor would adhere. All transactions undertaken on behalf of SCERA will be in the sole interest of the participants and beneficiaries.

SCERA's primary investment objective is to minimize risk and maximize return, diversifying as prudent, for the purpose of providing benefits to members and beneficiaries.

An integral part of the overall Investment Policy Statement is the strategic asset allocation policy. This allocation mix is designed to provide an optimal mix of asset categories with return expectations that reflect expected risk. This emphasizes a maximum diversification of the portfolio that protects the fund from declines that a particular asset class may experience in a given period.

SUMMARY OF PROXY VOTING GUIDELINES

Voting of proxy ballots shall be in accordance with SCERA's Proxy Voting Policy. The investment managers shall review each proxy ballot and vote them in a manner that preserves and enhances shareholder value. Each investment manager shall keep accurate written records of all proxy votes and, at least annually, provide a detailed report to the Investment Committee, documenting all votes.

INVESTMENT RESULTS

Program Developments

During 2019, SCERA discontinued its "Unconstrained Bond" mandate with Neuberger Berman, an allocation with a policy weight of 3% of Plan assets. For several years, the Plan's Alternative Fixed Income allocation of 6% has been composed of 3% in Bank Loans and 3% in Unconstrained Bonds. The 3% released from Unconstrained Bonds was reallocated to Core Fixed Income, taking that policy weight from 13% to 16%. We have had an allocation to Unconstrained Bonds since 2013, first with PIMCO and then with Neuberger. Both managers struggled to beat their benchmark (Libor 3.5% for PIMCO and Libor 4% for Neuberger). The intention with Unconstrained Bonds was to give the manager a neutral interest rate exposure (hence the Libor plus benchmark) and significantly wider guidelines than the typical bond manager, allowing them to add more value with portfolio positioning. At the time the Neuberger account was discontinued there were concerns regarding changes in the leadership of the investment team. In addition, it was the Board's opinion that it would be difficult for any manager to add significant value over Libor with an Unconstrained Bond mandate in an environment of very low interest rates without taking unacceptable risk. Consequently, the 3% Unconstrained Bond allocation was eliminated and moved to Core Fixed Income.

In Infrastructure in 2019, we switched our investment in the IFM Global Infrastructure Fund from B shares to A shares. Both share classes provide exposure to the same underlying investments but we viewed the fee schedule for the A shares to be more attractive. In addition, the foreign currency exposures are hedged back to the US Dollar for the A shares but are not for the B shares. Also in Infrastructure in 2019, the Board decided to expand the Plan's policy allocation from 3% to 5%. SCERA's policy asset allocation did not reflect this decision as of the end of 2019 but will reflect this change when the bulk of the committed capital is called, expected in 2020. The Board intends to source the 2% increase in Infrastructure from a commensurate reduction in Fixed Income. SCERA finds Infrastructure attractive because it provides a competitive and relatively stable source of returns and is a diversifier to the other major asset classes. It is less liquid than the public markets, but the Plan can accept a certain amount of illiquidity and it is expected to provide additional compensation for this illiquidity.

***Program Developments**, continued*

The Board elected to invest this additional Infrastructure allocation in the Axium Infrastructure North America II fund, which invests in Canada and the U.S. This fund is complementary to the existing Infrastructure investment with IFM, which invests in large infrastructure assets such as toll roads, airports and pipelines. The Axium fund, on the other hand, invests in smaller assets such as solar and wind farms and long-term care facilities. In addition, the Axium investments are typically low risk as the revenue from the asset is contracted through the life of the asset even before the asset is developed. The commitment to the Axium fund is $70 million. This commitment is greater than the 2% policy allocation because the investment will spin-off income to SCERA, which will reduce the asset exposure over time. As a result, we anticipate averaging an approximate exposure of 2% over time.

SCERA continued to invest its "Opportunistic" allocation in 2019, which has a 0% to 6% policy weight. The allocation's purpose is to capitalize on outsized opportunities resulting from significant market dislocations. We believe that accessible and meaningful dislocations are not common and are typically not long-lived. Consequently, there have been periods in the past when this allocation was unused as we expect there will be in the future. Since 2015, we have employed this allocation by investing in a series of Special Opportunity Funds (SOFs) managed by Davidson Kempner (DK). The manager adds value by acquiring distressed credit portfolios at bargain prices, then reorganizing, and ultimately divesting of assets. DK SOF III, III-A and IV are "rollover funds", are less expensive than most funds of this type and management fees are charged only on invested capital.

SCERA committed up to $75 million to DK SOF III in 2015, approximately $25 million to DK SOF III-A (a follow-on fund) in 2016 and another $50 million to DK SOF IV in mid-2017. The investment periods for SOF III and III-A ended prior to 2019. SOF III made distributions in 2019 and SOF IV both called capital and made distributions during the year. DK SOF IV's investment period began in 2017 and, with investor approval, was extended to January 2020. As of the end of 2019, the remaining commitment to DK SOF IV was $25,750,000. DK SOF IV called an additional $2,250,000 in January 2020. Further capital calls should be modest as they would only be for investments that began prior to the end of the investment period or for follow-on investments that relate to assets already in the Fund. Historically, DK's capital calls after the investment period have been infrequent and relatively small. As of the end of 2019, the remaining appraised value of all three SOF funds was $61 million or approximately 2% of Plan assets.

In late 2019, SCERA signed up for the UBS Trumbull Property Fund (TPF) four-year loyalty program to capture a 25% management fee discount. Earlier in the year, the UBS Fund experienced significant write-downs in its retail property portfolio, largely due to the trend toward e-commerce. These write-downs were larger than those for other similar core equity real estate funds. Consequently, TPF experienced significant growth in their redemption queue. UBS implemented a loyalty program to incent investors to remain in the Fund. For investors that sign up for the loyalty program and subsequently redeem before the end of the commitment period, the investor simply pays back any fee savings with no penalty. Given the size of the queue and current market conditions, it was estimated that it would take two to four years to redeem. As a result, it made sense to enroll in the loyalty program even if the Board ultimately decides to redeem when Fund liquidity returns.

In December 2019, we moved the custody of the Jacobs Levy 130/30 strategy from Credit Suisse to the State Street Enhanced Custody platform. This ended an eleven-year prime brokerage relationship with Credit Suisse. Custodians for 130/30 strategies must have unique capabilities which facilitate both borrowing of securities and capital and the lending of securities for the manager. This then allows the manager to invest "long" 130% of the principal value of the account and to "short" 30%. State Street did not have this capability in 2009 when the Jacobs Levy account was converted from "long-only" to 130/30. Over recent years State Street has developed this capability with their Enhanced Custody platform. SCERA moved the account in question to the State Street platform to reduce risk, as State Street is a higher rated credit than Credit Suisse, and because the platform allows SCERA to "self-borrow" which can facilitate "shorting". When a manager wants to "short" a stock, they borrow it to sell it currently and then buy it later to return it to the lender. They add value with this strategy when the stock performs poorly. Jacobs Levy can self-borrow to "short" a stock if that same stock is held "long" by another SCERA investment manager. This is cheaper than borrowing a stock in the marketplace as the "middle man" is eliminated.

***Program Developments**, continued*

The Board also received educational presentations in 2019 on private real estate debt and currency hedging. Real estate debt represents a large share of the private real estate investment universe and possesses some attractive characteristics. However, SCERA did not pursue this as a separate mandate because of the current level of fees and because SCERA already has real estate debt exposure in its publicly traded core fixed income portfolio. SCERA periodically reconsiders its currency hedging policy, which continues to be that non-dollar exposures are not systematically hedged by SCERA from the top down. On the other hand, some of the Plan's underlying managers do choose to hedge specific currency exposures. While currencies are themselves volatile, it is unclear if currency exposures actually add volatility to the Plan's overall portfolio because the correlations between currencies and the major asset classes are generally low and are unstable. As a result, the Board has elected not to incur the cost and complexity of a currency-hedging program.

SCERA began 2019 with no managers on "watch" and ended the year with two managers on "watch", Templeton and GMO. Templeton manages a non-US equity portfolio for SCERA and GMO is an asset allocation manager measured against a 65% global equity/35% domestic fixed income benchmark. Managers are placed on "watch" when there are concerns that warrant a heightened level of oversight and manager reporting but do not yet justify termination. Templeton was placed on "watch" due to concerns regarding an extended period of underperformance and changes in the investment team leadership as well as adjustments to the portfolio construction process. GMO was placed on "watch" due to a long period of underperformance, the long cycle over which the firm's "mean reversion" approach seems to be playing out and concerns regarding client and asset retention.

