

Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 2018

2017-2018



Fresno County Employees' Retirement Association

A Pension Trust Fund for the County of Fresno
And Participating Employers
Fresno, California

COMPREHENSIVE ANNUAL FINANCIAL REPORT

FOR THE FISCAL YEAR ENDED JUNE 30, 2018

ISSUED BY

DONALD C. KENDIG, CPA
RETIREMENT ADMINISTRATOR

and

DORIS RENTSCHLER
ASSISTANT RETIREMENT ADMINISTRATOR

FCERA

FRESNO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
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FRESNO, CALIFORNIA 93711
www.FresnoCountyRetirement.org

A Pension Trust Fund for the County of Fresno
and Participating Employers

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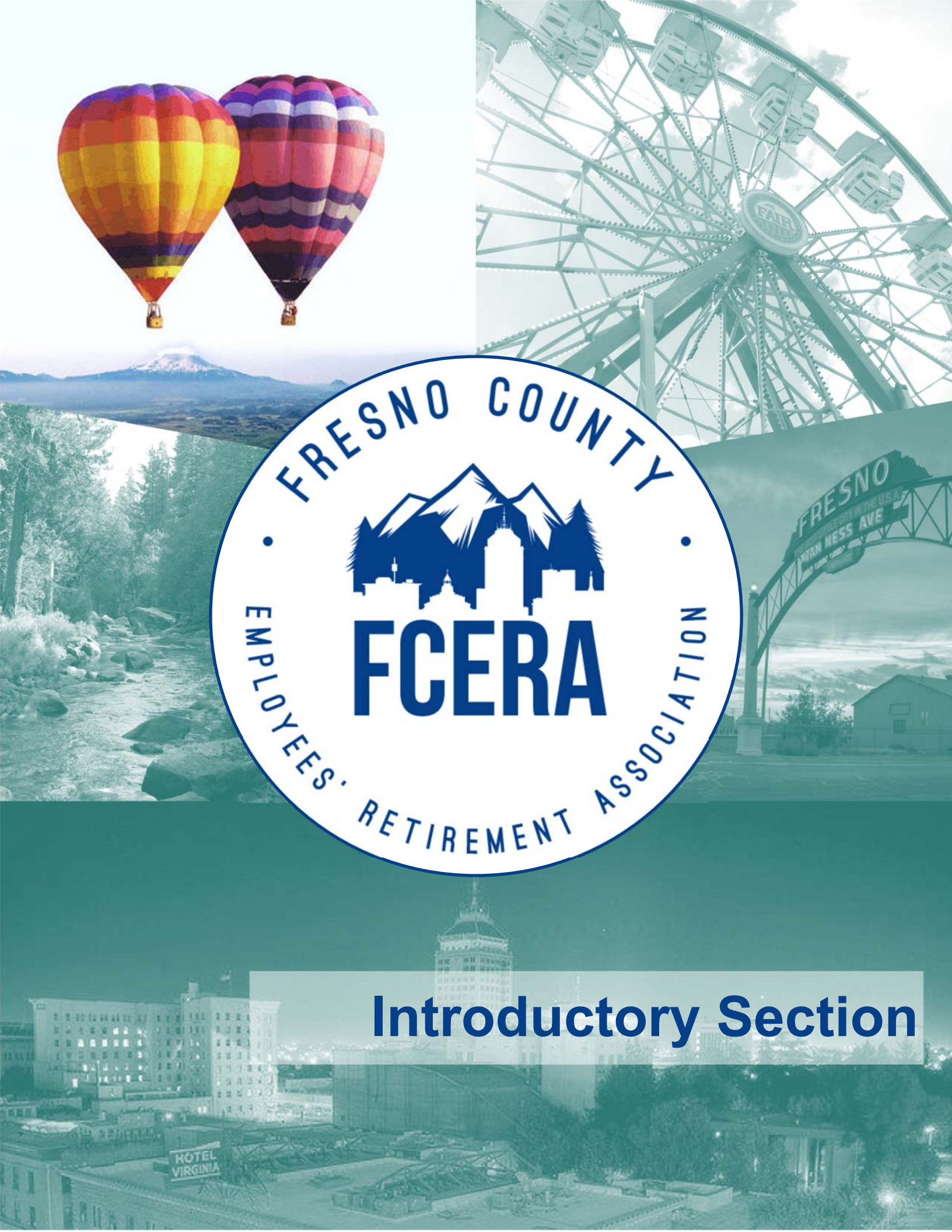
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Introductory Section



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December 19, 2018

Board of Retirement
Fresno County Employees' Retirement Association
7772 N Palm Ave
Fresno, CA 93711

Dear Board Members:

I am pleased to present this Comprehensive Annual Financial Report ("CAFR") for the Fresno County Employees' Retirement Association ("FCERA"), sometimes referred to as the Association, for the fiscal year ended June 30, 2018.

The CAFR provides members, sponsors/employers, policy makers, regulatory agencies and other users with a thorough and accurate review of the fiscal year's operations, from July 1 to June 30.

In addition, the CAFR serves as a source of reliable information for making responsible management decisions, determining compliance with legal requirements and demonstrating the stewardship of the Board of Retirement of the Fresno County Employees' Retirement Association ("Board"), staff and key consultants who serve the members of FCERA. While good stewardship is clearly demonstrated by the data contained in the CAFR, it is important to note that the management of FCERA is responsible for both the accuracy of the data and the completeness and fairness of the presentation of the financial information, including all disclosures. The accumulation, analysis and presentation of the data rest upon the shoulders of management and supporting staff, and I am thankful to all members of the FCERA team.

Generally Accepted Accounting Principles (GAAP) require that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal provides a broader context as compared to the MD&A, and the two should be read in tandem. The MD&A can be found immediately following the Independent Auditor's Report in the Financial Section.

FCERA MISSION STATEMENT AND CORE VALUES

Our mission is to administer the retirement benefits for the members and beneficiaries in a courteous, accurate, prompt and professional manner, while administering fund assets in a manner that achieves investment and funding objectives within prudent levels of risk.

Excellence • Professionalism • Teamwork • Integrity • Accountability • Innovation

"The County of Fresno is an Equal Employment Opportunity Employer."

Letter of Transmittal continued

In carrying out this mission, we endeavor to:

- Honor our fiduciary duties set out in laws that govern fiduciaries
- Exhibit accuracy, honesty and integrity in all of our work
- Coordinate our efforts with professionals and advisors
- Render timely and responsive service to members and partner organizations
- Work as a team to solve members' problems and overcome challenges
- Exercise relentless diligence in operations and prudent management of assets
- Provide regular, accessible and effective education to employees, members and others

FCERA AND ITS SERVICES

FCERA is a cost-sharing multiple employer public retirement system established by the County of Fresno (the "County") Board of Supervisors on January 1, 1945 to provide retirement, disability, death and survivor benefits for its members under the California State Government Code, Section 31450 *et. seq.* (the County Employees Retirement Law of 1937, hereinafter "CERL") and Section 7522 *et. seq.* (the Public Employees' Pension Reform Act of 2013, hereinafter "PEPRA"). The retirement plan is administered by the Board, which consists of nine voting members and a retiree alternate, who are presented on page 11 of the Introductory Section.

FCERA is governed by the California Constitution, CERL, PEPRA, and regulations, procedures, and policies adopted by the Board. The Fresno County Board of Supervisors may also adopt resolutions, as permitted by the CERL, which may affect benefits for FCERA members.

The Board is responsible for establishing policies governing the administration of the retirement plan, determining benefit allowances, and managing the investments of the Association's assets. The Board defines the duties and oversees the activities of the Retirement Administrator, who in turn, directs and oversees the staff and operations of the Administrative Office.

Participating employer entities ("Sponsors") include:

- County of Fresno
- Superior Court of California, County of Fresno
- Clovis Veterans Memorial District
- Fresno-Madera Area Agency on Aging
- Fresno Mosquito & Vector Control District

FINANCIAL INFORMATION

As mentioned previously, management is responsible for the accuracy, completeness, fair presentation of information and all disclosures in this Report. In addition, management is also responsible for establishing and maintaining an internal control structure designed to provide reasonable assurance that FCERA's financial reporting is accurate and reliable. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived, and the valuation of the cost and benefits requires estimates and judgments by management.

Brown Armstrong Accountancy Corporation (the "Auditor") provides financial statement independent audit services to FCERA. The Auditor attests that these financial statements are presented in accordance with GAAP and that the financial statements are free of any material misstatement. Management is responsible for assuring that internal accounting controls are sufficient to provide reasonable assurance regarding the safekeeping of assets and fair presentation of the financial statements and supporting schedules. Controls have inherent limitations and do rely on human diligence. Because of these inherent limitations, the internal controls are not exact in their nature, which may lead to the risk that errors or misstatements may occur and may not be identified immediately. FCERA's current management believes it has prudent and sufficient controls in place to mitigate the inherent risk within its financial reporting and accounting systems.

The accompanying financial statements and transactions are prepared on an accrual basis of accounting. Revenues are recognized when earned, regardless of the date of collection and expenses are recognized when incurred, regardless of when a corresponding cash outlay is made.

GENERAL OPERATIONS

Administering the retirement benefits *for the members and beneficiaries in a courteous, accurate, prompt and professional manner* begins with ongoing direct services to active and retired members, efficient management of the office and business operations, and facilitating the work of the Board, advisors, and professional service providers. Several noteworthy events and major ongoing projects required particular attention and effort during the year.

Board Oversight

Dr. Rod Coburn, III served as Chair of the Board with Steven J. Jolly serving as Vice Chair for the first half of the fiscal year (July 1 to December 31, 2017) and Nathan Magsig served as Chair of the Board with Robert Dowell serving as Vice Chair for the second half of the fiscal year (January 1 to June 30, 2018) with their terms as officers set to expire December 31, 2018. The Board had four changes during the fiscal year. The August 2, 2017 meeting was Alan Cade, Jr.'s last meeting, creating a vacancy that was filled by John Adams on November 16, 2017 via a special election. During the normal election in 2018, Trustee Adams, ran unopposed to fill his first full term starting January 1, 2019 and ending December 31, 2021. During the normal election in 2018, Laura Basua retired, and Riley Talford was elected to replace her with an initial term starting

Letter of Transmittal continued

January 1, 2018 through December 31, 2020. Also, Eulalio Gomez was replaced by John Robinson as Elected Safety Member with Trustee Robinson's initial term starting January 1, 2018 and ending December 31, 2020. Lastly, the Board had an appointed member vacancy starting with the October 18, 2017 regular Board meeting with the departure of Greg Baxter, which lasted until August 14, 2018 with the Board of Supervisor's appointment of Stanley ("Stan") L McDivitt shortly after fiscal year end. Our longest standing members, Jolly (2004), Coburn (2012), Dowell (2013) and Rogozinski (2013), provide a good anchor and continuity, and our intermediate members provide good leadership, Magsig (2017) and Garcia (2016), for our newest members, Adams (late 2017), Robinson (2018) and Talford (2018). While Trustee McDivitt (mid 2018) is new to our Board, he has over two decades of public pension plan administration experience with the City of Fresno Retirement Systems.

Administration

The most significant project during the fiscal year was the construction of new offices at 7772 & 7778 North Palm Avenue, with the process to sell FCERA's 1111 H Street offices completed/closed on September 29, 2017. Construction commenced in June of 2017 with the focus on the 7778 office building being move-in ready by September 27, 2017. This goal was accomplished and the second building located at 7772 North Palm Avenue being useable on January 16, 2018. Even with the temporary occupancy permits in place, permanent occupancy permits were not attained until after fiscal year end, and as of October 2018, final closeout is still pending.

The purchase of a three office building "Forever Campus" started with the opening of escrow in April of 2016 after an extensive citywide search and has now concluded. No one building within City limits had the requisite size requirements of 18,000 to 20,000 square feet, and the "Palm Bluffs" development offered the opportunity for new construction of two 9,000 square foot buildings and the acquisition of a third adjacent building for an immediate investment opportunity and long term expansion options. FCERA formed a limited liability company, FCERA Realty Group LLC (the "LLC"), to acquire the properties and is currently leasing the two buildings from the LLC. The LLC also holds a third office building, 7766 North Palm Avenue, which is currently 33% leased. Separate financial statements for the LLC may be found on FCERA's website, and the LLC investment is reported in FCERA's Statement of Fiduciary Net Position in the real estate investment balances.

Staffing, Operations, and Benefit Delivery

We have reopened the office to the public from 4:00-5:00 p.m. and have kept the office closed to the public between the hours of 8:00-9:00 a.m., in addition to our noon lunch hour closure. The hour in the morning allows for Association wide staff meetings and training as well as other administrative tasks and meetings within the units. FCERA will be losing another (now veteran) Systems and Procedures Analyst, Kim Z., to the Public Defenders Office and she will be sorely missed. We have hired Elizabeth V. to the Accounting Unit, and Michelle H. and Unique A. to the Benefits Division. Our Supervising Account Clerk promoted to a reciprocal retirement system and we filled the vacancy through an internal promotion. We currently have a vacancy in the Accounting Unit at the Account Clerk level and a vacancy in the Information Technology Unit at the Systems and Procedures Analyst level.