Results

For calendar year 2019, the Plan's investment portfolio returned 17.0% gross-of-fees. With annual fees of approximately 0.5%, this equates to a return of 16.5% net-of-fees, a return well above the current Actuarial Assumed Rate-of-Return (ROR) of 7.0%.

The strength of 2019 offsets the negative return of the previous calendar year, producing an above-par five-year gross-of-fees return of 8.1%. The volatile nature of individual years is why, from an operational point of view, the Plan uses a "smoothed" five-year return methodology to monitor interim progress. SCERA's performance over twenty-five years is 8.5% gross-of-fees, which on an after-fee basis is broadly in-line with the long-term expectations that pertained to the period. Given the long-term nature of the Plan, we view this to be a more relevant return.

Calendar year 2019 was a year in which global financial assets rallied broadly and overcame the negative returns of 2018. Equity markets around the world bounced back following the market sell off at end 2018, the US Equity market hitting new highs and the broad market gaining around 31% for the year. In true bull market fashion, the market surged through a wall of worries that included a weak global economy and manufacturing recession, flat to negative corporate earnings, yield curve inversion and recession risk as well as volatile and unresolved trade wars.

Sector returns exhibited a wide dispersion of returns. Within the US, the Technology sector produced the strongest gain with a return of 49%, well ahead of Communications the second strongest performer with a return of 33%. At the other end of the spectrum, the Energy sector produced a modest return of 8.4%, behind Healthcare the second weakest performer with a return of 20.9%. Style effects were also marked with large cap stocks outpacing small cap stocks, "Growth" stocks generally outperforming "Value" stocks and "Dynamic" stocks besting "Defensive" stocks.

The Plan's US stock holdings, in aggregate, returned 30.3%, a very strong absolute return that slightly underperformed the Russell 3000 benchmark return of 31.0%. The key factors behind the relative underperformance were the Plan's tilt toward small cap stocks coupled with slight underperformance from the active small cap manager. This was partially offset by the portfolio's core active manager, Jacobs Levy, who delivered a return 1.0% above benchmark performance. Taking a longer perspective, both of the Plan's active US equity managers have added significant value since account inception.

***Results**, continued*

International equity markets also posted strong absolute returns for the year with the MSCI ACWI Ex US IMI benchmark index rising 21.6%. Geographically, Europe was the strongest performer (up 23.8%) with Germany, France and Italy all producing returns over 20%. By contrast, in Europe the United Kingdom lagged with a return of just over 16%. The Pacific region returned just over 19% and Emerging Market equities produced strong returns but trailed their developed market peers with a return of just over 18%. All sectors recorded positive returns and, like the US, sector dispersion was marked. Returns ranged from 42.2% (Technology) down to 13.1% (Communication Services).

The Plan's Non-US Equity managers delivered an aggregate return of 19.4%, underperforming the asset class benchmark of 21.6% for the year. This aggregate underperformance was due to Templeton, whose portfolio trailed its benchmark by over 7.0% primarily due to their value style in general and underperforming stock picks in the Communication Services sector.

The Plan's Global Equity portfolio managers invest in both US and non-US domiciled stocks and the asset class benchmark delivered a return of 26.8% for the year. SCERA's Global Equity managers in aggregate produced a return of 22.1%, an absolute return below the benchmark. Hexavest and Dodge & Cox, the current global equity portfolio managers both underperformed the benchmark. Hexavest invests with a top-down and contrarian approach and their defensive positioning amidst surging equity markets proved a drag on relative performance. Both managers favored Non-US equity markets at the expense of the domestic market, which proved detrimental during a year when the US market delivered 10% more than the Non-US markets.

The Plan's fixed income portfolio managers produced an aggregate return of 7.0% for the year compared to the 8.7% return posted by the benchmark index. The majority of assets within the Fixed Income Portfolio are dedicated to "Core Plus" mandates where the Plan has three portfolio managers. Performance amongst these managers was mixed, with one manager slightly outperforming the benchmark, one manager slightly underperforming the benchmark and the third manger more significantly underperforming the benchmark. This manager has a focus on mortgage bonds that underperformed the broad aggregate benchmark index. For a large part of the year, nearly a third of the System's policy allocation to fixed income was in Alternative Fixed Income, comprised of a Bank Loans and Unconstrained Bonds mandate. The Bank Loan manager outperformed its own benchmark, but bank loans in aggregate underperformed the asset class benchmark. The Unconstrained Bonds mandate was terminated in the latter half of the year. The portfolio underperformed its own benchmark and significantly underperformed the asset class benchmark with the result that it too was dilutive to the performance of the overall asset class.

The Plan's Real Assets portfolio is composed of Real Estate, Farmland and the recently added Infrastructure. Combined they delivered a modest 4.3% return for the year. SCERA invests in two Core Real Estate investment funds, the JPMorgan Strategic Property Fund (SPF) and the UBS Trumbull Property Fund (TPF). These are both large privately managed equity funds that invest in commercial real estate across the US. Both funds underperformed the core real estate benchmark in 2019, notably the UBS TPF fund that recorded a negative return for the year due to capital write-downs in its retail property holdings.

The Plan's Farmland exposure is achieved by investing in the UBS AgriVest Farmland Fund. Farmland was included in the Real Assets portfolio to provide an uncorrelated source of stable returns with a strong income component. In 2019, the Farmland Fund delivered a modest 3.7% total return, of which 3.4% was sourced from income. The fund underperformed its Core Farmland Index benchmark, with the majority of the benchmark-relative underperformance stemming from first, the return in the South East where the fund returned only 3.0% compared to the 8.2% for the benchmark and second, the lower returns from the fund's permanent cropland properties.

The Plan obtains exposure to Infrastructure through its investment in the IFM Global Infrastructure Fund. Absolute and relative performance in 2019 was very strong with the fund posting a return of 14.6% compared to a benchmark return of 7.4%. This was due to two major assets (a gas liquefaction plant and a mid-stream energy company) benefiting from significant appreciation.

***Results**, continued*

GMO is SCERA's Global Asset Allocation manager, tasked with the job of allocating opportunistically across all liquid markets, and both stocks and bonds globally. The manager's benchmark is a blend of 65% global equities and 35% domestic bonds. GMO underperformed its benchmark in 2019 by approximately 2.8%. This relative underperformance was mainly due to their favoring non-domestic equity markets, notably Emerging Markets, which substantially underperformed the very buoyant US equity market. Although not as strong as the robust equity markets, the domestic fixed income markets produced a strong absolute return of nearly 9%. In lieu of fixed income, GMO held a significant weighting (around 10%) in Alternative Strategies that, in aggregate, were flat in 2019.

The Plan's initial Opportunistic investments (incepted in mid-2016) have completed their investment phase and are now in the "harvesting" stage of their investment cycle where investments are realized and capital is returned. For this type of investing, market prices are not readily available but the investments are periodically appraised to provide a best estimate of value. Current indications are that they have achieved an annualized Internal Rate of Return (which adjusts for the timing of cash flows) in the region of 11% in aggregate. This is well in excess of the Plan's Actuarial Assumed ROR.

The long-term perspective of the Plan allows it to focus on trends and not the short-term gyrations of the financial markets. The fund uses a five year smoothing methodology to monitor financial performance rather than fixate on volatile individual years. Calendar year 2019 was an exceptionally strong year that has lifted the five-year return to above long-term expectations. The longer horizon 10- and 25-year returns are healthy and in-line with expectations. We remain confident that over the longer term, the Plan's well-diversified mix of assets has the ability to achieve the assumed investment ROR.

INVESTMENT RESULTS BASED ON FAIR VALUE

For the year ended December 31*

Account	Current Year	3 Year	5 Year
Fixed Income			
Reams Asset Management – Core Plus	9.08%	4.78%	3.90%
DoubleLine – Core Plus	6.74%	4.41%	3.82%
PIMCO – Core Plus	8.15%	4.77%	3.55%
Guggenheim Bank Loan Fund	8.33%	4.90%	5.08%
Benchmark: BB U.S. Aggregate Bond Index	**8.72%**	**4.03%**	**3.05%**
Total Fixed Income	**6.98%**	**4.30%**	**3.61%**
Real Assets			
UBS Trumbull Property Fund	-2.10%	3.64%	6.15%
JP Morgan Strategic Property Fund	4.41%	6.53%	8.59%
Benchmark: NCREIF ODCE	**5.34%**	**7.09%**	**8.97%**
UBS AgriVest	3.70%	4.79%	5.63%
Benchmark: UBS Core Farmland Index (custom)	**4.61%**	**5.60%**	**5.65%**
IFM Global Infrastructure Fund	14.60%	N/A	N/A
Benchmark: CPI + 5% Year	**7.39%**	**N/A**	**N/A**
Total Real Assets	**4.32%**	**6.54%**	**7.71%**
Domestic Equity			
Jacobs Levy: Broad Mandate Equity	32.03%	15.38%	15.58%
Benchmark: Russell 3000	**31.02%**	**14.57%**	**11.24%**
SSgA: Russell 1000 Index Fund – Funded 9/18	31.44%	N/A	N/A
Benchmark: Russell 1000	**31.43%**	**15.05%**	**11.48%**
Systematic Financial Mgmt: Small Cap Value	25.38%	10.51%	11.28%
Benchmark: Russell 2000 Blended	**25.52%**	**8.59%**	**9.32%**
Total Domestic Equity	**30.29%**	**14.80%**	**12.84%**
Non-U.S. Equity			
Templeton Investment Counsel	14.05%	5.80%	3.12%
Benchmark: MSCI Int’l Equity Blended I	**21.63%**	**9.84%**	**5.71%**
Arrowstreet Capital	21.57%	13.51%	8.41%
SSgA: MSCI ACWI Ex US IMI Index Fund	21.98%	10.16%	5.99%
Benchmark: MSCI AC World Ex US IMI(net) II	**21.63%**	**9.84%**	**5.71%**
Total Non-U.S. Equity	**19.44%**	**9.88%**	**5.87%**
Global Equity			
Hexavest	19.97%	8.55%	7.36%
Benchmark: MSCI Global Equity Blended I	**26.75%**	**12.43%**	**8.61%**
Dodge & Cox	23.82%	11.17%	9.96%
Benchmark: MSCI Global Equity Blended II	**26.75%**	**9.12%**	**7.96%**
Total Global Equity	**22.11%**	**8.58%**	**6.53%**
Global Asset Allocation			
Grantham, Mayo, Van Otterloo and Company	17.80%	8.43%	5.43%
Benchmark: Global Asset Allocation Blended	**20.59%**	**9.76%**	**6.95%**
Opportunistic			
Davidson Kempner Funds	12.67%	11.75%	N/A
Benchmark: Custom	**11.59%**	**9.56%**	**N/A**
Total Fund	**16.96%**	**9.76%**	**8.06%**

* Using time weighted rate-of-return based on the market rate-of-return; returns and benchmarks are shown gross of fees.

SCHEDULE OF MANAGEMENT FEES

For the year ended December 31 (and Comparative Totals)
(Dollars in Thousands)

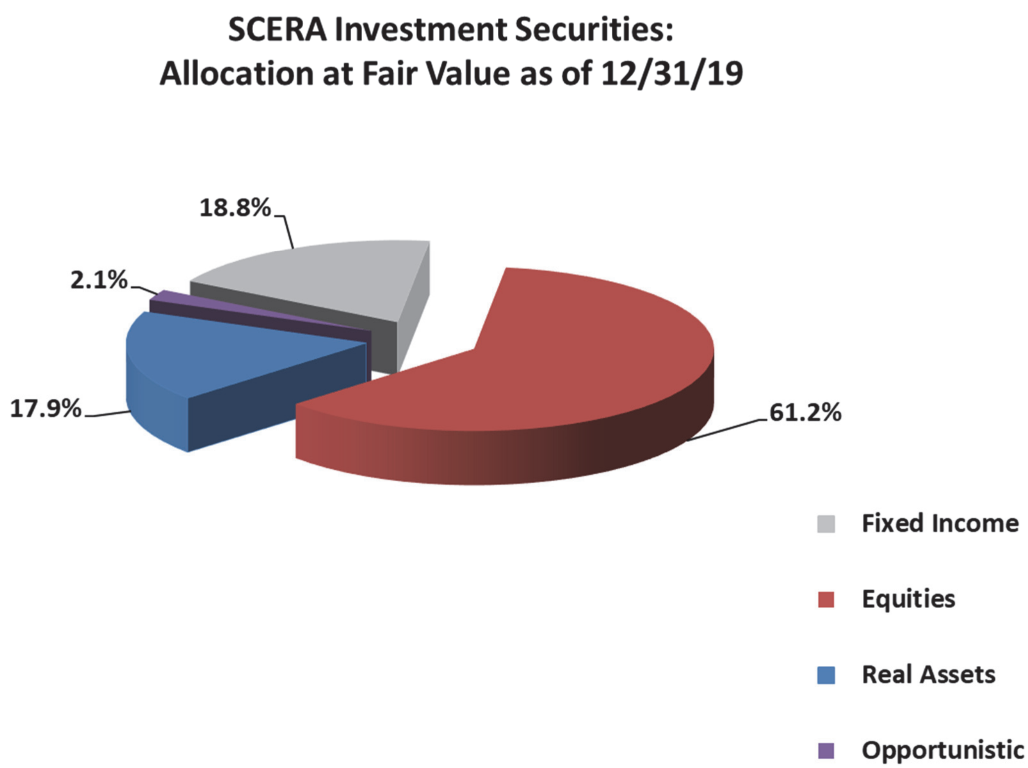
	2019	2018
Fixed Income		
Guggenheim	$ 408	$ 392
DoubleLine	386	357
PIMCO	373	326
Reams Asset Management	258	237
Neuberger Berman	149	252
Total Fixed Income	**1,574**	**1,564**
Real Assets		
UBS AgriVest	1,259	1,196
JP Morgan	1,250	1,183
UBS Realty	980	1,003
IFM Global	764	851
Axium	1	0
Total Real Assets	**4,254**	**4,233**
Domestic Equity		
Jacobs Levy: Broad Mandate	1,138	1,442
Systematic Financial Management: Small Cap Value	705	742
State Street Global Advisors: Small Cap Growth	46	46
Total Domestic Equity	**1,889**	**2,230**
Non U.S. Equity		
Arrowstreet Capital	1,104	1,257
Templeton Investment Counsel	737	673
State Street Global Advisors	161	156
Total Non U.S. Equity	**2,002**	**2,086**
Global Equity		
Dodge & Cox: Large Cap Value	913	536
Grantham, Mayo, Van Otterloo and Company	775	756
Hexavest	436	369
Templeton Investment Counsel	0	397
Total Global Equity	**2,124**	**2,058**
Opportunistic		
Davidson Kempner	355	454
Total Opportunistic	**355**	**454**
Total Investment Manager Fees	**12,198**	**12,625**
Other Investment Expenses		
Investment Custodian	1,242	1,853
Investment Travel and Staff Salary	587	536
Cash Overlay Manager	385	293
Investment Consultant	320	370
Investment Legal Counsel	90	11
Other Investment Services	39	56
Bloomberg Service	26	26
Total Other Investment Expenses	**2,689**	**3,145**
Total Fees/Other Investment Expenses	**$14,887**	**$15,770**