Letter of Transmittal continued

The Board conceptually approved the addition of a Retirement Investment Officer and Retirement Investment Analyst position to our available positions. This is just the first step of many, where 1) FCERA staff will work with the County Human Resources Department to draft final job specifications and salary ranges, 2) the County will consider whether or not to add to the County positions listing, 3) the Board of Retirement will consider whether or not to budget for, and add to, the position listing, and then 4) we will recruit for whichever has been approved, or both. Management estimates that it will take 12 to 18 months to get to the recruitment phase.

Systems

With the completion of a new pension administration system and accompanying member web portal, staff turned its attention to a planned upgrade to our General Ledger accounting system (Microsoft Dynamics NAV) which will start in November 2018 and should complete in January 2019. This upgrade is necessary to keep the system functioning with the latest version of Windows and to continue the system's maintenance.

We also installed an upgrade to our document imaging system (OnBase) needed for our latest version of Windows and capable of providing better document indexing, as well as drag and drop technology, allowing staff to drag and drop emails and other documents, as supporting member documentation, for later retrieval and review.

ASSET MANAGEMENT AND INVESTING

The Investment Policy Statement (the "IPS") adopted by the Board defines the framework within which the administration, general consultant and third party investment managers endeavor to meet our mission to *...achieve investment and funding objectives within prudent levels of risk.*

The overall strategic asset allocation has a greater impact on investment performance than portfolio manager selection or the timing of allocations. The asset allocation process determines a fund's optimal target allocations, which are expected to achieve the fund's objectives related to expected return, liquidity and risk (defined as volatility). This is reflected through the choice of investments at the asset class level.

Under the IPS the Board operates under a standard of fiduciary care in California commonly known as the "prudent person rule" which requires that the Board discharge its duties with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims. When the Board contracts with professional investment advisors, their discretion is defined by our IPS and the discretion provided by contract and guidelines prescribed by the Board. In exercising discretion when managing assets, such service providers become co-fiduciaries to the members.

The prudent person rule requires the Board to diversify the investments of the fund, unless it is clearly prudent not to do so under the circumstances. The Board therefore makes fundamental (basic) policy decisions with respect to the fund, including, but not limited to, the strategic

Letter of Transmittal continued

allocation of assets to various investment classes as outlined in the IPS. As of June 30, 2018 (“2018”), the categorical targets were as follows, and remain unchanged from June 30, 2017. The table below displays the future asset allocation targets to be achieved through September 30, 2021:

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Sep, 30, 2021</u>
• Equities.....	36 %	40 %	44 %	48 %	49 %
• Fixed Income	31 %	27 %	25 %	23 %	23 %
• Real Assets	11 %	11 %	10 %	9 %	8 %
• Private Credit and Private Equity.....	14 %	14 %	14 %	14 %	14 %
• Hedge Strategies	8 %	8 %	7 %	6 %	6 %

The Board adopted changes to its IPS on September 5, 2018 incorporating approved asset allocation changes made during its fiscal year 2017-18 Asset/Liability Study. The Board intends to increase FCERA’s allocation to Equities by 13% over the next three years with offsetting decreases to Fixed Income totaling 8%, Real Assets totaling 3%, and Hedge Strategies totaling 2% over the same three years. Should abrupt market changes occur, the Board may accelerate its transition. This action reverses some of the changes made during the 2013-14 fiscal year, where the Board made significant changes to the strategic asset allocation reducing Equities 17%, from 53%, increasing Fixed Income 5%, from 26%. At that time, the Board and Verus endeavored to design an asset allocation that would weather a low-return market environment for the next 5 to 10 years, and reduce FCERA’s vulnerability to any significant market downturns, similar to those experienced in 2000 and 2008.

Under both asset/liability studies, the Board received input from the County of Fresno (the “County”) concerning its risk appetite. The spirit of the communications from the County are incorporated into the September 5, 2018 IPS, so that they will not be forgotten by future leaders.

FCERA has fallen from above average to below average, relative to its public fund peers, as of late, and this is primarily due to Equities rallying for the last 5 years. This relative underperformance has been difficult for the Board and County to stomach. Staff remains neutral.

While the increase to Private Credit and Private Equity took place during the 2013-14 fiscal year, it is taking time to substantially fund the allocations primarily due to the illiquidity and cyclical nature of the fund offerings. The Board took action to accelerate the funding by retaining Hamilton Lane on a discretionary basis to build out the Private Equity allocation and The Carlyle Group on a discretionary basis to build out the Private Credit allocation. Full funding is anticipated within the next three years.

The Board terminated Ivy Investments for operational concerns and selected T Rowe Price for FCERA’s Large Cap Growth Stock allocation. Further, the Board divided Mondrian Investment Partner’s Emerging Markets Equity allocation in half, awarding the mandate to Baillie Gifford. The

transition for both allocations took place after fiscal year end.

ACTUARIAL FUNDING STATUS

The CERL prescribes that the Board should engage a qualified, independent actuarial firm to perform regular valuations of the retirement plan. Further, a detailed study of the retirement plan's economic and non-economic assumptions (forecast parameters) is undertaken every three years, wherein the fund actuary makes recommendations to the Board regarding the assumptions to be used to measure the liabilities and assets of the fund. The primary purpose for these studies is to help determine the actuarially required (and stable) level of contributions needed to meet costs associated with annually accruing benefit commitments (normal cost) and eliminate any past unfunded liabilities (Unfunded Actuarial Accrued Liability or "UAAL") within an accepted amortization period.

The actuarial valuation as of June 30, 2017, completed by Segal Consulting, determined that the ratio of plan assets to plan liabilities was 80.3%, based on a valuation value of assets, which represented an increase over the same ratio on June 30, 2016, of 78.2%. Our funding policy employs a five-year "smoothing" methodology, whereby 20% of a fiscal year's market loss, or gain, in a given fiscal year, is recognized over each of five succeeding years to dampen the "noise" of short-term investment market volatility, creating a lesser "actuarial" loss, or gain. This results in five year "layers" of actuarial losses and gains, resulting in one net actuarial loss or gain that goes into the valuation and determination of employer contributions. In addition, the policy imposes an absolute "corridor" of +/- 30% to the actuarial valuation value of assets (VVA) relative to the market value of assets (MVA). This constrains the variance between the VVA and MVA and prevents the employer contribution requirements from not being sufficient on one side of the corridor, or from being too high on the other side of the corridor. These techniques are used to produce reliable, stable and incrementally manageable changes to required contributions for participating employers.

This is the second fiscal year of the Board adopted an assumed rate of return of 7.00%, gross of administration and net of investment expenses for Fiscal Year (FY) 2018. The Board also adopted a 3.0% inflation rate, and an across-the-board salary increase of 0.5% above inflation. The assumed rate of return has a direct effect on employer contributions relative to market performance. This means that any return of less than 7.00% is considered an actuarial loss, and actuarial gains are not realized until after 7.00% has been exceeded.

The explicit administrative expense assumption was 1.10% of payroll effective with the June 30, 2016 experience study. The 1.10% is allocated to both the employers and members based on the components of the total average contribution rates (before expenses) resulting in an Administrative Expense Load of 0.94% for employers and 0.16% for members.

BUDGET

The first part of our mission is to *administer the retirement benefits for the members and*

Letter of Transmittal continued

beneficiaries in a courteous, accurate, prompt and professional manner...

Government Code Section 31580.2(a) requires the Board to annually adopt a budget covering the entire expense of administration of the retirement system. The total administrative expenses, which are funded as a component of the member and employer contribution rate, may not exceed the greater of twenty-one hundredths of one percent of the accrued actuarial liability of the system, or two million dollars (\$2,000,000), as adjusted annually by the amount of the annual cost of living adjustment, which is the legislative cap (CAP) on spending.

Government Code Section 31580.2(b) provides an exclusion from the CAP for expenses for computer software, computer hardware, and computer technology consulting services in support of these computer products. These costs are identified as information technology costs herein. While these costs are excluded from the CAP, they are subject to the approval of the Board.

Government Code Section 31596.1 provides that the following types of expenses shall not be considered a cost of administration of the retirement system, but shall be considered as a reduction in earnings from those investments or a charge against the assets of the retirement system as determined by the Board:

- (a) The costs, as approved by the board, of actuarial valuations and services rendered pursuant to Section 31453.
- (b) The compensation of any bank or trust company performing custodial services.
- (c) When an investment is made in deeds of trust and mortgages, the fees stipulated in any agreement entered into with a bank or mortgage service company to service such deeds of trust and mortgages.
- (d) Any fees stipulated in an agreement entered into with investment counsel for consulting or management services in connection with the administration of the board's investment program, including the system's participation in any form of investment pool managed by a third party or parties.
- (e) The compensation to an attorney for services rendered pursuant to Section 31607 [investment related work] or legal representation rendered pursuant to Section 31529.1 [LACERA specific].

The cost of these items are controlled through contract negotiations and are not subject to the Administrative budget process, primarily due to the legally mandated aspects of the actuarial valuations, the fiduciary requirements of hiring investment consulting and investment related legal services, and the de facto fees required to obtain market exposure and to track the investments. These items are not included in the Fiscal Year 2017-18 Proposed Administrative Budget.

For fiscal year ended June 30, 2018, administrative expenses of \$5,676,721 represented 0.10% of the accrued actuarial liability of the plan of \$5,643,444,000. Administrative expenses have

historically been well below the statutory limit.

CERTIFICATE OF ACHIEVEMENT

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to FCERA for its CAFR for the fiscal year ended June 30, 2017, on page 10 of the Introductory Section, which marks twenty-one consecutive years that FCERA has achieved this prestigious award. FCERA also received the GFOA award for Outstanding Achievement in Popular Annual Financial Reporting (PAFR). The PAFR provides FCERA's membership with condensed and concise information in an easier to read format than is presented in the CAFR.

ACKNOWLEDGMENTS

The preparation of this CAFR reflects the combined efforts of the FCERA staff Doris Rentschler, Conor Hinds and their supportive staff, and the consultants, Verus, Segal Consulting, and Brown Armstrong Accountancy Corporation, all who made significant contributions of time, effort, and expertise.

Lastly, FCERA is a large and complex organization with many contributors to its success. For their commitment to FCERA and for their diligent work to assure FCERA's continued successful operation, sincere thanks are owed to the Board of Retirement trustees, all FCERA staff, and all of our experts and advisors.

Respectfully submitted,

A handwritten signature in black ink that reads "Donald C. Kendig". The signature is written in a cursive, flowing style.

Donald C. Kendig, CPA
Retirement Administrator



Government Finance Officers Association

**Certificate of
Achievement
for Excellence
in Financial
Reporting**

Presented to

**Fresno County
Employees' Retirement Association
California**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2017

Christopher P. Morrell

Executive Director/CEO

The Board of Retirement As of June 30, 2018



CHAIRMAN
NATHAN MAGSIG, MBA, MS
Appointed by Board of Supervisors
Present term expires December 31, 2019



VICE CHAIRMAN
ROBERT DOWELL
Elected by Retirees
Present term expires December 31, 2019



MEMBER
JOHN ADAMS
Elected by General Members
Present term expires December 31, 2021



MEMBER
ROD COBURN, III, DDS
Appointed by Board of Supervisors
Present term expires December 31, 2018



MEMBER
OSCAR J. GARCIA, CPA
Auditor-Controller/Treasurer-Tax Collector
Ex-Officio Trustee



MEMBER
STEVEN JOLLY
Appointed by Board of Supervisors
Present term expires December 31, 2019



MEMBER
JOHN ROBINSON
Elected by Safety Members
Present term expires December 31, 2020



MEMBER
RILEY TALFORD
Elected by General Members
Present term expires December 31, 2020