SCHEDULE OF BROKER COMMISSIONS

Brokerage Firm	Number of Shares Traded	Total Commissions	Commission Per Share
ITG Inc.	10,434,610	$ 35,151	0.0034
J.P.Morgan Securities PLC	2,462,165	21,859	0.0089
Investment Technology Group Inc.	1,758,791	20,655	0.0117
Liquidnet Inc.	1,297,957	19,179	0.0148
Goldman Sachs & Co LLC	3,923,971	16,343	0.0042
Morgan Stanley Co Incorporated	4,782,774	15,534	0.0032
Macquarie Bank Limited	2,443,899	13,559	0.0055
Instinet UK LTD	2,276,064	11,568	0.0051
Credit Suisse Securities(USA) LLC	1,708,276	11,065	0.0065
J.P. Morgan Clearing Corp	528,825	9,220	0.0174
Royal Bank of Canada Europe LTD	834,608	8,330	0.0100
Macquarie Capital (USA) Inc	552,101	8,243	0.0149
Deutsche Bank Securities Inc.	1,264,951	7,847	0.0062
Credit Suisse Securities (Europe) LTD	801,796	7,087	0.0088
Sanford Bernstein Co LLC	577,372	6,505	0.0113
BMO Nesbitt Burns Inc.	167,305	6,201	0.0371
Merrill Lynch International	662,885	6,053	0.0091
Davy Stockbrokers	122,913	5,991	0.0487
Citigroup Global Markets Limited	389,372	5,237	0.0135
J. P. Morgan Securities (Asia Pacific) LTD	7,268,350	4,932	0.0007
B of A Securities, Inc.	443,983	4,917	0.0111
CS First Boston (Hong Kong) Limited	223,000	4,431	0.0199
ICBCFS LLC	163,000	3,920	0.0240
Societe Generale London Branch	595,006	3,902	0.0066
CLSA Singapore PTE LTD	185,200	3,515	0.0190
Pershing Securities Limited	558,098	3,348	0.0060
Cantor Fitzgerald & Co.	267,305	2,942	0.0110
Instinet LLC	357,699	2,683	0.0075
UBS AG	326,158	2,347	0.0072
UBS Securities LLC	258,180	2,244	0.0087
All Others	14,695,866	60,551	0.0041
TOTAL	**62,332,480**	**$335,359**	**0.0054**

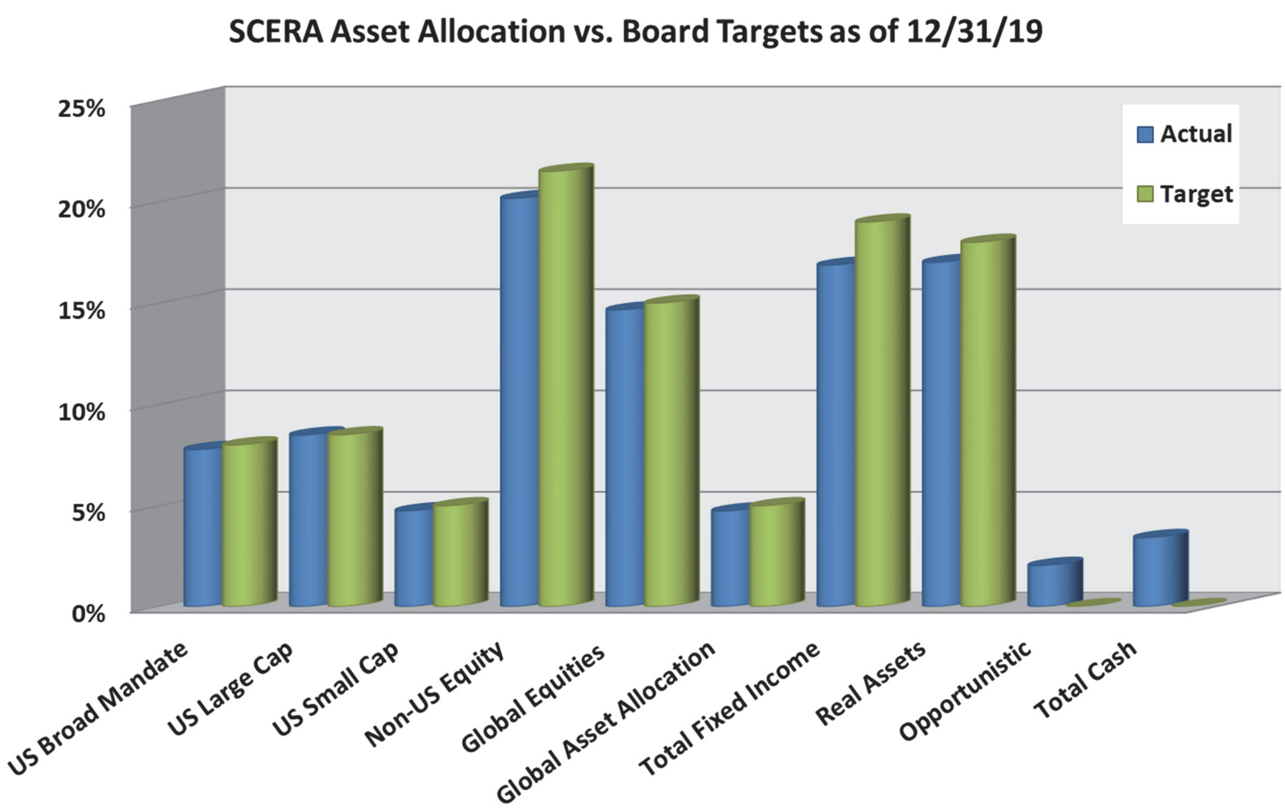
INVESTMENTS AT FAIR VALUE

Investments, at fair value (in thousands)		
Fixed Income	$ 536,928	18.8%
Equities	1,748,498	61.2%
Real Assets	510,911	17.9%
Opportunistic	61,098	2.1%
Total Investments	$2,857,435	100.0%



ASSET ALLOCATION

Asset Allocation Sector	% of Actual	% of Target
US Broad Mandate	7.78%	8.00%
US Large Cap	8.49%	8.50%
US Small Cap	4.76%	5.00%
Non-US Equity	20.17%	21.50%
Global Equities	14.67%	15.00%
Global Asset Allocation	4.74%	5.00%
Total Fixed Income	16.88%	19.00%
Real Assets	17.02%	18.00%
Opportunistic	2.06%	0.00%
Total Cash	3.43%	0.00%
Total Asset Allocation	100.00%	100.00%



LARGEST EQUITY HOLDINGS
At December 31, 2019
(At Fair Value)

	Shares	Stock	Fair Value
1)	7,318	Alphabet Inc.	$ 9,784,312
2)	59,896	Microsoft	9,445,599
3)	3,885	Amazon Com Inc.	7,178,859
4)	19,560	Mastercard Inc.	5,840,420
5)	352,838	Deutsche Telekom	5,770,601
6)	546,898	Standard Chartered PLC	5,161,363
7)	83,973	BNP Paribas.	4,979,737
8)	254,129	Vodafone Group PLC	4,940,794
9)	16,549	Apple Inc.	4,859,614
10)	441,151	E. ON SE	4,716,207
		Total Largest Equity Holdings	**$62,677,506**

LARGEST FIXED INCOME HOLDINGS
At December 31, 2019
(at Fair Value)

	Par	Bonds	Fair Value
1)	29,070,000	U.S. Treasury 1.75% due 07/31/2024	$ 29,163,115
2)	23,450,000	FNMA TBA 30 year 3.0% due 02/15/2050	23,761,177
3)	20,420,000	U.S. Treasury 2.375% due 05/15/2029	21,239,193
4)	13,700,000	U.S. Treasury 1.75% due 07/31/2024	13,743,883
5)	8,845,000	FNMA TBA 30 year 3.0% due 01/14/2050	8,970,765
6)	7,490,856	FNMA 3.50% due 06/01/2049	7,699,790
7)	6,415,000	U.S. Treasury 2.25% due 08/15/2049	6,240,592
8)	5,925,000	FNMA TBA 30 year 4.5% due 01/14/2050	6,238,145
9)	5,690,000	U.S. Treasury 2.375% due 11/15/2049	5,687,111
10)	5,077,120	FNMA 2.49% due 09/01/2031	5,064,346
		Total Largest Fixed Income Holdings	**$127,808,117**

A complete list of portfolio holdings is available upon request.

Actuarial Section

Segal

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May 14, 2020

Board of Retirement
Sonoma County Employees' Retirement Association
433 Aviation Boulevard, Suite 100
Santa Rosa, CA 95403

Re: Actuarial Valuation for the Sonoma County Employees' Retirement Association

Dear Members of the Board:

Segal prepared the December 31, 2019 actuarial valuation of the Sonoma County Employees' Retirement Association (SCERA). We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and SCERA's funding policy that was last reviewed and updated by the Board in 2020. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by the Actuarial Standards of Practice (ASOPs).

As part of the December 31, 2019 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. For actuarial valuation purposes, 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 differences between the total return at market value and the expected investment return on valuation value over a five-year period. The full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

One of the general goals of an actuarial valuation is to establish rates which, over time, will remain level as a percentage of payroll unless Plan benefit provisions are changed. Actuarial funding is based on the Entry Age Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize any unfunded actuarial accrued liability (UAAL).

The outstanding balance of the December 31, 2007 UAAL as well as any new UAAL established on each subsequent actuarial valuation after the December 31, 2007 valuation is amortized as a level percentage of payroll over separate 20-year declining periods.