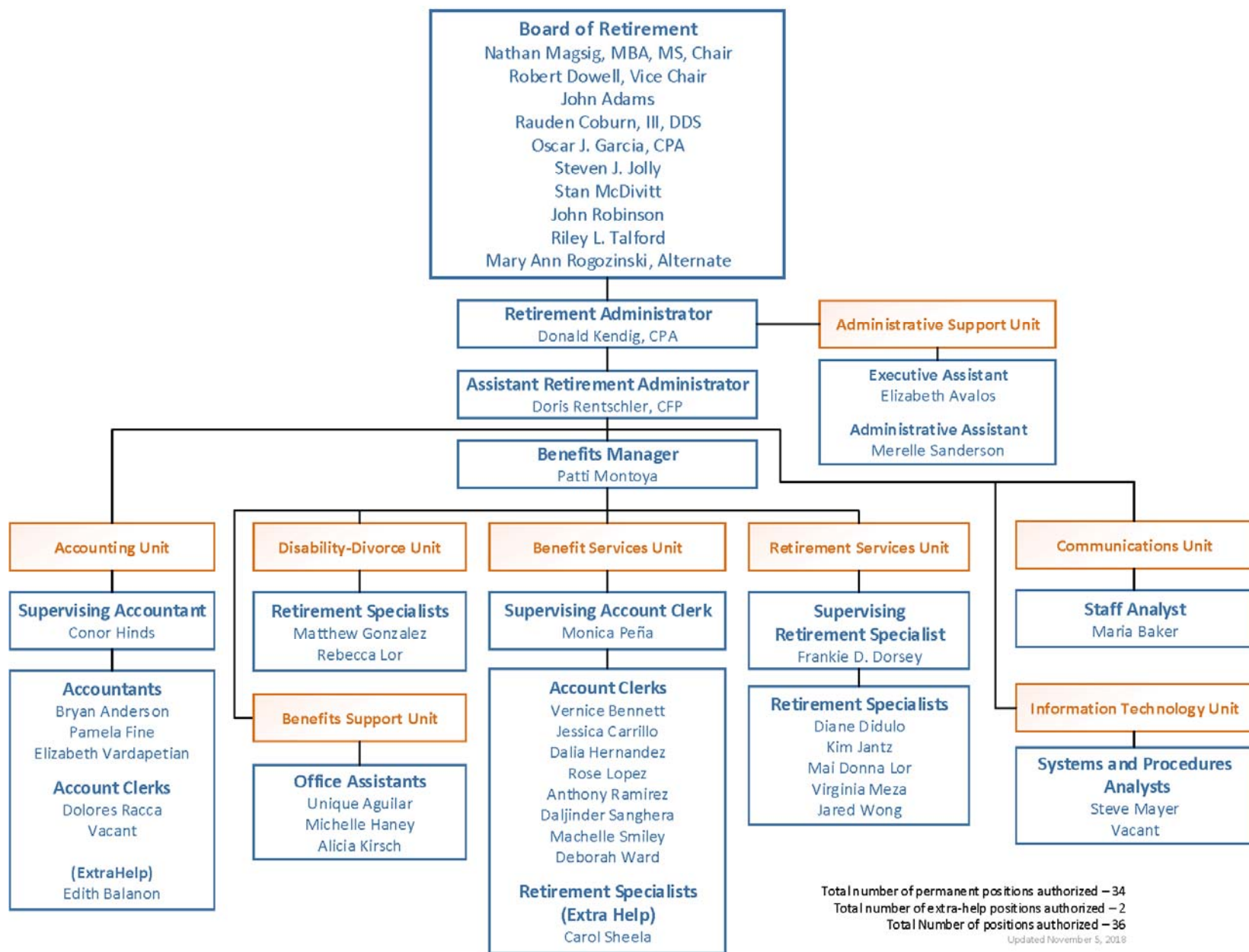


MEMBER
VACANT
Appointed by Board of Supervisors
Present term expires December 31, 2020



ALTERNATE RETIRED MEMBER
MARY ANN ROGOZINSKI
Alternate Retired Member - Elected by Retirees
Present term expires December 31, 2019

Administrative Organization Chart



List of Professional Consultants

Actuarial Services

- Actuary: Segal Consulting

External Audit Services

- Auditor: Brown Armstrong Accountancy Corporation

Commission Recapture Services

- Commission Recapture Manager: Cowen Group

Custodial Services

- Custodian Bank: Northern Trust

Investment Consulting Services

- General Investment Consultant: Verus
- Hedge Fund Consultant: Grosvenor Capital Management L.P.
- Private Credit Consultant: The Carlyle Group
- Private Equity Consultant: Hamilton Lane

Legal Services

- Board Counsel: Baker, Manock & Jensen PC
- Disability Hearing Counsel: Fresno County Counsel
- Fiduciary Counsel: Reed Smith LLP
- Investment Counsel: Foster Pepper PLLC
- Securities Monitoring & Litigation Counsel:
 - Bernstein Litowitz Berger & Grossmann LLP
 - Cohen Milstein Sellers & Toll PLLC
 - Berman Tobacco

Securities Lending Services

- Asset Servicer: Northern Trust

Pension Management System Services

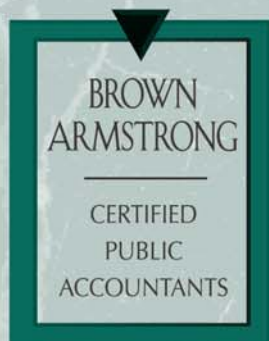
- Arrivos System Support: Tegrit Group

A complete list of Investment Managers, Schedule of Fees, and Schedule of Commissions can be found on pages 71, 72, and 73 of the Investment Section.

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Financial Section



BROWN ARMSTRONG

Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

To the Audit Committee and Board of Retirement of
Fresno County Employees' Retirement Association
Fresno, California

Report on the Financial Statements

We have audited the accompanying Statement of Fiduciary Net Position of the Fresno County Employees' Retirement Association (FCERA) as of June 30, 2018, the related Statement of Changes in Fiduciary Net Position for the fiscal year then ended, and the related notes to the financial statements, which collectively comprise FCERA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to FCERA's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of FCERA'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.

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Opinion

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the fiduciary net position of FCERA as of June 30, 2018, and the changes in fiduciary net position for the fiscal 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 and required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by 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 required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on FCERA'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 in the basic financial statements or to the 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.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 6, 2018, on our consideration of FCERA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering FCERA's internal control over financial reporting and compliance.

Report on Summarized Comparative Information

We have previously audited FCERA's June 30, 2017, financial statements, and our report dated December 6, 2017, expressed an unmodified opinion on those audited financial statements. In our opinion, the summarized comparative information presented herein as of and for the fiscal year ended June 30, 2017, is consistent in all material respects, with the audited financial statements from which it has been derived.

BROWN ARMSTRONG
ACCOUNTANCY CORPORATION

*Brown Armstrong
Accountancy Corporation*

Bakersfield, California
December 6, 2018

Management's Discussion and Analysis as of June 30, 2018

We are pleased to provide this overview and analysis of the financial activities of the Fresno County Employees' Retirement Association (FCERA) for the years ended June 30, 2018 and 2017. We encourage readers to take into account the information presented here in conjunction with additional information that we have furnished in the Letter of Transmittal, as well as the Financial Statements.

Financial Highlights

- FCERA's net position at the close of fiscal year 2018 totaled \$4.7 billion (net position restricted for pension benefits), an increase of \$292.6 million, or 6.6% from 2017, primarily as a result of the net appreciation in the Fair Value of Investments.
- Total additions, as reflected in the Statement of Changes in Fiduciary Net Position, for the year ended June 30, 2018, were \$561.8 million, which includes employer and employee contributions of \$249 million, investment income of \$312.3 million, and net securities lending income of \$421 thousand.
- Employer contributions increased from \$198.4 million in fiscal year 2017 to \$210.5 million in fiscal year 2018 primarily as the result of an increase in contribution rates attributed to the effect of changes in actuarial assumptions, an increase in total payroll, and the effect of investment income on the valuation value of assets. Contribution rates are applied on a July 1 through June 30 fiscal year basis and increased as of July 1, 2017.
- Plan member contributions increased for fiscal year 2018 when compared to 2017, mainly due to an increase in contribution rates resulting from the effect of changes in the actuarial assumptions. For fiscal years 2018 and 2017, plan member contributions were \$38.5 million and \$36.3 million, respectively.
- Total deductions, as reflected in the Statement of Changes in Fiduciary Net Position, increased from \$254.7 million to \$269.1 million over the prior year, or approximately 5.7%, mainly attributed to the pension payroll. Benefits paid to retirees and beneficiaries increased from \$247.5 million in 2017 to \$260.8 million in 2018, or approximately 5.4%. This increase can be attributed to an increase in the number of new retirees and an annual cost of living (COLA) increase.
- FCERA's funding objective is to meet long-term benefit obligations through contributions and investment income. As of June 30, 2017, the date of FCERA's last actuarial valuation, the funded ratio for FCERA was 80.3%. In general, this indicates that for every dollar of projected benefits due FCERA has approximately \$0.80 to cover its obligation.
- The global economy improved over fiscal year ended June 2018. FCERA's investment portfolio earned 7.2% return net of fees across its major asset classifications with

Management's Discussion and Analysis as of June 30, 2018 continued

domestic equity returning 16.5%, international equity assets returned 5.3%, while the fixed income portfolio returned 0.9%, real estate returned 6.5%, infrastructure returned 18.1%, hedge funds returned 5.3%, commodities returned 12.4%, private equity and private credit returned 17.7% and 8.5%, respectively.

Overview of the Financial Statements

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

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

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

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

The Statement of Changes in Fiduciary Net Position provides a view of current fiscal year additions to and deductions from the plan. The trend of additions versus deductions to the plan will indicate whether FCERA's financial position is improving or deteriorating over time.

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

All of the current year's additions and deductions are taken into account regardless of when 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, and all capital assets are depreciated over their useful lives.

Other factors, such as market conditions, should be considered in measuring FCERA's overall financial strength.

Management's Discussion and Analysis as of June 30, 2018 continued

The Notes to the Basic Financial Statements are an integral part of the financial report and provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes provide detailed discussion of key policies, programs, and activities that occurred during the fiscal year.

Required Supplementary Information In addition to the basic financial statements and accompanying notes, this report presents certain required supplementary information as of the latest actuarial valuation concerning FCERA's progress in funding its obligations to provide pension benefits to members. Included are the Schedule of Employer Contributions, Schedule of Investment Returns – Pension Plan, Actuarial Methods and Assumptions, and Schedule of Changes in Net Pension Liability and Related Ratios. Each schedule presents historical trend information about annual required contributions of the employer and the actual contributions made, investment returns of the Plan and the overall net pension liability as well as funded position. Actuarial Methods and Assumptions point to important criteria used in the determination of the Plan's required contributions to achieve full funding of the Plan. These schedules provide information to help promote understanding of the changes in the funded status of the Plan over time.

Other Supplementary Information The schedules of administrative expenses, administrative budget analysis, information technology expenses, investment expenses, and payments to consultants are presented following the Required Supplementary Information.

Financial Analysis

As of June 30, 2018, FCERA has \$4.7 billion in net position restricted for pension benefits, which means that assets of \$4.8 billion exceed operational liabilities of \$63.6 million. At June 30, 2017, FCERA's net position restricted for pension benefits totaled \$4.4 billion. The net position restricted for pension benefits is available to meet FCERA's ongoing obligation to plan participants and their beneficiaries.

As of June 30, 2018, the net position restricted for pension benefits increased by 6.6% compared to 2017, primarily due to the changes in the fair value of investments. Current assets and current liabilities also changed by offsetting amounts due to the recording of the securities lending cash collateral.

Capital Assets

FCERA's investment in capital assets increased from \$10.8 million to \$11.5 million (net of accumulated depreciation and amortization). The investment in capital assets includes the administrative building, pension administration system, servers, equipment, and furniture. The total increase in FCERA's investment in capital assets from 2017 to 2018 was 6.7%. Construction of the new FCERA campus buildings are the primary reason for the increase in capital assets at June 30, 2018 when compared to capital assets at June 30, 2017.

Management's Discussion and Analysis as of June 30, 2018 continued

FCERA follows the California Government Code Section 31580.2 that states that expenses for software, hardware, and computer technology consulting services in support of the computer products shall not be a cost of the administration of the retirement system. During fiscal year 2018, FCERA's expenses for software, hardware, and computer technology consulting services increased to \$529,443 from \$448,016 in fiscal year 2017, primarily due to pension administration system support, maintenance and modifications along with the upgrade to the Electronic Document Management System.

Net Position Restricted for Benefits

As of June 30, 2018 and 2017

(Dollars in Thousands)

	2018	2017	% Change 2018-2017
Current Assets	\$ 358,822	\$ 389,787	-7.9%
Investments	4,393,096	4,059,989	8.2%
Capital Assets, net	11,512	10,793	6.7%
Total Assets	4,763,430	4,460,569	6.8%
Total Liabilities	63,559	53,347	19.1%
Net Position			
Restricted for Benefits	\$ 4,699,871	\$ 4,407,222	6.6%

FCERA has annual valuations completed by its independent actuary, Segal Consulting. The purpose of the valuation is to determine the future contributions by the members and employers needed to pay all the expected future benefits. Despite variations in the stock market, FCERA's management and independent actuary concur that FCERA remains in a financial position that will enable the plan to meet its obligations to participants and beneficiaries. FCERA remains focused on the long-term performance of the Plan, on a strong and successful investment program, risk management, and strategic planning.

FCERA's Activities

Changes in FCERA's Fiduciary Net Position

For the Fiscal Years Ended June 30, 2018 and 2017

(Dollars in Thousands)

	2018	2017	% Change 2018-2017
Employer Contributions	\$ 210,535	\$ 198,472	6.1%
Plan Member Contributions	38,467	36,259	6.1%
Net Investment Income, before Securities Lending	312,349	417,156	-25.1%
Net Securities Lending Income	421	525	-19.8%
Total Additions	561,772	652,412	-13.9%
Pension Benefits	260,823	247,491	5.4%
Refunds	2,408	2,356	2.2%
Administrative	5,677	4,762	19.2%
Other	215	77	179.2%
Total Deductions	269,123	254,686	5.7%
Change in Net Position	\$ 292,649	\$ 397,726	-26.4%

Additions to Fiduciary Net Position

The primary sources to finance the benefits that FCERA provides to its members are accumulated through the collection of member (employee) contributions, employer contributions, and through the earnings on investments (net of investment expenses). The Net Investment Income, before Securities Lending, for the years ended June 30, 2018 and 2017, totaled \$312.3 million and \$417.2 million, respectively.

By fiscal year-end, total additions were \$561.8 million, a decrease from 2017 of 13.9%, due primarily to the reduction in net investment income. The Investment Section of this report reviews the result of investment activity for the fiscal year ended June 30, 2018.