Note M to the Basic Financial Statements and the Required Supplemental Information (RSI) included in the Financial Section were prepared by the Association based on the results of the Governmental Accounting Standards Board Statement No. 67 (GASB 67) actuarial valuation as of December 31, 2019 prepared by Segal. For the Financial Section of the Comprehensive Annual Financial Report, Segal provided the Schedule of the Changes in Net Pension Liability and Schedule of Employer Contributions as shown in the RSI. A listing of the other supporting schedules Segal prepared for inclusion in the Actuarial and Statistical Sections of the Association's CAFR is provided below. These schedules were prepared based on the results of the actuarial valuation as of December 31, 2019 for funding purposes.

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Board of Retirement
May 14, 2020
Page 2

1. Schedule of Retiree Members (Including Beneficiaries) by Type of Benefit;
2. Schedule of Benefit Expenses by Type;
3. Schedule of Average Benefit Payment Amounts; and
4. Schedule of Retirees and Beneficiaries Added To and Removed From Retiree Payroll.

The valuation assumptions included in the Actuarial Section were adopted by the Retirement Board in conjunction with the December 31, 2019 actuarial valuation. It is our opinion that the assumptions used in the December 31, 2019 valuation produce results, which, in the aggregate, reflect the future experience of the Plan. Actuarial valuations are performed on an annual basis. An experience analysis is performed every three years. The next experience analysis is due to be performed as of December 31, 2020 and the assumptions approved in that analysis will be applied in the December 31, 2021 valuation.

In the December 31, 2019 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities increased from 86.8% to 89.4%. The increase in the funded status was primarily the result of investment return (after "smoothing") higher than the 7.00% return assumption used in the December 31, 2018 valuation. The calculated employer's rate, resulting from this valuation, along with the calculated employee's rate at the average entry age are as follows, expressed as a percent of payroll:

	General		Safety	
	Employer Rate	**Employee Rate**	**Employer Rate**	**Employee Rate**
Plan A – County	19.03%	12.20%	30.09%	12.77%
Plan A – Court	32.39%	12.53%	N/A	N/A
Plan A – VOM	16.70%	12.19%	36.61%	10.99%
Plan B – County	13.86%	10.49%	21.55%	15.36%
Plan B – Court	26.31%	10.49%	N/A	N/A
Plan B – VOM	10.49%	7.46%	22.63%	12.97%
All Categories Combined (General & Safety):			**19.52%**	**11.88%**

Note: The above employer and employee rates have not been adjusted to reflect that some active members represented by some of the bargaining groups have agreed to pay additional employee Normal Cost contributions that are above those provided in the table.

As a result of using the actuarial value of assets in the actuarial valuation, there were $105.6million in net deferred investment gains as of December 31, 2019, which represented 3.6% of the market value of assets. If these net deferred investment gains were recognized immediately in the actuarial value of assets, the funded percentage would increase from 89.4% to 92.8% and the aggregate employer contribution rate, expressed as a percent of payroll, would decrease from 19.5% to 17.5%.

The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

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

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

OH/hy
Enclosures

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Segal

SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

The Entry Age Normal Cost Method was used in conjunction with the following actuarial assumptions. The funding policy adopted by the Board is to amortize SCERA's outstanding balance of the December 31, 2007 unfunded actuarial accrued liability (UAAL) as well as any new UAAL established on each subsequent actuarial valuation after the December 31, 2007 valuation over separate 20-year declining periods. This approach is often referred to as a "layered amortization method". The Board as of December 31, 2019, has adopted the following interest rate and inflation rate assumptions:

ASSUMPTIONS

Valuation Interest Rate	7.00%
Inflation Assumption	2.75%
Across the Board Salary Increase	0.50%
Interest Credited to Member Accounts	7.00%
Cost of Living Adjustments	Provided on an ad hoc basis, subject to availability of excess earnings, none assumed in the valuation
Asset Valuation	Smoothed Actuarial Value

The following demographic and salary increase assumptions were used with the actuarial valuation as of December 31, 2019. These assumptions were updated based on the System's actual experience through December 31, 2017. The assumptions were selected by the actuary and approved by the Board.

Post-Retirement Mortality	
(a) Service	
General and Safety Members and Beneficiaries	Headcount-Weighted RP-2014 Healthy Annuitant Table times 94% for males and 102% for females, projected generationally with the 2-dimensional mortality improvement scale MP2017
(b) Disability	
General and Safety Members	Headcount-Weighted RP-2014 Disabled Retiree Table times 91% for males and 93% for females, projected generationally with the 2-dimensional mortality improvement scale MP2017
(c) For Employee Contribution Rate Purposes	
General Members	Headcount-Weighted RP-2014 Healthy Annuitant Table times 94% for males and 102% for females, projected 20 years with 2-dimensional scale MP2017, weighted 33.33% male and 66.67% female
Safety Members	Headcount-Weighted RP-2014 Healthy Annuitant Table times 94% for males and 102% for females, projected 20 years with 2-dimensional scale MP2017, weighted 75% male and 25% female
Pre-Retirement Mortality	
General and Safety Members	Headcount-Weighted RP-2014 Employee Table times 93% for males and 95% for females, projected generationally with the 2-dimensional mortality improvement scale MP2017
Withdrawal Rates	Based upon the Experience Analysis as of 12/31/17 (Table on Page 67)
Disability Rates	Based upon the Experience Analysis as of 12/31/17 (Table on Page 67)
Service Retirement Rates	Based upon the Experience Analysis as of 12/31/17 (Table on Page 67)
Reciprocity Assumption	25% of General members and 40% of Safety members who terminate with a vested benefit are assumed to enter a reciprocal system
Salary Scales	As shown in Table on Page 68
Leave Conversion Compensation Increase	3.75% for General Plan A Superior Court; 2.00% Valley of the Moon Fire General members, 3.00% for Safety Plan A Valley of the Moon Fire members
Spouses and Dependents	70% of male employees and 55% of female employees assumed married at retirement. Female spouses are assumed to be 4 years younger than their male member spouses. Male spouses are assumed to be 2 years older than their female member spouses.
Deferral Vested Retirement Age	58 for General members; 53 for Safety members

PROBABILITIES OF SEPARATION FROM ACTIVE SERVICE

General Members						
Age Nearest	**Withdrawal**	**Mortality Male[1]**	**Mortality Female[1]**	**Disability[2]**	**Service[4]**	**Terminated Vested[5]**
20	.0150	.0005	.0002	.0005	.0000	.0350
30	.0138	.0006	.0003	.0005	.0000	.0350
40	.0054	.0007	.0005	.0014	.0000	.0270
50	.0032	.0019	.0013	.0031	.0600	.0200
60	.0014	.0053	.0029	.0043	.2500	.0200

Safety Members						
Age Nearest	**Withdrawal**	**Mortality Male[1]**	**Mortality Female[1]**	**Disability[3]**	**Service[4]**	**Terminated Vested[5]**
20	.0160	.0005	.0002	.0010	.0000	.0400
30	.0124	.0006	.0003	.0068	.0000	.0340
40	.0025	.0007	.0005	.0150	.0000	.0140
50	.0002	.0019	.0013	.0250	.1800	.0030
60	.0000	.0053	.0029	.0300	.7500	.0000

(1) All pre-retirement deaths are assumed to be non-service connected deaths.
(2) 55% of General disabilities are assumed to be service connected disabilities. The other 45% are assumed to be non-service disabilities.
(3) 95% of Safety disabilities are assumed to be service connected disabilities. The other 5% are assumed to be non-service connected disabilities.
(4) Retirement rates shown above are for non-PEPRA members with less than 30 years of service.
(5) Withdrawal and vested termination rates shown above are for members with at least five years of service.

The probabilities shown for each cause of termination represent the likelihood that a given member will terminate at a particular age for the indicated reason. For example, if the probability of withdrawal of a Safety member at age 30 is 0.0124, then we are assuming that 1.24% of the active Safety members at age 30 will terminate without vested rights during the next year.

ACTUARIAL ASSUMPTIONS FOR MERIT AND LONGEVITY SALARY INCREASE RATES

As of December 31, 2019

Consists of the sum of two parts: A uniform inflation component of 2.75% plus “Across the Board” salary increases of 0.50% per year; plus an age-related component for merit and promotion increases:

Years of Service	General Members	Safety Members
Less than 1	5.50%	7.50%
1-2	5.00%	7.00%
2-3	4.50%	5.00%
3-4	3.50%	4.00%
4-5	2.50%	3.50%
5-6	1.50%	1.50%
6-7	1.25%	1.25%
7-8	1.00%	1.25%
8-9	0.95%	1.25%
9-10	0.90%	1.25%
10-11	0.85%	1.25%
11-12	0.80%	1.25%
12-13	0.75%	1.25%
13-14	0.75%	1.00%
14-15	0.75%	1.00%
15 & Over	0.50%	0.75%

SCHEDULE OF FUNDING PROGRESS

(Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Projected Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
12/31/10	$1,890,874	$2,139,460	$248,586	88.4%	$323,601	76.8%
12/31/11	1,867,117	2,220,520	353,403	84.1%	308,644	114.5%
12/31/12	1,856,847	2,351,087*	494,240	79.0%	302,764	163.2%
12/31/13	2,016,781	2,466,224	449,443	81.8%	329,896	136.2%
12/31/14	2,167,210	2,510,253	343,043	86.3%	324,418	105.7%
12/31/15	2,289,057	2,694,979	405,922	84.9%	339,518	119.6%
12/31/16	2,399,171	2,807,398	408,227	85.5%	356,129	114.6%
12/31/17	2,557,299	2,916,856	359,557	87.7%	369,751	97.2%
12/31/18	2,667,345	3,072,077	404,732	86.8%	378,159	107.0%
12/31/19	$2,811,292	$3,143,323	$332,031	89.4%	$378,159	87.8%

* The December 31, 2012 Actuarial Accrued Liability was recalculated by the Actuary to reflect the value of the elimination by the County of Sonoma of vacation and sick leave cash outs for all employees.

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Plan Type	Number	Annual Payroll $	Annual Average Pay $	Percentage of Increase (Decrease) in Average Pay*
12/31/10					
	General	3,051	$251,281,000	$ 82,360	6.1%
	Safety	729	72,319,000	99,204	4.4%
	Total	3,780	323,600,000	85,609	5.8%
12/31/11					
	General	2,900	239,781,000	82,683	0.4%
	Safety	687	68,863,000	100,236	1.0%
	Total	3,587	308,644,000	86,045	0.5%
12/31/12					
	General	2,928	235,101,000	80,294	-2.9%
	Safety	692	67,662,000	97,778	-2.5%
	Total	3,620	302,764,000	83,636	-2.8%
12/31/13					
	General	3,125	258,101,000	82,592	2.8%
	Safety	708	71,793,000	101,403	3.7%
	Total	3,833	329,894,000	86,067	2.9%
12/31/14					
	General	3,211	255,577,000	79,594	-3.6%
	Safety	711	68,841,000	96,824	-4.5%
	Total	3,922	324,418,000	82,718	-3.9%
12/31/15					
	General	3,366	270,904,000	80,483	1.1%
	Safety	705	68,612,000	97,323	0.5%
	Total	4,071	339,516,000	83,399	0.8%
12/31/16					
	General	3,411	285,234,000	83,622	3.9%
	Safety	701	77,896,000	101,135	3.9%
	Total	4,112	356,130,000	86,607	3.9%
12/31/17					
	General	3,385	294,379,000	86,966	4.0%
	Safety	725	75,372,000	103,961	2.8%
	Total	4,110	369,751,000	89,964	3.9%
12/31/18					
	General	3,309	300,959,000	90,952	4.6%
	Safety	712	77,200,000	108,427	4.3%
	Total	4,021	378,160,000	94,046	4.5%
12/31/19					
	General	3,334	302,388,000	90,698	-0.3%
	Safety	706	75,771,000	107,324	-1.0%
	Total	4,040	$378,159,000	$ 93,604	-0.5%

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

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM RETIREE PAYROLL

(Dollars in Thousands)

	Added to Rolls		Removed from Rolls		Rolls- End of Year			
Plan Year	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances	Increase in Annual Allowances	Average Annual Allowances
2010	294	$12,746,379	84	$1,186,911	3,780	$106,993,776	12.1%	$28,305
2011	334	14,265,604	93	2,513,488	4,021	118,745,892	11.0%	29,531
2012	320	13,849,254	83	1,553,730	4,258	131,041,416	10.4%	30,775
2013	210	7,701,998	74	1,605,950	4,394	137,137,464	4.7%	31,210
2014	221	8,161,011	109	2,283,279	4,506	143,015,196	4.3%	31,739
2015	250	9,770,420	103	2,557,112	4,653	150,228,504	5.0%	32,286
2016	275	10,781,541	116	2,399,349	4,812	158,610,696	5.6%	32,961
2017	247	10,357,620	123	3,161,640	4,936	165,806,676	4.5%	33,591
2018	282	11,112,780	122	2,346,684	5,096	174,572,772	5.3%	34,247
2019	271	$10,852,601	117	$2,825,537	5,250	$182,599,836	4.6%	$34,781

SCHEDULE OF FUNDED LIABILITIES BY TYPE

(Dollars in Thousands)

		Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Assets		
	(1)	(2)	(3)					
Valuation Date	Active Member Contributions	Retired/ Vested Members	Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	(1)	(2)	(3)
12/31/10	$396,935	$1,096,892	$645,633	$2,139,460	$1,890,874	100	100	61
12/31/11	408,736	1,217,952	593,832	2,220,520	1,867,117	100	100	40
12/31/12	428,407	1,389,477	533,203	2,351,087*	1,856,847	100	100	7
12/31/13	450,989	1,443,559	571,676	2,466,224	2,016,781	100	100	21
12/31/14	484,181	1,498,062	528,010	2,510,253	2,167,210	100	100	35
12/31/15	513,444	1,633,647	547,888	2,694,979	2,289,057	100	100	26
12/31/16	534,785	1,717,405	555,208	2,807,398	2,399,171	100	100	27
12/31/17	569,375	1,784,450	562,031	2,916,856	2,557,299	100	100	36
12/31/18	600,487	1,882,466	589,124	3,072,077	2,667,345	100	100	31
12/31/19	$593,655	$1,963,064	$586,604	$3,143,323	$2,811,292	100	100	43

This exhibit includes actuarially funded liabilities and assets.

* The December 31, 2012 Actuarial Accrued Liability was recalculated by the Actuary to reflect the value of the elimination by the County of Sonoma of vacation and sick leave cash outs for all employees.

ACTUARIAL ANALYSIS OF FINANCIAL EXPERIENCE

Items Impacting Unfunded Actuarial Accrued Liability (UAAL)

(Dollars in Thousands)

Plan Years	2019	2018	2017	2016	2015
Beginning of the Year UAAL Liability (Surplus)	$ 404,732	$ 359,557	$ 408,227	$ 405,922	$ 343,043
Source of Actuarial (Gain) Loss:					
Compensation Increase/(Decrease)	(34,651)	11,293	4,586	5,983	(12,829)
Expected Contributions	12,332	(493)	4,568	4,094	(3,519)
Investment Experience Recognized	(32,718)	13,629	(44,256)	891	(3,307)
Other Experience	(2,786)	661	(3,890)	(859)	(2,546)
Subtotal: Actuarial (Gain) Loss	(57,823)	25,090	(38,992)	10,109	(22,201)
Other Items Impacting UAAL:					
Assumption Change (Triennial Experience Study)	0	31,798	0	0	93,686
Interest Accrual on UAAL Balance	27,009	24,876	28,358	28,249	24,727
Additional UAAL Contributions from County	0	0	0	0	(3,661)
Expected employer/employee contributions less normal cost	(41,887)	(36,589)	(38,036)	(36,053)	(29,672)
End of the Year UAAL Liability (Surplus)	$ 332,031	$ 404,732	$ 359,557	$ 408,227	$ 405,922

SUMMARY OF PLAN PROVISIONS

Briefly summarized below are the major provisions of the County Employees Retirement Law of 1937, and the California Public Employees' Pension Reform Act of 2013, as amended through December 31, 2019.

Membership
Membership becomes effective on the first day of entrance into eligible service.

Highest Average Compensation
Highest average compensation is defined as the highest 12 consecutive months of compensation earnable for Plan A members, subject to a cap of 100% of salary. For Plan B members it is defined as highest 36 consecutive months of pensionable compensation, subject to the Social Security taxable wage base limit adjusted for inflation.