Deductions from Fiduciary Net Position

The primary uses of FCERA's assets include the payment of benefits to retirees and their beneficiaries, refunds of contributions to terminated employees, and the cost of administering the Plan. Deductions in the fiscal year ended June 30, 2018, totaled \$269.1 million, an increase of 5.7% over June 30, 2017. The increases are mostly attributed to the growth in the number of retirees and amount of benefits paid to retirees year over year.

The Board of Retirement (Board) approves the annual budget for FCERA. The California Government Code Section 31580.2(a) limits the annual administrative expenses to not exceed the greater of either of the following: (1) twenty-one hundredths of one percent (0.21%) of the

Management's Discussion and Analysis as of June 30, 2018 continued

accrued actuarial liability of the retirement system; (2) two million dollars (\$2,000,000), as adjusted annually by the amount of the annual Cost of Living Adjustment (COLA) computed in accordance with Article 16.5. The 2018 Technology Budget decreased appropriations by \$237,900 with the majority of the pension administration system costs expensed in 2017. Expenses for computer software, computer hardware, and computer technology consulting services in support of these computer products are not considered a cost of administration of the retirement system. FCERA has consistently met its administrative expenses budget for the current fiscal year and prior fiscal years.

Pension Liabilities

As GASB Statement No. 67 requires, FCERA reports the Total Pension Liability and the Net Pension Liability as calculated by FCERA's actuary. It is important to note that these liabilities are solely calculated for financial reporting purposes and are not intended to provide information about the funding of FCERA's benefits.

FCERA's Total Pension Liability as of June 30, 2018, was \$5.88 billion resulting in an increase of 2.9 percent from \$5.71 billion as of June 30, 2017. FCERA's Net Pension Liability as of June 30, 2018, was \$1.2 billion, representing a decrease of 6.6 percent from \$1.3 billion as of June 30, 2017. This \$124 million decrease in liabilities is primarily as a result of the net annual investment return of 7.2 percent which was slightly above the assumed rate of 7.0 percent.

GASB Statement No. 67 requires reporting the Fiduciary Net Position as a percentage of the Total Pension Liability. For the fiscal years ended June 30, 2018 and 2017, the Fiduciary Net Position as a percentage of the Total Pension Liability is reported as 79.90 percent and 77.14 percent respectively. While growth in the Total Pension Liability at 2018 increased by \$168 million, or 2.9 percent, from 2017, FCERA's Net Pension Liability decreased due to the increase in Fiduciary Net Position of \$292.6 million, which results in a more favorable financial position at June 30, 2018, when compared to June 30, 2017.

Net Pension Liability

As of June 30, 2018 and 2017

(Dollars in Thousands)

	2018	2017	\$ Change 2018-2017	% Change 2018-2017
Total Pension Liability	\$5,881,851	\$5,713,539	\$ 168,312	2.9%
Less: Fiduciary Net Position	(4,699,872)	(4,407,222)	(292,650)	6.6%
Net Pension Liability	\$1,181,979	\$1,306,317	\$ (124,338)	-9.5%
Percentage of Total Pension Liability	79.90%	77.14%		3.6%

FCERA's Fiduciary Responsibilities

The Board and management staffs are fiduciaries of the pension trust fund. Under the California Constitution, the assets can only be used for the exclusive benefit of Plan participants and their beneficiaries.

Requests for Information

This financial report is designed to provide the Board, our membership, taxpayers, investment managers, and others with a general overview of FCERA's financial condition and to demonstrate FCERA's accountability for the funds under its stewardship.

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

FCERA
Attn: Accounting Unit
7772 N. Palm Avenue
Fresno, CA 93711

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Doris Rentschler", written in a cursive style.

Doris Rentschler
Assistant Retirement Administrator
December __, 2018

Basic Financial Statements

Statement of Fiduciary Net Position

As of June 30, 2018, with Comparative Totals

(Dollars in Thousands)

	2018	2017
Assets		
Cash and cash equivalents with fiscal agents	\$ 281,363	\$ 316,739
Securities lending investments pool:		
Short-term investments	31,215	37,941
Receivables:		
Investment trades receivable	20,456	13,016
Interest and dividends receivable	16,623	14,001
Administrative receivable	34	13
Contributions receivable	9,040	7,943
Securities lending receivable	62	62
Total Receivables	46,215	35,035
Investments, at fair value:		
Domestic and international fixed income	1,553,451	1,437,449
Domestic and international equities	1,643,613	1,631,672
Private equity	464,949	375,323
Real estate	220,259	211,086
Hedge funds	332,868	315,964
Private credit	177,956	88,495
Total Investments	4,393,096	4,059,989
Prepaid expenses	29	72
Capital assets:		
Nondepreciable	5	1,427
Depreciable, net of accumulated depreciation	11,507	9,366
Total Capital Assets, Net	11,512	10,793
Total Assets	4,763,430	4,460,569
Liabilities		
Accounts payable - purchase of investments	29,492	12,249
Cash collateral payable for securities lending	31,215	37,941
Administrative accounts payable	2,824	3,138
Securities lending bank and broker fees	28	19
Total Liabilities	63,559	53,347
Net Position Restricted for Pension Benefits	\$ 4,699,871	\$ 4,407,222

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

Basic Financial Statements continued

Statement of Changes In Fiduciary Net Position

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

(Dollars in Thousands)

	2018	2017
Additions		
Contributions:		
Employers	\$ 210,535	\$ 198,472
Plan members	38,467	36,259
Total Contributions	249,002	234,731
Investment Income:		
From Investment Activities:		
Net appreciation in fair value of investments	193,477	319,119
Interest	66,779	51,026
Dividends	38,984	32,449
Private markets	39,217	38,704
Investment expenses	(26,422)	(24,608)
Miscellaneous income	314	466
Net investment income, before securities lending	312,349	417,156
From securities lending activities:		
Securities lending income	763	723
Securities lending expenses:		
Borrower rebate expenses	(205)	(31)
Securities lending management fees	(137)	(167)
Net income from securities lending activities	421	525
Net investment income	312,770	417,681
Total Additions	561,772	652,412
Deductions		
Benefits paid to plan members and beneficiaries	260,823	247,491
Refunds of member contributions	2,408	2,356
Administrative expenses	5,677	4,762
Other	215	77
Total Deductions	269,123	254,686
Change in Net Position	292,649	397,726
Net Position Restricted for Pension Benefits		
Beginning of Year	4,407,222	4,009,496
End of Year	\$ 4,699,871	\$ 4,407,222

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

Notes to the Basic Financial Statements: Note 1

NOTE 1 - DESCRIPTION OF THE RETIREMENT PLAN (The PLAN)

The following description of the Fresno County Employees' Retirement Association (FCERA) is provided for general information purposes only. FCERA is governed by the Board of Retirement (Board) under the 1937 County Employees Retirement Law (1937 Act) and the California Public Employees' Pension Reform Act (PEPRA) of 2013. Readers should refer to the 1937 Act and PEPRA for more complete information.

General

FCERA is a contributory defined benefit plan initially organized under the provisions of the 1937 Act on January 1, 1945. Effective January 1, 2013, PEPRA added requirements and benefit levels for new members joining the Plan after January 1, 2013, as well as modifying some provisions of the 1937 Act for existing members. FCERA provides benefits upon retirement, death, or disability of members. FCERA is a cost-sharing, multiple-employer plan that includes substantially all full-time employees and permanent part-time employees who work 50% or more for the County of Fresno (County), the Superior Court of California-County of Fresno, Clovis Veterans Memorial District, Fresno-Madera Area Agency on Aging, and Fresno Mosquito & Vector Control District. An employee becomes eligible for membership commencing with the pay period following the date of employment in an eligible permanent position.

Plan Membership

As of June 30, 2018

	2018
Active Members	
Vested	4,540
Non-Vested	2,917
Total Active Members	7,457
Retired Members	7,448
Terminated Vested (Deferred)	1,611
Terminated Non-Vested	2,017
Total Membership	18,533

Benefit Provisions

The Board, under the provisions of the 1937 Act, administers benefit provisions adopted by the Plan Sponsors. Benefits are based upon a combination of age, years of service, final average salary (the highest year, highest three consecutive years or average of the highest three one-year periods of employment), benefit tier (including membership classification) and the payment option selected by the member. Disability and death benefits are additionally based upon whether the disability was service connected or not, and whether the death occurred before or after retirement. Retirement benefit payments consist of regular retirement benefits and,

Notes to the Basic Financial Statements: Note 1 Continued

depending on the date of retirement, may include cost of living benefits, supplemental benefits, supplemental annuity benefits, and vested health benefits. Benefits may also include a supplemental cost of living and a non-vested health benefit if approved by the Board. General members enrolled in Tiers 1, 2, 3, or 4 may retire at age 50 with 10 years of service, at any age with 30 years of service, or at age 70 with any years of service. General members enrolled in Tier 5 may retire at age 52 with 5 years of service, or age 70 with any years of service. Safety members enrolled in Tiers 1, 2, or 4 may retire at age 50 with 10 years of service or at any age with 20 years of service. Safety members enrolled in Tier 5 may retire at age 50 with 5 years of service, or age 70 with any years of service.

At June 30, 2018, there were five tiers for general members (1, 2, 3, 4 & 5) and four tiers for safety members (1, 2, 4 & 5). General Tiers 1, 2, 3 and 4, and Safety Tiers 1, 2 and 4 are closed to new members unless they meet the requirements under California Government Code Section 7522 et al. Safety includes members in active law enforcement or certain other "Safety" classifications as designated by the Board.

Disability retirements may be granted as service connected with no minimum service credit required or non-service connected with five years of service credit required.

PEPRA limits the amount of compensation FCERA can use to calculate a retirement benefit. The 2018 compensation limits used to determine contribution amounts for Tier 5 members are \$121,338 for members covered by Social Security and \$145,666 for members not covered by Social Security and will be adjusted in future years for changes in the Consumer Price Index. Most FCERA members are covered by Social Security.

Notes to the Basic Financial Statements: Note 1 Continued

The tiers and their basic provisions are listed below:

Tier Name	California Government Code Section	Effective Date	Basic Provisions	Vested Health Benefit	Final Average Salary Period	Plan Sponsors
Pre-Ventura General	31676.12	Various	2.0% at 57; maximum 3% cost of living benefit	Yes	Highest 1 – year	All
General Tier 1	31676.14 and the Settlement Agreement	January 1, 2001	2.5% at 55; maximum 3% cost of living benefit	Yes	Highest 1 - year	All
General Tier 2	31676.16	September 12, 2005	2.0% at 55; maximum 3% cost of living benefit	Yes	Highest 1 - year	County and FMAAA ¹
General Tier 3	31676.15	December 17, 2007	2.0% at 55; maximum 3% cost of living benefit	Yes	3 Highest Years	County
General Tier 4	31676.1	June 11, 2012	2.0% at 61; no cost of living benefit	No	3 Highest Years	County
General Tier 5	7522.20	January 1, 2013	2.5% at 67; no cost of living benefit	No	Highest 3 Consecutive Years	All
Pre-Ventura Safety	31664	Various	2.0% at 50; maximum 3% cost of living benefit	Yes	Highest 1 – year	County and NCFPD ²
Safety Tier 1	31664 and the Settlement Agreement	January 1, 2001	2.5% at 50; maximum 3% cost of living benefit	Yes	Highest 1 - year	County and NCFPD ²
Safety Tier 2	31664.2	September 12, 2005	3.0% at 55; maximum 3% cost of living benefit	Yes	Highest 1 - year	County
Safety Tier 4	31664	June 11, 2012	2.0% at 50; no cost of living benefit	Yes	3 Highest Years	County
Safety Tier 5	7522.25(d)	January 1, 2013	2.7% at 57; no cost of living benefit	No	Highest 3 Consecutive Years	County

¹ FMAAA – Fresno-Madera Area Agency on Aging

² NCFPD – North Central Fire Protection District. NCFPD withdrew active membership from FCERA as of August 31, 2007.

Notes to the Basic Financial Statements: Note 1 Continued, Note 2

Administration

The management of FCERA is vested in the Board, which is composed of the following nine members and an alternate member:

1. County Treasurer,
2. Two active members of FCERA elected by the general members,
3. One active member of FCERA elected by the safety members,
4. One retired member of FCERA elected by the retired members,
5. Four members appointed by the County Board of Supervisors. These members shall be qualified electors of the County who are not connected with County government in any capacity, except one may be a County Supervisor, and
6. One alternate member of FCERA elected by the retired members.

As of the June 30, 2015, Actuarial Valuation adopted by the Board, administrative expenses are financed through a 1.10% load of payroll. The employer's share is 0.94% and employee's share is 0.16% of payroll allocated to the employer and member rates, respectively.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

FCERA is the public employee retirement system established by the County on January 1, 1945, and administered independently by the Board to provide retirement, disability, death, and survivor benefits for its employees under the 1937 Act. FCERA's actuarially determined financial data is included in the County's Comprehensive Annual Financial Report (CAFR) in the Notes to the Basic Financial Statements and the Required Supplementary Information Section.

Basis of Accounting

FCERA's financial statements are prepared using the accrual basis of accounting. Investment income is recognized when it is earned and expenses are recognized in the period in which they are incurred. Employee and employer contributions are recognized as revenues when due, pursuant to formal commitments, as well as statutory or contractual requirements. Benefits and refunds of prior contributions are recognized when due and payable under the provisions of the Plan.

Notes to the Basic Financial Statements: Note 2 Continued

Deposits and Investments

Cash and cash equivalents with fiscal agent include deposits in the County Treasurer's commingled cash and investment pool and investments held by the custodian bank. Investments with the custodian bank are comprised of foreign currencies, cash held in a short-term investment fund and other short-term, highly liquid investments. Short-term investments considered cash equivalents are recorded at cost, which approximates fair value. The County Treasurer's commingled cash and investment pool operates in accordance with appropriate state laws and regulations and is governed by an investment policy formally adopted by the County. (Please refer to the CAFR prepared by the County for additional information on the County Treasurer's commingled cash and investment pool.)

Plan investments are reported at fair value. The fair values of equity and fixed income securities are derived from quoted market prices. The fair values of private market investments are estimated from fair values provided by the real estate investment funds, futures investment managers, and alternative investment managers. All investment purchases and sales are recorded on the trade date. Additional information regarding the Plan's investments can be found in the Investment Section of this CAFR.

Asset Allocation Policy

The current Board adopted policy targets that were established in March 2014, which resulted from an asset/liability study conducted in the fourth quarter of 2013. The new policy reduced the investment risk by reducing equity exposure and restructuring the fixed income portfolio. The new asset allocation policy is incorporated into FCERA's updated Investment Policy Statement, which helps guide the manner in which FCERA invests.

Investment Concentrations

FCERA does not hold investments in any one organization that represent 5% or more of the Plan's Fiduciary Net Position.

Implementation of New Accounting Standards

The following standards were issued recently by the Governmental Accounting Standards Board (GASB) for implementation effective for this fiscal year: Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pension Plan* – Implementation of this standard did not have a material effect on FCERA's financial statements. Statement No. 81, *Irrevocable Split-Interest Agreements*- this standard is not applicable. Statement No. 85, *Omnibus 2017*- Implementation of this standard did not have a material effect on FCERA's financial statements, Statement No. 86, *Certain Debt Extinguishment issues*- this standard is not applicable.

Notes to the Basic Financial Statements: Note 2 Continued

Long-term Expected Rate of Return by Asset Class

The long-term expected rate of return on the Plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, by adding expected inflation, and deducting 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 are summarized in the following table below.

The long-term expected arithmetic real rate of return assumption was developed using recent economic assumptions included in the latest Actuarial Experience Study completed in March 2016. Prior to the development of these current assumptions, adjustments were approved by the Board in December 2013 to the target allocation of investments, referred to as Mix B. The impact of the adjustments to the new asset allocation by selecting Mix B, compared to the economic assumptions developed in the Actuarial Experience Study, is not considered substantial enough to invalidate the long-term expected rate of return assumption. However, users of this report must be aware that due to the selection of Mix B there is a difference in the target allocation presented below and the target allocation presented in the Investment Section on pages 65, 66, and 67.

	Target Allocation	Long-Term Expected Real Rate of Return
Large Cap U.S. Equity	14%	5.80%
Small Cap U.S. Equity	3%	6.52%
Developed International Equity	12%	6.89%
Emerging International Equity	7%	8.88%
U.S. Core Fixed Income	5%	0.76%
High Yield Fixed Income	5%	3.55%
Global Bonds	7%	0.41%
Bank Loans	5%	2.34%
TIPS	4%	0.41%
Emerging Market Debt	5%	4.52%
Real Estate	5%	4.48%
Commodities	3%	4.14%
Infrastructure	3%	3.80%
Hedge Funds	8%	4.40%
Private Credit	8%	7.70%
Private Equity	6%	9.00%
Total	100%	

Notes to the Basic Financial Statements: Note 2 Continued

Net Pension Liability

GASB Statement No. 67 requires public pension plans to disclose the net pension liability of the Plan. The net pension liability is measured as the total pension liability less the amount of the Plan's fiduciary net position. The net pension liability is an accounting measurement for financial statement reporting purposes. The components of FCERA's net pension liability at June 30, 2018, are disclosed on the following schedule and on page 33.

Net Pension Liability

As of June 30, 2018

(Dollars in Thousands)

	2018
Total pension liability	\$ 5,881,851
Less: Fiduciary net position	(4,699,872)
Net pension liability	\$ 1,181,979
Fiduciary net position as a percentage of the total pension liability	79.90%

The measurement date of the net pension liability was determined at June 30, 2018. Fiduciary net position (plan assets) was valued as of the measurement date while the total pension liability was determined based upon rolling forward the total pension liability from the actuarial valuation as of June 30, 2017.

The following Actuarial Assumptions were approved by the Board of Retirement in March 2017. The total Plan liability as of June 30, 2018 was re-measured by (1) revaluing the total liability as of June 30, 2017 (before the roll forward) to include the following actuarial assumptions that the Retirement Board had adopted for use in the pension funding valuation as of June 30, 2018 and (2) using this revalued total pension liability in rolling forward the results from June 30, 2017 to June 30, 2018:

Inflation	3.00%
Salary Increases	General: 4.50% to 11.50%; and Safety: 4.90% to 11.50%, varies by service, including inflation.
Investment Rate of Return	7.00%, net of Pension Plan investment expenses, including inflation.
Administrative Expenses	1.10% of payroll, allocated 0.94% to employers and 0.16% to employees.
Mortality	Various rates based on RP-2014 Mortality tables in the June 30, 2016, actuarial valuation.

Notes to the Basic Financial Statements: Note 2 Continued

Discount Rate

The Board of Retirement approved a new discount rate of 7.00% in March 2016 that was used to measure the total pension liability as of June 30, 2018. The projection of cash flows used to determine the discount rate assumed Plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current Plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future Plan members and their beneficiaries, as well as projected contributions from future Plan members, are not included. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2018.

Sensitivity of the net pension liability to changes in the discount rate. The following schedule below presents the net pension liability of FCERA as of June 30, 2018, calculated using the discount rate of 7.00%, as well as what the FCERA's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower, 6.00%, or 1-percentage-point higher, 8.00%, than the current rate.

(Dollars in Thousands)	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
FCERA's net pension liability as of June 30, 2018	\$1,993,996	\$1,181,979	\$515,992

Money-Weighted Rate of Return

For the fiscal year ended June 30, 2018, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 7.62%. For commentary on the overall investment performance of the Plan please see the Investment Consultant's Report on page 61. It is important to note that the Investment Consultant's Report discloses the Plan's return data using the industry standard time-weighted rate of return which will differ from the money-weighted rate of return referenced here. The money-weighted rate of return (identical in concept to Internal Rate of Return) expresses investment performance, net of investment expense, adjusted for the changing amounts (inflows and outflows) actually invested.

Capital Assets

Capital assets are valued at historical cost less accumulated depreciation. Depreciation is calculated using the straight-line method over the estimated useful lives of three years for

Notes to the Basic Financial Statements: Note 2 Continued

computer equipment, five years for office equipment, ten years for furniture, fifteen years for software (accounting general ledger and pensions administration systems), and thirty years for buildings. Depreciation and amortization expense is reported as part of administrative expense.

Income Taxes

The Internal Revenue Service (IRS) has ruled that plans such as FCERA qualify under Section 401(a) of the Internal Revenue Code (IRC), which prevents FCERA from being subjected to taxation under present income tax laws. In September 2016, the FCERA Plan was again determined by the IRS to be a tax qualified plan. In accordance with this determination, no provisions for income taxes have been made in the accompanying basic financial statements, as FCERA is exempt from federal and state income taxes under provisions of the IRC, Section 401(a), and the California Revenue and Taxation Code, Section 23701, respectively.

Use of Estimates

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

Administrative Expenses

FCERA's Board annually approves the budget for administrative expenses. Government Code Section 31580.2 provides for the adoption by the Board of Retirement an annual budget covering the entire expense of administration. This expense of administration is a direct charge against the earnings of the Plan and shall not exceed the greater of twenty-one hundredths of one percent of the accrued actuarial liability of the Plan or two million dollars (\$2,000,000), as adjusted annually by the amount of the annual cost of living adjustment. Government Code Section 31580.2(b) provides that expenditures for software, hardware and computer technology maintenance and equipment are not considered a cost of administration and are therefore excludable from the administrative expenses. With the exclusion of the information technology costs, FCERA's administrative expenses totaled 0.10% of the accrued actuarial liability of the Plan.

Related Party Transactions

Beginning in October 2017 the Administrative offices of FCERA relocated to its current location, first at 7778 N Palm Ave, then once approved for occupancy, 7772 N Palm Ave. FCERA now leases both office locations from the FCERA Realty Group, a limited liability company. Details related to the lease agreement can be found in Note 9.

NOTE 3 - DEPOSITS AND INVESTMENTS

Except as otherwise expressly restricted by the California Constitution and by law, the Board may, at its discretion, invest, or delegate FCERA the authority to invest its assets through the purchase, holding, or sale of any form or type of instrument, or financial transaction when prudent in the informed opinion of the Board. In addition, the Board has established an investment policy that places limits on the compositional mix of cash, fixed income and equity securities, alternative investments, and real estate investments. FCERA currently employs external investment managers to manage its assets subject to the guidelines of the investment policy. GASB Statements No. 40 and No. 53 detail the disclosure requirements associated with FCERA's deposits, investments, and derivatives. The statements identify the following risks: investment risk, custodial credit risk, concentration of credit risk, interest rate risk, and foreign currency risk. Rather than creating an across the board policy addressing limitations on credit ratings of certain debt securities, FCERA has chosen to manage the investment risks detailed in GASB Statements No. 40 and No. 53 by requiring each investment manager responsible for a separately held portfolio to follow specific agreed upon investment guidelines that meet the requirements of FCERA for the individual investment mandate. FCERA's investment guidelines do not govern control over commingled portfolios and therefore only apply to separately held portfolios.

Custodial credit risk - deposits. This type of risk associated with deposits is the risk that, in the event of a failure in a depository financial institution, a government will not be able to recover its deposits or recover collateral securities that are in the possession of an outside party. FCERA does not have a policy for managing custodial credit risk. As of June 30, 2018, all domestic deposits were insured, registered, and held by the custodian bank in FCERA's name. FCERA held foreign currencies deposits at June 30, 2018, with a United States Dollar value of \$3,162,000, all of which is subject to custodial credit risk since the deposits are unsecured and uncollateralized.

Custodial credit risk - investments. For an investment, this is the risk that, in the event of the failure of the counterparty, the government will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. FCERA's investments are not subject to custodial credit risk because investments are insured and registered in FCERA's name. FCERA's investment policy does not limit the amount of securities that can be held by counterparties.

Credit risk. Credit risk is the risk that an issuer or other counterparty to a debt instrument will not fulfill its obligations. This risk is measured by the assignment of ratings by nationally recognized statistical rating organizations. FCERA has adopted policies specific to each investment manager to manage credit risk. In general, fixed income securities should be well diversified to avoid undue exposure to any single economic sector, industry, or individual security. The County's external investment pool is unrated for credit risk purposes.

Notes to the Basic Financial Statements: Note 3 Continued

The credit ratings disclosed below were obtained from Moody's rating agency as of June 30, 2018.

Credit Quality Ratings of Investments in Fixed Income Securities

As of June 30, 2018

(Dollars in Thousands)

Moody's Credit Rating	2018	
	Total Fixed Income	FCERA's Fixed Income Securities
Northern Institutional Liquid Assets Portfolio / Tier 1 Quality		\$ 31,215
Fixed Income Securities		
Aaa	10.8%	167,008
Aa	3.0%	47,162
A	10.8%	167,181
Baa	11.9%	184,625
Ba	10.0%	155,844
B	4.7%	73,745
Caa	1.3%	20,481
Agency/Exempt	11.9%	184,791
FNMA/FHLMC	0.6%	9,725
NR	34.9%	542,889
Total Fixed Income Securities	100.0%	1,553,451
Total Securities Lending Pool and Fixed Income Securities		\$ 1,584,666

NR = Securities that are not rated by Moody's, an independent research company.

Agency/Exempt = Securities that are exempt from rating disclosure and are explicitly guaranteed by the U.S. Government.

Interest rate risk. Interest rate risk is the risk that changes in the interest rate will adversely affect the fair value of an investment. FCERA has not adopted a policy to manage interest rate risk. FCERA selected the segmented time distribution method for the following investments subject to interest rate risk at June 30, 2018.

Notes to the Basic Financial Statements: Note 3 Continued

Interest Rate Risk

As of June 30, 2018

(Dollars in Thousands)

Investment Type	Remaining Maturity in Months at June 30, 2018				
	Less than 12 months	13 to 60 months	61 to 120 months	More than 120 months	
Northern Institutional Liquid Assets Portfolio	\$ 31,215	\$ 31,215	\$ -	\$ -	\$ -
Subtotal	31,215	31,215	-	-	-
U.S. Government and agencies					
U.S. Treasury notes	149,008	82,768	53,852	2,789	9,599
Federal agency securities	10,582	9,272	-	436	874
Subtotal	159,590	92,040	53,852	3,225	10,473
Derivatives	(3,361)	(4,334)	(237)	959	251
Domestic fixed income	446,350	129,074	92,467	163,889	60,920
Mortgages	5,461	-	1,835	452	3,174
Foreign fixed income	470,360	75,953	115,575	142,799	136,033
Eaton Vance Bank Loans	299,337	299,337	-	-	-
TIPS Index Fund	175,714	175,714	-	-	-
Total Securities Lending Pool and Fixed Income Securities	\$ 1,584,666	\$ 798,999	\$ 263,492	\$ 311,324	\$ 210,851

At June 30, 2018, FCERA had \$90,729,000 invested in the County external investment pool, which has a dollar weighted average maturity of 2.17 years.