Return of Contributions
If a member should resign or die before becoming eligible for retirement, the member's contributions plus interest will be refunded upon request. In lieu of receiving a return of contributions, a member may elect to leave his or her contributions on deposit.

Service Retirement Benefit
Plan A members are eligible to retire at age 50 with 10 years of service or 30 years of service (Safety members 20 years) regardless of age. Plan B members are eligible to retire at age 52 (age 50 for Safety) with 5 years of service. All members may retire at age 70 regardless of years of service.

Basis of Benefit Payments
Benefits are based upon a combination of age, years of service, highest average compensation, and the benefit payment option selected by the member, up to the Internal Revenue Code Section 415 limit.

Cost of Living Benefit
SCERA has approved, on an ad hoc basis, multiple one-time post-retirement cost of living increases. These cost of living increases have been funded by transfers from the Undistributed Investment Earnings, Interest Fluctuation Reserve above statutory limits into the Cost of Living Reserve account.

Disability Benefit
Members with 5 years of service, regardless of age, are eligible to apply for a non-service connected disability retirement. Service connected disability retirement benefits may be granted regardless of length of service.

Death Benefit - Prior to Retirement
In addition to the return of contributions, a death benefit is payable to the member's beneficiary or estate equal to one month's salary for each completed year of service under the retirement system, but not to exceed 6 months of salary. The death benefit is based on the salary earned during the last twelve months preceding the member's death.

If a member dies while eligible for service retirement or non-service connected disability, his or her spouse or domestic partner receives 60% of the allowance that the member would have received for retirement on the day of his or her death.

If a member dies in the performance of duty, the spouse or registered domestic partner will receive a lifetime benefit equal to 50% of the member's highest one-year average compensation or a service retirement benefit whichever is higher.

Death Benefit - After Retirement
As part of the retirement process, members are required to select among several options for benefits continuation upon the member's death. For married retirees, the most common retirement option is the unmodified option, which pays the retiree's eligible spouse or registered domestic partner a lifetime benefit equal to 60% of the benefit the retiree was receiving.

Contributions
Contribution rates for the participating employers and their covered employees are established and may be amended by the SCERA Board of Retirement, and then implemented by all participating employers. The contribution rates are based on the benefit structure established by the employer. Plan A members are required to contribute between 7% and 15% of their annual covered salary and their particular rate is based upon age at entry to the System. Plan B members contribute one half of the normal cost of their benefit. The employer is required to contribute the remaining amounts necessary to finance the coverage of their employees through periodic contributions at actuarially determined rates.

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Statistical Section

STATISTICAL SECTION OVERVIEW

This section provides additional detailed information in order to promote a more comprehensive understanding of this year's financial statements, note disclosures, and supplemental information. In addition, this section provides multi-year trends of the financial and operational information in order to facilitate the understanding of how the organization's financial position and performance have changed over time. This section provides contextual data for SCERA's changes in Fiduciary Net Position, benefit expenses, retirement types, benefit payments and membership data.

CHANGES IN FIDUCIARY NET POSITION

Last Ten Years

(Dollars in Thousands)	2019	2018	2017	2016	2015
Additions					
Employer Contributions	$ 65,155	$ 67,425	$ 63,822	$ 63,639	$ 68,240
Member Contributions	44,659	45,567	44,161	40,783	38,714
Net Investment Income/(Loss)	415,559	(107,078)	394,909	189,949	34,589
Total Additions	525,373	5,914	502,892	294,371	141,543
Deductions					
Retirement Benefits	179,424	170,370	162,973	155,220	147,277
Refunds	3,322	2,192	2,975	2,232	2,087
Administrative Expenses	3,152	3,072	3,156	3,665	3,268
Other Expenses	394	511	576	554	258
Total Deductions	186,292	176,145	169,680	161,671	152,890
Change in Fiduciary Net Position	$339,081	$(170,231)	$333,212	$132,700	$(11,347)

(Dollars in Thousands)	2014	2013	2012	2011	2010
Additions					
Employer Contributions	$ 61,179	$ 51,852	$ 45,079	$ 35,711	$337,761
Member Contributions	37,126	35,492	36,963	35,944	37,322
Net Investment Income/(Loss)	117,663	370,240	242,604	3,906	211,749
Total Additions	215,968	457,584	324,646	75,561	586,832
Deductions					
Retirement Benefits	140,430	134,311	123,832	113,000	101,588
Refunds	1,246	1,650	2,133	1,919	1,684
Administrative Expenses	3,107	3,227	2,992	2,880	2,732
Other Expenses	483	550	548	795	466
Total Deductions	145,266	139,738	129,505	118,594	106,470
Change in Fiduciary Net Position	$ 70,702	$317,846	$195,141	$(43,033)	$480,362

REVENUES BY SOURCE
(Dollars in Thousands)

Fiscal Year Ended 12/31	Member Contributions	Employer Contributions	Investment Net Income/(Loss)	Total
2010	$37,322	$337,761 (A)	$ 211,749	$586,832
2011	35,944	35,711	3,906	75,561
2012	36,963	45,079	242,604	324,646
2013	35,492	51,852	370,240	457,584
2014	37,126	61,179	117,663	215,968
2015	38,714	68,240	34,589	141,543
2016	40,783	63,639	189,949	294,371
2017	44,161	63,822	394,909	502,892
2018	45,567	67,425	(107,078)	5,914
2019	$44,659	$ 65,155	$ 415,559	$525,373

(A) The Employer Contributions in 2010 include $289,300,000 from the proceeds of Pension Obligation Bonds that the County of Sonoma issued to pay off the Unfunded Actuarial Accrued Liability.

EXPENSES BY TYPE
(Dollars in Thousands)

Fiscal Year Ended 12/31	Pension Benefits	Administrative & Other Expenses	Contribution Refunds	Total
2010	$101,588	$3,198	$1,684	$106,470
2011	113,000	3,675	1,919	118,594
2012	123,832	3,540	2,133	129,505
2013	134,311	3,777	1,650	139,738
2014	140,430	3,590	1,246	145,266
2015	147,277	3,526	2,087	152,890
2016	155,220	4,219	2,232	161,671
2017	162,973	3,732	2,975	169,680
2018	170,370	3,583	2,192	176,145
2019	$179,424	$3,546	$3,322	$186,292

SCHEDULE OF BENEFIT EXPENSES BY TYPE

(Estimated Based upon Annualized Benefit Amounts as of December 31 of each year)
(Dollars in Thousands)

	2019	2018	2017	2016	2015
Service Retirement Payroll:					
General	$121,503	$117,058	$111,380	$107,281	$101,918
Safety	30,507	28,353	26,318	24,488	23,137
Total	152,010	145,411	137,698	131,769	125,055
Disability Retiree Payroll:					
General	7,321	7,391	7,450	7,298	7,141
Safety	12,836	11,856	11,232	10,818	9,732
Total	20,157	19,247	18,682	18,116	16,873
Beneficiary Payroll:					
General	7,756	7,393	7,083	6,534	6,252
Safety	2,677	2,521	2,345	2,190	2,048
Total	10,433	9,914	9,428	8,724	8,300
Total Benefit Expense:					
General	136,580	131,842	125,913	121,113	115,311
Safety	46,020	42,730	39,895	37,496	34,917
Total	$182,600	$174,572	$165,808	$158,609	$150,228

	2014	2013	2012	2011	2010
Service Retirement Payroll:					
General	$ 97,528	$ 93,074	$ 88,930	$ 78,870	$ 69,774
Safety	21,767	20,708	19,738	17,975	15,703
Total	119,295	113,782	108,668	96,845	85,477
Disability Retiree Payroll:					
General	7,312	7,431	7,286	7,269	7,304
Safety	9,073	8,790	8,494	8,253	8,231
Total	16,385	16,221	15,780	15,522	15,535
Beneficiary Payroll:					
General	5,502	5,387	4,912	4,765	4,416
Safety	1,834	1,748	1,681	1,614	1,566
Total	7,336	7,135	6,593	6,379	5,982
Total Benefit Expense:					
General	110,342	105,892	101,128	90,904	81,494
Safety	32,674	31,246	29,913	27,842	25,500
Total	$143,016	$137,138	$131,041	$118,746	$106,994

Source of data: December 31, 2019 Actuarial Valuation Report
SCERA systems do not provide the level of detail necessary to fully populate this table. Therefore, SCERA actuaries provide an estimate using December 31 data which is then annualized.