Concentration of credit risk. This is the risk of loss attributed to the concentration of FCERA's investment in a single issuer. FCERA's investment policy does not permit any one manager to invest more than five percent of the market value of its portion of the portfolio in any one issue, with the exception of investments issued by the U.S. Government and its agencies. As of June 30, 2018, no investments in any one issuer are greater than five percent of total investments. Investment managers authorized to invest in below investment grade securities are limited to holding no more than 20% of their portfolio market value in such securities.

Foreign currency risk. This is the risk that FCERA will not be able to recover the value of its investment in local currency when the exchange value of the currency lowers. FCERA has not adopted a policy to manage the foreign currency risk. FCERA's investment in foreign currency at June 30, 2018 is as follows:

Notes to the Basic Financial Statements: Note 3 Continued

Foreign Currency Risk

As of June 30, 2018

(Dollars in Thousands)

Currency	Fair Value 2018	
British Pound Sterling	\$	186
Colombian Peso		521
Euro		431
Mexican Peso		314
Japanese Yen		563
Other Foreign Currencies		1,147
Total Foreign Currency	\$	3,162

Foreign currency table expressed in U.S. dollars and thousands.

Derivatives. The investment derivatives schedule below reports the fair value and notional value of the derivatives held by FCERA at June 30, 2018. For reporting purposes, FCERA's derivatives are classified as investment derivatives. All changes in fair value are reported as part of Net Appreciation/(Depreciation) in Fair Value of Investments in the *Statement of Changes in Fiduciary Net Position*. FCERA, through its external investment managers, enters into forward foreign currency contracts as well as equity rights to hedge against changes in the fair values of foreign bonds and equity securities, primarily denominated in European and Asian currencies. It is possible that, due to foreign exchange fluctuations, FCERA may be exposed to a potential loss.

Investment Derivatives

As of June 30, 2018

(Dollars in Thousands)

Derivative Type	2018	
	Notional Value	Fair Value
Fixed Income Futures	\$ 264,439	\$ -
Equity Futures	144,745	-
Foreign Exchange Futures	1,523	-
Credit Default Swaps	-	158
Forward Foreign Currency	-	(4,334)
Forward Foreign Swaps	-	-
Interest Rate Swaps	-	984
Options	-	(193)
Rights	-	24
Total	\$ 410,707	\$ (3,361)

Notes to the Basic Financial Statements: Note 3 Continued

FCERA could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. FCERA anticipates that counterparties will be able to satisfy their obligations under the contracts. FCERA's investment managers seek to control this risk through counterparty credit evaluations and approvals, counterparty credit limits and exposure monitoring procedures, including requirements for cash collateral at certain defined levels. At June 30, 2018, FCERA held \$6,469,000 to offset potential risks it may encounter through counterparty transactions.

FCERA's comparative counterparty exposure is detailed in the following schedule:

Counterparty Credit Risk Analysis

As of June 30, 2018

(Dollars in Thousands)

	Aa		A		Exchange Traded		Not Rated	Total
Futures	\$	-	\$	-	\$	-	\$	-
Options		-		-		-	(193)	(193)
Rights/Warrants		-		-		-	24	24
Swaps		-		-		-	1,142	1,142
Forwards		-		-		-	(4,334)	(4,334)
	\$	-	\$	-	\$	-	\$ (3,361)	\$ (3,361)

At June 30, 2018, FCERA was exposed to Foreign Currency Risk related to its investments in equity rights and forward contracts denominated in foreign currencies. The table on the following page displays FCERA's position in each of the foreign currency contracts.

Notes to the Basic Financial Statements: Note 3 Continued

Foreign Currency Risks at Fair Value

As of June 30, 2018

(Dollars in Thousands)

Currency Name	Equities	Forward Currency Contracts		Total Exposure
		Net Receivables	Net Payables	
Argentine peso	\$ -	\$ (12,590)	\$ 7,379	\$ (5,211)
Australian dollar	-	(7,651)	15,016	7,365
Brazilian real	-	(39,737)	45,418	5,681
British pound sterling	-	(2,192)	11,852	9,660
Canadian dollar	-	(1,564)	15,989	14,425
Chilean peso	-	(491)	687	196
Chinese yuan renminbi	-	-	668	668
Colombian peso	-	(17,361)	35,787	18,426
Czech koruna	-	-	9,338	9,338
Egyptian pound	-	(305)	2,426	2,121
Euro	22	(3,893)	2,200	(1,671)
Hong Kong dollar	-	(80)	80	-
Hungarian forint	-	(157)	2,545	2,388
Indian rupee	-	-	1,087	1,087
Indonesian rupiah	-	(6,470)	2,336	(4,134)
Japanese yen	-	(3,047)	24,345	21,298
Malaysian ringgit	-	(840)	3,891	3,051
Mexican peso	-	(1,650)	23,359	21,709
New Romanian leu	-	(1,306)	780	(526)
New Taiwan dollar	-	(2,296)	1,218	(1,078)
Nigerian naira	-	(4,811)	1,189	(3,622)
Norwegian krone	-	(366)	17,411	17,045
Peruvian nuevo sol	-	(7,520)	3,764	(3,756)
Philippine peso	-	(2,032)	-	(2,032)
Polish zloty	-	(4,838)	8,266	3,428
Russian ruble	-	(7,015)	13,643	6,628
Singapore dollar	-	(1,251)	-	(1,251)
South African rand	-	(16,661)	3,806	(12,855)
South Korean won	-	(2,695)	1,081	(1,614)
Swedish krona	-	-	35,460	35,460
Swiss franc	-	(539)	539	-
Thai baht	-	(815)	14,327	13,512
Turkish lira	-	(3,063)	13,239	10,176
Total	\$ 22	\$ (153,236)	\$ 319,126	\$ 165,912

The derivative securities included as equities above consist of rights. Foreign currency forward contracts are commitments to purchase or sell a stated amount of foreign currency at a specific future date.

Notes to the Basic Financial Statements: Note 3 Continued

Interest rate risk applies to derivatives such as Fixed Income Options, Credit Default Swaps, Interest Rate Swaps, Forward Foreign Currency and Rights. At June 30, 2018, FCERA was exposed to the following interest rate risk on its investments in these securities. The table below displays the maturity periods of these derivative investments.

Interest Rate Risk Analysis

As of June 30, 2018

(Dollars in Thousands)

Investment Types	Fair Value	Investment Maturities (in months)				Total
		Less than 12	13 to 60	61 to 120	More than 120	
Credit Default Swaps	\$ 158	\$ -	\$ 19	\$ 139	\$ -	\$ 158
Forward Currency Contracts	(4,334)	(4,334)	-	-	-	(4,334)
Interest Rate Swaps	984	-	(84)	817	251	984
Options	(193)	-	(193)	-	-	(193)
Rights	24	-	22	2	-	24
Total	\$ (3,361)	\$ (4,334)	\$ (236)	\$ 958	\$ 251	\$ (3,361)

Securities Lending. The Board authorized FCERA, through its custodian bank, to enter into securities lending transactions, whereby securities owned by FCERA are loaned on a short-term basis to various banks and brokers. Securities on loan include domestic and international stocks, and U.S. government agency and domestic bonds. All securities on loan must be collateralized at 102% of the fair value of the loaned securities, except for non-United States based equities which are initially collateralized at 105%. Collateral may take the form of cash, commercial paper, certificates of deposit, bankers' acceptances, repurchase and reverse repurchase agreements, obligations issued or guaranteed as to interest and principal by the United States Government (or agencies or instrumentalities thereof), bank time deposits, variable rate demand notes, money market mutual fund and any common trust fund maintained by a bank, other financial institution, any commingled, or pooled trust.

The lending agreement places no restriction on the amount of loans that can be made. FCERA's lending agent is authorized to invest and reinvest cash collateral, but it is not expressly permitted to pledge or sell securities collateral without borrower default. FCERA's agent invests cash collateral in individual securities and the securities are held by the trustee in FCERA's name. The maturities of the investments made with the cash collateral generally match the maturities of their securities on loan.

Securities on Loan - At fiscal year-end, FCERA had no credit risk exposure to borrowers because the collateral received exceeded the amount owed to borrowers. As of June 30, 2018, there were no violations of the securities lending provisions and no losses resulted within the securities lending program due to borrower default.

Notes to the Basic Financial Statements: Note 3 Continued

Reinvestment of Collateral - FCERA is subject to credit risk through the reinvestment of collateral cash which FCERA received at the time securities were placed on loan. The risk can include the devaluation of underlying securities where the collateral has been reinvested. FCERA invests its collateral in Northern Trust's cash collateral pool called the Northern Institutional Liquid Assets Portfolio (NILAP). The NILAP is considered a Tier 1 quality fund, investing in the highest credit quality securities. The goal of the NILAP is to maintain a \$1.00 net asset value per share of the fund, preserving reinvested collateral while providing a stable source of income. The collateral reported in these Financial Statements excludes non-cash collateral which amounts to \$44,812,302 at June 30, 2018. FCERA does not have the ability to sell non-cash collateral unless the borrower of the security defaults on the loan agreement.

FCERA is unable to quantify the dollar devaluation that would have existed if collateral had been called upon. Income from these transactions is reported on the Statement of Changes in Fiduciary Net Position. Securities on loan are reported at fair value on the Statement of Fiduciary Net Position. The carrying values of the cash collateral securities lending investment pool as of June 30, 2018 was \$31,214,976. The fair values of loaned securities are listed below:

Fair Values of Loaned Securities

As of June 30, 2018

(Dollars in Thousands)

	2018
Domestic equity	\$ 3,398
International equity	2,954
Total equity on loan	6,352
U.S. Government and agencies	102
Domestic bonds	23,842
Foreign Bonds	201
Total bonds on loan	24,145
Total equities and bonds on loan	\$ 30,497

Highly Sensitive Investments. FCERA utilizes investments that are highly sensitive to interest rate changes in its actively managed fixed income portfolio. Highly sensitive investments include mortgage-backed securities, asset-backed securities and collateralized mortgage obligations. FCERA's investment portfolio contains certain variable rate notes and collateralized mortgage obligations. At June 30, 2018, FCERA had approximately \$2,910,000 in these investments.

Notes to the Basic Financial Statements: Note 3 Continued

Investment Type

As of June 30, 2018

(Dollars in Thousands)

	2018
Asset - Backed / Variable Rate Notes	\$ 1,782
Collateralized Mortgage Obligations	5,462
Forward Foreign Currency	(4,334)
Total	\$ 2,910

Fair Value Measurement

FCERA follows GASB Statement No. 72, *Fair Value Measurement and Application*. The statement provides guidance on fair value measurement under accounting principles generally accepted in the United States of America (GAAP), FCERA discloses the fair value of its investments in a hierarchy that prioritizes the inputs to valuation techniques used to measure the fair value. The objective of fair value measurement is to determine the price that would be received to sell an asset or paid to transfer a liability in a transaction between market participants at the measurement date (an exit price). The hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

- Level 1 – reflects prices quoted in active markets for identical assets;
- Level 2 – reflects prices based on other similar observable inputs; and
- Level 3 – reflects prices based upon unobservable inputs.

FCERA classifies its investments in Level 1 based on direct analysis provided by a primary external pricing service and are quoted in active markets. Investments in Level 1 consist of public equity assets.

Investments classified as Level 2 are based on inputs other than quoted prices attributed to Level 1, but are still observable. Level 2 assets consist of fixed income securities as well as commingled investment funds that may report using the Net Asset Value (NAV). Fixed income investments are valued using a bid evaluation or matrix pricing technique. For commingled investments that are capable of redemption at the NAV per share price at the measurement date, the fair value is classified in Level 2.

Where the inputs from market activity are unobservable, the Level 3 classification is used. This classification requires significant judgement and estimation to determine fair value. Due to the

Notes to the Basic Financial Statements: Note 3 Continued

difficulty of determining accurate estimates, the values of these investments may differ significantly from values that could have been determined if a market existed at the measurement date. FCERA classifies certain assets within Real Estate, Private Equity and Private Credit in the fair value hierarchy at the lowest priority level input.

Investments measured at the Net Asset Value consist of certain commingled funds, private equity, private credit and hedge funds. The structure of private equity, private credit and hedge funds typically exist as limited partnerships. There are no readily available markets to determine accurate fair value for these limited partnerships as they may contain investments in non-liquid assets, real estate or other assets. The valuations for these investments may occur at various times throughout the investment cycle in accordance with guidelines established through the limited partnership agreement.