SCHEDULE OF RETIRED MEMBERS BY TYPE OF BENEFIT

Summary of Monthly Allowances Being Paid – As of December 31, 2019
(Dollars in Thousands)

	General Members		Safety Members		Total	
	Number	Monthly Allowance	Number	Monthly Allowance	Number	Monthly Allowance
Retired Members						
Service Retirement	3,434	$10,126	545	$2,542	3,979	$12,668
Ordinary Disability	94	124	13	21	107	145
Duty Disability	237	486	304	1,049	541	1,535
Beneficiaries	498	646	125	223	623	869
Total Retired Members	4,263	$11,382	987	$3,835	5,250	$15,217

Source of data: December 31, 2019 Actuarial Valuation Report

SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS
(Estimated Based upon Annualized Benefit Amounts as of December 31 of each year)

	Number of Years of Service						
(Dollars in Thousands)	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
Valuation date 12/31/10							
Final Average Salary	$4,071	$4,365	$4,587	$5,161	$5,526	$5,903	$6,553
Average Monthly Benefit of Retirees	$908	$1,261	$1,544	$2,303	$3,154	$4,274	$5,739
Number Retirees	245	433	789	564	454	334	344
Average Monthly Benefit of Beneficiaries	$883	$788	$835	$1,027	$1,542	$2,024	$2,247
Number Beneficiaries	18	55	87	56	39	40	28
Valuation date 12/31/11							
Final Average Salary	$4,168	$4,475	$4,960	$5,391	$5,882	$6,243	$6,865
Average Monthly Benefit of Retirees	$905	$1,254	$1,630	$2,383	$3,323	$4,434	$5,944
Number Retirees	253	453	853	600	503	356	367
Average Monthly Benefit of Beneficiaries	$874	$724	$865	$1,111	$1,505	$1,988	$2,234
Number Beneficiaries	20	56	91	60	42	41	34
Valuation date 12/31/12							
Final Average Salary	$4,281	$4,683	$5,207	$5,537	$6,113	$6,445	$7,070
Average Monthly Benefit of Retirees	$885	$1,294	$1,716	$2,444	$3,446	$4,556	$6,063
Number Retirees	267	475	917	621	536	388	398
Average Monthly Benefit of Beneficiaries	$868	$715	$875	$1,104	$1,590	$2,006	$2,248
Number Beneficiaries	21	60	91	61	43	40	36
Valuation date 12/31/13							
Final Average Salary	$4,361	$4,843	$5,344	$5,699	$6,329	$6,600	$7,243
Average Monthly Benefit of Retirees	$887	$1,314	$1,761	$2,503	$3,572	$4,640	$6,168
Number Retirees	279	488	955	643	568	407	403
Average Monthly Benefit of Beneficiaries	$827	$696	$893	$1,129	$1,607	$1,984	$2,251
Number Beneficiaries	25	63	95	67	50	43	43
Valuation date 12/31/14							
Final Average Salary	$4,437	$4,946	$5,469	$5,867	$6,439	$6,716	$7,396
Average Monthly Benefit of Retirees	$864	$1,314	$1,798	$2,570	$3,632	$4,719	$6,246
Number Retirees	291	503	987	669	580	424	410
Average Monthly Benefit of Beneficiaries	$759	$763	$936	$1,138	$1,627	$1,979	$2,308
Number Beneficiaries	29	68	96	66	53	41	44

SCHEDULE OF AVERAGE BENEFIT PAYMENT AMOUNTS, *continued*
(Estimated Based upon Annualized Benefit Amounts as of December 31 of each year)

	Number of Years of Service						
(Dollars in Thousands)	0-4	5-9	10-14	15-19	20-24	25-29	30 & Over
Valuation date 12/31/15							
Final Average Salary	$4,414	$5,007	$5,567	$6,005	$6,563	$6,923	$7,583
Average Monthly Benefit of Retirees	$849	$1,329	$1,833	$2,625	$3,703	$4,827	$6,316
Number Retirees	296	519	1,017	687	595	445	419
Average Monthly Benefit of Beneficiaries	$742	$791	$960	$1,322	$1,617	$1,991	$2,317
Number Beneficiaries	29	69	103	75	56	56	49
Valuation date 12/31/16							
Final Average Salary	$5,487	$5,225	$5,587	$5,931	$6,533	$6,712	$7,242
Average Monthly Benefit of Retirees	$857	$1,367	$1,884	$2,711	$3,826	$4,893	$6,368
Number Retirees	310	532	1,045	734	615	455	433
Average Monthly Benefit of Beneficiaries	$661	$791	$975	$1,317	$1,617	$1,998	$2,301
Number Beneficiaries	31	69	109	76	60	58	55
Valuation date 12/31/17							
Final Average Salary	$5,699	$5,381	$5,715	$6,027	$6,594	$6,872	$7,411
Average Monthly Benefit of Retirees	$883	$1,380	$1,928	$2,768	$3,858	$5,004	$6,527
Number Retirees	323	550	1,067	767	631	464	438
Average Monthly Benefit of Beneficiaries	$744	$805	$961	$1,280	$1,930	$2,000	$2,487
Number Beneficiaries	32	73	110	77	67	58	58
Valuation date 12/31/18							
Final Average Salary	$6,003	$5,576	$5,857	$6,159	$6,743	$7,026	$7,475
Average Monthly Benefit of Retirees	$884	$1,405	$1,973	$2,844	$3,963	$5,130	$6,604
Number Retirees	333	566	1,097	793	662	482	444
Average Monthly Benefit of Beneficiaries	$784	$791	$1,002	$1,348	$1,907	$1,994	$2,470
Number Beneficiaries	35	77	115	80	68	63	61
Valuation date 12/31/19							
Final Average Salary	$6,328	$5,742	$5,997	$6,271	$6,830	$7,053	$7,630
Average Monthly Benefit of Retirees	$861	$1,415	$2,019	$2,903	$4,010	$5,180	$6,743
Number Retirees	351	590	1,126	816	690	495	456
Average Monthly Benefit of Beneficiaries	$779	$805	$1,054	$1,337	$1,929	$1,990	$2,465
Number Beneficiaries	36	81	115	83	74	64	67

Source of data: December 31, 2019 Actuarial Valuation Report

PARTICIPATING EMPLOYERS AND ACTIVE MEMBERS
As of December 31 of each year

	Total-All Employers	County of Sonoma	Water Agency	Valley of the Moon Fire	Community Development Commission	Transportation Authority	Superior Court
Year 2019							
Number of Covered Employees	4,040	3,536	215	50	46	14	179
Percentage to Total System	100%	87.52%	5.32%	1.24%	1.14%	0.35%	4.43%
Year 2018							
Number of Covered Employees	4,021	3,526	217	47	40	13	178
Percentage to Total System	100%	87.69%	5.40%	1.17%	.99%	0.32%	4.43%
Year 2017							
Number of Covered Employees	4,110	3,608	217	46	43	12	184
Percentage to Total System	100%	87.79%	5.27%	1.12%	1.05%	0.29%	4.48%
Year 2016							
Number of Covered Employees	4,112	3,612	219	40	41	12	188
Percentage to Total System	100%	87.84%	5.33%	0.97%	1.00%	0.29%	4.57%
Year 2015							
Number of Covered Employees	4,071	3,577	215	41	39	11	188
Percentage to Total System	100%	87.87%	5.28%	1.00%	0.96%	0.27%	4.62%
Year 2014							
Number of Covered Employees	3,922	3,465	202	39	35	10	171
Percentage to Total System	100%	88.35%	5.15%	1.0%	0.89%	0.25%	4.36%
Year 2013							
Number of Covered Employees	3,833	3,383	195	40	31	10	174
Percentage to Total System	100%	88.26%	5.09%	1.04%	0.81%	0.26%	4.54%
Year 2012							
Number of Covered Employees	3,620	3,176	187	40	30	10	177
Percentage to Total System	100%	87.73%	5.17%	1.10%	0.83%	0.28%	4.89%
Year 2011							
Number of Covered Employees	3,587	3,150	183	16	36	8	194
Percentage to Total System	100%	87.82%	5.10%	0.45%	1.00%	0.22%	5.41%
Year 2010							
Number of Covered Employees	3,780	3,322	184	16	41	9	208
Percentage to Total System	100%	87.89%	4.87%	0.42%	1.08%	0.24%	5.50%

Source of data: SCERA systems

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