FAIR VALUE MEASUREMENT

June 30, 2018

(Dollars in Thousands)

		Quoted Prices in Active Markets (Level 1)	Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)
Investments by Fair Value Level	June 30, 2018			
Domestic and International Fixed Income	\$ 1,074,311	\$ -	\$ 1,059,821	\$ 14,490
Domestic and International Equities	997,191	993,527	3,660	4
Domestic and International Commingled Func	1,125,562	650,511	475,051	-
Real Estate	220,259	-	-	220,259
Private Equity	298,432	-	137,737	160,695
Private Credit	101,406	-	-	101,406
Securities Lending Collateral	31,215	-	31,215	-
Total Investments by Fair Value Level	\$ 3,848,376	\$ 1,644,038	\$ 1,707,484	\$ 496,854
Investments Measured at Net Asset Value (NAV)				
Private Equity	\$ 166,517			
Hedge Funds	332,868			
Private Credit	76,550			
Total Investments Measured at NAV	\$ 575,935			
Total Investments	\$ 4,424,311			
Investment Derivatives ¹				
Derivative Type				
Credit Default Swaps	\$ 158	\$ -	\$ 158	\$ -
Forward Foreign Currency (Net Payable)	(4,334)	-	(4,334)	-
Interest Rate Swaps	984	-	984	-
Options	(193)	-	(193)	-
Rights (Equities)	24	22	2	-
Total	\$ (3,361)	\$ 22	\$ (3,383)	\$ -

Notes to the Basic Financial Statements: Note 3 Continued, Note 4

INVESTMENTS MEASURED AT NET ASSET VALUE

June 30, 2018

(Dollars in Thousands)

Investments Measured at NAV	June 30, 2018	Unfunded Commitments	Frequency (if eligible)	Redemption Notice Period
Private Credit (1)	76,550	296,727	Not Eligible	Not applicable
Private Equity (1)	\$ 166,517	\$ 134,159	Not Eligible	Not applicable
Hedge Funds (2)	332,868	-	Quarterly	70 days
Total Investments Measured at NAV	\$ 575,935	\$ 430,886		

¹ Informational only - Derivatives Included in Total Investments by Fair Value Level

- (1) Private Equity and Private Credit – FCERA’s allocation in these investments totals 23 limited partnerships. The limited partnerships invest primarily in buyout funds, venture capital, distressed debt, mezzanine debt, and special situations. The measurement of the fair values of these investments has been determined using NAV typically one quarter in arrears with updated cash flows. These funds are not eligible for redemption, funding takes place over a time horizon of 1 to 5 years with the expectation of limited partnerships to liquidate within 7 to 10 years.
- (2) Hedge Funds – As of June 30, 2018, FCERA is invested in hedge funds through Grosvenor Better Future Funds, as a fund of one, and a fund of funds investment in Grosvenor Institutional Partners, L.P. Grosvenor relies on fair value determination from managers handling its underlying investments.

NOTE 4 - INVESTMENT TRADES RECEIVABLE AND PAYABLE

Investment trades receivable and payable include forward currency contracts, and sales and purchases of investments. Forward currency contracts are used to control currency exposure and facilitate the settlement of international security purchase and sale transactions. At June 30, 2018, forward foreign currency contracts receivable and payable totaled \$6,276,000 and \$4,507,000, respectively.

Notes to the Basic Financial Statements: Note 5

NOTE 5 – CAPITAL ASSETS

The following is a summary of changes in capital asset activity as of June 30, 2018:

Capital Assets

As of June 30, 2018

(Dollars in Thousands)

	Balance July 1, 2017	Additions	Dispositions/ Reclassifications	Balance June 30, 2018
Capital assets, non depreciable:				
Land	\$ 501	-	(501)	\$ -
Construction in Progress	926	1,292	(2213)	5
Total capital assets, non depreciable	\$ 1,427	1,292	(2,714)	\$ 5
Capital assets, depreciable:				
Computer hardware/software	\$ 9,734	\$ 57	\$ -	\$ 9,791
Furniture and fixtures	164	591	(164)	591
Equipment	63	179	(50)	192
Building	2,103	3,323	(2,103)	3,323
Total capital assets, depreciable	12,064	4,150	(2,317)	13,897
Less accumulated depreciation for:				
Computer hardware/software	(1,565)	(669)	-	(2,234)
Furniture and fixtures	(155)	(45)	156	(44)
Equipment	(61)	(21)	50	(32)
Building	(917)	(98)	935	(80)
Total accumulated depreciation	(2,698)	(833)	1,141	(2,390)
Total capital assets, depreciated, net	\$ 9,366	3,317	(1,176)	\$ 11,507
Total capital assets, net	\$ 10,793	4,609	(3,890)	\$ 11,512
Depreciation charged for the current year and included in administrative expenses totaled:		\$ 833		

NOTE 6 – CONTRIBUTIONS AND RESERVES

Contributions

Contributions are made by the members and the employers at rates recommended by FCERA's independent actuary and approved by the Board and the County Board of Supervisors. Employee contribution rates vary according to age, classification (safety or general), and benefit tier. Employee contribution rates are designed to provide funding for approximately one-fourth of the regular retirement benefits and one-half of all cost of living benefits for members enrolled in Tiers 1 through 4 and one half of the normal cost of the retirement benefit for members enrolled in Tier 5. Members are required to contribute between 3.79% and 12.58% of their annual covered salary. Employee contribution rates are established and may be amended pursuant to Articles 6 and 6.8 of the 1937 Act.

Interest is credited to member contributions every six months based on the prior six months ending balance. Members are not permitted to borrow against their contributions. Upon termination of employment, members may withdraw their contributions by requesting a refund of their accumulated contributions and interest. Non-vested members may leave their contributions on deposit with FCERA without establishing reciprocity. These members receive interest on their contributions and may withdraw their contributions and interest at any time.

Employer contribution rates are determined pursuant to Section 31453 of the 1937 Act and are designed to provide funding for the remaining regular retirement and cost of living benefits, as well as all regular disability and survivors' benefits.

Contribution rates are actuarially determined using the entry age normal method and consist of the normal cost (the estimated amount necessary to finance benefits earned by employees during the current year) and, beginning in 1980, the unfunded actuarial accrued liability which was amortized over a 30 year period. Effective with the valuation completed for June 30, 2002, the amortization period was modified to allow a 30 year amortization period for changes in the unfunded actuarial accrued liability that result from Plan amendments and a fifteen year amortization period for all other changes in the unfunded actuarial accrued liability. The Schedule of Employer Contributions, which includes 10-year trend data, is presented in the Required Supplementary Information section on page 54. Details on funding progress are presented in the Actuarial Section on page 82.

Benefits attributable to employers' contributions do not become vested until completion of five years of credited service. A member may receive a regular retirement allowance after meeting the minimum requirements for eligibility as defined in Note 1 of these Financial Statements.

On September 12, 2012, PEPRA was signed into law by the Governor of California, Jerry Brown, establishing a new tier for General and Safety employees entering FCERA membership on or after January 1, 2013. The benefit formula for General members is 2.5% at age 67 and the Safety

Notes to the Basic Financial Statements: Note 6 continued

formula is 2.5% at age 57. Benefits under the new PEPRA tiers are based on a consecutive three-year final average compensation period.

Reserved and Designated Accounts of Net Position Restricted for Pension Benefits

Net Position Restricted for Pension Benefits is segregated into members' and employers' accumulated contributions reserves established by the Board and undistributed earnings. The Board has established reserves for various benefit payments pursuant to the 1937 Act, and it has designated an account for market stabilization. Effective as of fiscal year end June 30, 2009, the Contra Tracking Account was added to represent the amount of interest credited to reserve accounts that had not been paid for out of current earnings.

The amounts and changes in reserves and designations for the year ended June 30, 2018 consist of the following:

Reserve Balances *

As of June 30, 2018

(Dollars in Thousands)

	Balance July 1, 2017	Increase (Decrease) In Fiduciary Net Position	Net Transfers	Balance June 30, 2018
Reserves:				
Members' accumulated contributions	\$ 460,663	\$ 36,059	\$ (36,338)	\$ 460,384
Current service reserve	1,498,222	156,041	(108,099)	1,546,164
Annuity pension reserve	160,429	(28,152)	55,383	187,660
Current service pension reserve	1,290,411	(129,942)	258,562	1,419,031
Settlement annuity pension reserve	648,705	(36,890)	93,598	705,413
Settlement benefit reserve	110,316	(5,577)	7,758	112,497
Cost of living adjustment reserve	1,240,280	300	112,947	1,353,527
Supplemental cost of living reserve	-	-	-	-
Survivors' death benefit reserve	-	(1,388)	1,388	-
Retiree health benefit reserve	-	-	-	-
Retiree health benefit reserve (VS)	33,069	(4,681)	2,274	30,662
Contingency reserve	-	-	-	-
Designated for market stabilization	(122,287)	-	19,200	(103,087)
Undistributed earnings	-	306,879	(306,879)	-
Contra Tracking Account	(912,586)	-	(99,794)	(1,012,380)
Net Position Restricted for Pension Benefits	\$ 4,407,222	\$ 292,649	\$ -	\$ 4,699,871

* Note individual reserve balances may not tie across and down due to rounding.

Notes to the Basic Financial Statements: Note 6 continued

Members' accumulated contributions include all member contributions net of refunds paid to members. At retirement, member balances are transferred to the *annuity and settlement annuity pension reserves* and the *cost of living adjustment reserve*. Employers' contributions are paid into *current service reserve*, *settlement annuity reserve*, and *cost of living reserve*. The employer current service and settlement annuity contributions are combined in the *current service reserve*, although tracked separately within the *current service reserve* balance. When an employee retires, the employer portion of their accumulated contributions for current service and settlement annuity are transferred from the *current service reserve* into the *current service pension reserve* and the *settlement annuity pension reserve*. *Undistributed earnings* are credited with all investment income and charged with investment and other fees. Transfers from undistributed earnings to other reserves are made twice a year.

Prior to July 1, 2007, the Board authorized an annual rate equal to the actuarial rate of return be apportioned as the interest. Effective July 1, 2007, the Board adopted a new interest crediting policy which implemented the following objectives: 1) maintain consistency between the reserving structure accounts and the actuarial funding policies of FCERA, 2) assure that the reserve values track the market value of assets over the long-term and 3) to the extent possible, maintain reasonable stability in both the interest crediting and contribution rates by avoiding charging short-term losses to reserves. This policy resulted in interest apportionments of \$190,473,315 for the December 31, 2017 interest-crediting period, and \$197,001,000 for the June 30, 2018, interest-crediting period. The semi-annual rates of interest for the two periods were 3.5% and 3.5%, respectively. Any additional transfers out of undistributed earnings are made in accordance with the authorization of the Board.

The *survivors' death benefit reserve* is credited with balances transferred from *members' accumulated contributions* and the employer *current service reserve*, in those instances where the survivor of an active deceased member is entitled to continuation benefits. The *current service reserve* consists of current service and settlement annuity contributions (which are tracked separately within the *current service reserve*). Lump sum survivor benefits are paid directly from *members' accumulated contributions* and the *current service reserve*. Pension and disability benefits are paid from the *annuity pension reserve*, *current service* and *settlement annuity pension reserves* and *cost of living adjustment reserve*.

Both the *retiree health benefit* and the *supplemental cost of living reserves* are non-valuation reserves approved annually by the Board. Non-valuation reserves are under the control of the Board and are not available to fund vested benefits of the Plan. The *retiree health benefit reserve* was initiated in 1987 to establish funds for payment of supplemental benefits which would provide retirees additional monies with the expectation (but not the requirement) that the funds be used to offset the cost of health insurance premiums. Effective with the actuarial valuation completed for the year ended June 30, 2003, the retiree health benefit reserve was apportioned into two reserves, the *retiree health benefit reserve* and the *retiree health benefit reserve (VS)* to

Notes to the Basic Financial Statements: Note 6 continued

more clearly account for the liability associated with additional health benefits granted as part of the Settlement Agreement negotiated between the County and certified employee organizations in December 2000. FCERA ceased issuing benefit payments from the non-vested retiree health benefit reserve in November 2014.

The *supplemental cost of living reserve* was established in 1990 to provide additional benefits for eligible members. The benefit was adopted annually under Government Code Section 31874.3 to provide purchasing power protection to those retirees whose accumulated excess cost of living credits exceeds 25%; therefore, the affected members changed each year. The *supplemental cost of living reserve* balance reflects Board approved transfers from *undistributed earnings*. Analysis of the expenses of this reserve indicated that sufficient funding was unavailable to continue the benefit past August 2005. Thus, the Board authorized transfers sufficient to provide funds to continue the benefit at levels in existence at June 30, 2006. FCERA staff, in conjunction with the Actuary, monitors the declining balance of the supplemental cost of living reserve. The Board voted a date certain to cease payments of the supplemental cost of living reserve on August 1, 2016.

The *supplemental benefit reserve* was established to account for the benefit increase given to retirees or the beneficiaries of retirees who retired prior to January 1, 2001, as part of the Settlement Agreement approved in December 2000.

The *supplemental annuity benefit* reserve was established to account for the benefit increase given to members who retired on or after January 1, 2001, as part of the Settlement Agreement approved in December 2000.

The designation for market stabilization serves to spread unanticipated market gains and losses over a five-year period and represents a portion of the variance between net investment earnings and actuarial expectations based on the assumed rate of returns.

FCERA maintains a Statutory Contingency Reserve based on 1% of the total valuation account reserve balances. As part of the Interest Credit policy modified by the Board in September 2008, the Board established an additional Board Contingency Reserve of up to 2% of the total Fiduciary Net Position. Funding of this additional reserve is subject to Board approval.

The Contra Tracking Account represents interest that has been credited to the reserve accounts that was not available to be paid out of the current or excess earnings. A balance in this account is the result of the application of the Board's full interest crediting policy and will be replenished in subsequent periods when there are sufficient earnings.

Notes to the Basic Financial Statements: Notes 7, 8 and 9

NOTE 7 - ACTUARIAL VALUATIONS

Pursuant to provisions in the 1937 Act, FCERA engages an independent actuarial firm, Segal Consulting, to perform an annual actuarial valuation. An experience study is performed every three years (triennial experience study).

The economic and non-economic assumptions are updated at the time each triennial experience study is performed. Triennial experience studies serve as the basis for assumptions required in developing employer and member contribution rates necessary to properly fund the Plan. FCERA periodically hires an independent actuarial firm to audit the results of the valuations. New assumptions were adopted by the Board for the June 30, 2016 actuarial valuation based on the results of the June 30, 2015 triennial non-economic and economic Experience Study. The next Experience Study will be completed after the 2018 valuation is issued and results will be incorporated in the 209 valuation.

The latest actuarial valuation decreased the County normal cost rate from 19.42% to 18.77% of payroll primarily due to the effects of investment gain on valuation value of assets, lower than expected salary increases along with lower than expected cost of living adjustment (COLA) increases as of June 30, 2016. The County's required contribution rate to finance the unfunded actuarial accrued liability (UAAL) increased from 32.60% to 37.97% of payroll. There is an increase in the total required contribution rate from the prior valuation of 5.38%, from 51.36% to 56.74% of payroll.

NOTE 8 - COMMITMENTS AND CONTINGENCIES

FCERA invests in real estate, infrastructure, private credit, and private equity partnerships. Each partnership's investment activity is controlled by a general partner and defined in the prospectus and Commitment Agreement. The Commitment Agreement defines the period of the investment, which is typically five to ten years and the capital commitment. The Board approves the capital commitment at the time the partnership agreement is approved.

As of June 30, 2018, the Plan had capital commitments to the various partnerships, as approved by the Board, totaling \$1,931,095,000. Subsequent to June 30, 2018, FCERA funded \$1,354,319,000 of these capital commitments, with remaining unfunded commitments totaling \$602,286,000 outstanding.

NOTE 9 – LEASES

The FCERA Realty Group, LLC, "the LLC", formation was authorized by the Board of Retirement with the purpose of holding and leasing property. FCERA leases two buildings, 7772 N. Palm and 7778 N. Palm, from the LLC, in order to conduct its administrative operations. The two buildings are each approximately 9,194 square feet. FCERA pays \$30,858.24 per month which amounts to \$1.68 per square foot per month, triple net. The term of the lease is 10 years.

Notes to the Basic Financial Statements: Note 10

NOTE 10 – SUBSEQUENT EVENTS

Date of Management's Review

The potential for subsequent events were evaluated from the fiscal year-end report date of June 30, 2018 through December 6, 2018, which is the date the financial statements were available to be issued. Management did not identify any subsequent events that would require disclosure.

Required Supplementary Information

Schedule of Employer Contributions

Last Ten Fiscal Years

Fiscal Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the		Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
		Actuarially Determined Contributions	Contribution Deficiency (Excess)		
2018	\$210,535,000	\$ 210,535,000	\$ -	\$ 403,018,000	52.24%
2017	198,472,000	198,472,000	-	386,345,000	51.37%
2016	191,529,000	191,529,000	-	370,318,000	51.72%
2015	184,213,000	184,213,000	-	351,109,000	52.47%
2014	165,309,000	165,309,000	-	350,326,000	47.19%
2013	158,572,000	158,572,000	-	346,808,000	45.72%
2012	157,869,000	157,869,000	-	346,742,000	45.53%
2011	130,290,000	130,290,000	-	385,204,000	33.82%
2010	126,138,000	126,138,000	-	392,713,000	32.12%
2009	113,959,000	113,959,000	-	399,799,000	28.50%

Schedule of Investment Returns – Pension Plan

*For the Fiscal Years Ended June 30, 2014 through 2018**

	2018	2017	2016	2015	2014
Annual Money-Weighted Rate of Return, Net of Investment Expenses	7.62%	10.47%	0.022%	0.021%	17.26%

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

Actuarial Methods and Assumptions

As required by GASB Statement No. 67, FCERA's actuary completed the measure of the net pension liability as of June 30, 2018 and June 30, 2017 by rolling forward the total pension liability information for financial reporting, as of June 30, 2017 and June 30, 2016, respectively. The basis for these calculations was the latest Valuation Report, prepared for funding purposes. All actuarial methods and assumptions used for this roll forward analysis were the same as those used in the June 30, 2016 Valuation Report. Actuarially determined contribution rates are based on the actuarial valuation one year prior to the beginning of the Plan year.

Valuation date June 30, 2016

Actuarial cost method Entry age actuarial cost method

Required Supplementary Information continued

Amortization method	Level percent of payroll (3.50% payroll growth assumed).
Remaining amortization period	17 years (declining) for Unfunded Actuarial Accrued Liability (UAAL) established as of June 30, 2003 plus 15 years (declining) for UAAL due to actuarial gains or losses, changes in actuarial assumptions or plan amendments established on each subsequent valuation.
Asset valuation method	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets. The valuation value of assets is the actuarial value of assets reduced by the value of the non-valuation reserves. Deferred gains and losses as of June 30, 2011 have been combined and will be recognized in equal amounts over a period of four and a half years from that date.
<u>Actuarial assumptions:</u>	
Investment rate of return	7.00% net of pension plan investment expenses (includes inflation at 3.00%).
Inflation rate	3.00%
Administrative expenses	1.10% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member.
Projected salary increases	Rates vary by service type:
- General Members	Salary increases range from 4.50% to 11.50%, including 3.00% inflation.
- Safety Members	Salary increases range from 4.90% to 11.50%, including inflation.

Required Supplementary Information continued

Cost of living adjustments	3.00% of retirement income for General Tiers 1, 2 and 3, and Safety Tiers 1 and 2. 0.00% for General and Safety Tiers 4 and 5.
Other assumptions	Same as the assumptions in the June 30, 2016 funding actuarial valuation.
Other information	All members with membership dates on or after January 1, 2013 enter the Tier 5 created by PEPRA.

Schedule of Changes in Net Pension Liability and Related Ratios

For the Fiscal Years Ended June 30, 2018, 2017, 2016, 2015, 2014, and 2013*

	2018	2017	2016	2015	2014	2013
Total pension liability						
Service cost	\$ 108,233,884	\$ 109,231,556	\$ 105,592,251	\$ 104,671,060	\$ 107,568,854	\$ 98,293,207
Interest	393,404,348	381,845,701	366,855,100	355,525,811	341,121,326	336,460,778
Change of benefit terms	-	-	-	-	-	-
Differences between expected and actual experience	(70,094,731)	(70,197,987)	(42,178,682)	(50,048,133)	(146,396,595)	(143,645,760)
Changes of assumptions	-	-	235,227,824	-	-	265,552,249
Benefit payments, including refunds of employee contributions	(263,231,547)	(249,846,894)	(240,231,254)	(231,396,472)	(224,392,602)	(212,956,631)
Other ¹	-	-	-	10,306,014	-	-
Net change in total pension liability	\$ 168,311,954	171,032,376	425,265,239	189,058,280	77,900,983	343,703,843
Total pension liability - beginning	5,713,538,731	5,542,506,355	5,117,241,216	4,928,182,936	4,850,281,953	4,506,578,110
Total pension liability - ending (a)	\$ 5,881,850,685	5,713,538,731	5,542,506,455	5,117,241,216	4,928,182,936	4,850,281,953
Fiduciary net position						
Contributions - employer	210,534,894	198,472,119	191,529,239	184,213,235	165,309,213	158,572,420
Contributions - employee	38,467,001	36,259,132	35,211,756	33,109,947	30,153,934	30,515,683
Net investment income (loss)	312,556,013	417,603,730	(4,319,055)	360,796	583,169,608	378,483,400
Benefit payments, including refunds of employee contributions	(263,231,547)	(249,846,894)	(240,231,354)	(231,396,472)	(224,392,602)	(212,956,631)
Administrative expenses	(5,676,721)	(4,762,253)	(4,814,003)	(4,297,090)	(3,541,682)	(3,633,683)
Other	-	-	-	-	(21,269)	(42,121)
Net change in fiduciary net position	292,649,640	397,725,834	(22,623,417)	(18,009,584)	550,677,202	350,939,068
Fiduciary net position - beginning	4,407,221,766	4,009,495,932	4,032,119,349	4,050,128,933	3,499,451,731	3,148,512,663
Fiduciary net position - ending (b)	4,699,871,406	4,407,221,766	4,009,495,932	4,032,119,349	4,050,128,933	3,499,451,731
Net pension liability - ending (a) - (b)	\$ 1,181,979,279	\$ 1,306,316,965	\$ 1,533,010,523	\$ 1,085,121,867	\$ 878,054,003	\$ 1,350,830,222
Fiduciary net position as a percentage of the total pension liability	79.90%	77.14%	72.34%	78.79%	82.18%	72.15%
Covered employee payroll²	\$ 403,018,000	\$ 386,345,000	\$ 370,318,000	\$ 351,109,000	\$ 350,326,000	\$ 346,808,000
Net pension liability as percentage of covered employee payroll	293.28%	338.12%	413.97%	309.06%	250.64%	389.50%

Notes to Schedule:

Benefit changes: All new members with membership dates on or after January 1, 2013 enter the new tier created by PEPRA.

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

¹ Estimated liability impact for including a group of about 1,420 members reported for the first time as vested terminated members in the June 30, 2015 funding valuation.

² Covered employee payroll represents compensation earnable and pensionable compensation.

Other Supplementary Information

Schedule of Administrative Expenses

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

(Dollars displayed as Actual)	2018	2017
Personnel Services		
Salaries and Benefits	\$ 2,971,745	\$ 2,682,121
Total Personnel Services	2,971,745	2,682,121
Office Expenses		
Election Expenses	18,813	8,418
Office Supplies and Miscellaneous Admin.	65,593	76,836
Postage	26,935	28,376
Telephone	7,608	8,615
Utilities	31,239	28,309
Total Office Expenses	150,187	150,554
Other Services and Charges		
Bad Debt Expense	30,197	-
Equipment / Furnishings	22,220	-
Insurance	143,655	130,759
Maintenance	50,350	42,864
Operating Leases Buildings	277,724	-
Professional and Specialized Services	530,779	508,185
Disability Expenses	386,452	208,291
Data Processing Services	187,311	175,564
Transportation, Travel, and Education - Staff	39,583	66,573
Transportation, Travel, and Education - Board	53,997	64,655
Total Other Services and Charges	1,722,268	1,196,891
Depreciation	832,521	732,687
Total Administrative Expenses	\$ 5,676,721	\$ 4,762,253

Other Supplementary Information continued

Administrative Budget Analysis

For the Fiscal Year Ended June 30, 2018

(Dollars displayed as Actual)	Approved Budget	Final Budget	Fiscal Year Expenses	Percentage Expended
Personnel Services				
Salaries	\$ 1,766,600	\$ 1,766,600	\$ 1,668,021	94.42%
Benefits	1,385,200	1,385,200	1,303,724	94.12%
Total Personnel Services	3,151,800	3,151,800	2,971,745	94.29%
Professional Services				
Actuarial ¹	103,500	103,500	60,438	58.39%
Legal Counsel	345,000	345,000	148,296	42.98%
Professional Services - Disability	215,000	215,000	386,452	179.75%
Other Professional Services	472,608	472,608	322,045	68.14%
Total Professional Services	1,136,108	1,136,108	917,231	80.73%
Travel, Transportation, and Education				
Transportation, Travel, and Education - Board	89,000	89,000	53,997	60.67%
Transportation, Travel, and Education - Staff	68,000	68,000	39,583	58.21%
Total Travel, Transportation, and Education	157,000	157,000	93,580	59.61%
Other				
Data Processing	174,871	174,871	187,311	107.11%
Depreciation	820,406	820,406	832,521	101.48%
Insurance	141,000	141,000	143,655	101.88%
Maintenance	43,386	43,386	50,350	116.05%
Office Supplies and Miscellaneous Admin.	253,002	253,002	202,604	80.08%
Operating Leases	300,000	300,000	277,724	92.57%
Total Other	1,732,665	1,732,665	1,694,165	97.78%
Capital Assets ^{2, 3}	-	-	-	N/A
Total Administrative Expenses ⁴	\$ 6,177,573	\$ 6,177,573	\$ 5,676,721	91.89%

¹ Excludes annual valuation costs which are included as part of investment expenses.

² Capital Assets are included in the adopted Administrative Budget when purchased.
However, the costs are recognized as a result of the depreciation process.

³ Computer Equipment is included in Information Technology (IT) Infrastructure page 59

⁴ As defined in Government Code Section 31580.2, excludes Information Technology expenses.

Other Supplementary Information continued

Schedule of Information Technology Expenses

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

(Dollars displayed as Actual)	2018	2017
Property and Equipment	\$ 26,618	\$ 847
Pension System Maintenance	188,006	76,287
Subtotal Excluded IT Expenses ¹	214,624	77,134
IT Infrastructure ²	314,819	370,882
Total Information Technology Expenses	\$ 529,443	\$ 448,016

¹ As defined by Government Code Section 31580.2.

² IT Infrastructure amounts are accounted for in the Depreciable Capital Assets.

Schedule of Investment Expenses

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

(Dollars displayed as Actual)	2018	2017
Investment Manager Fees	\$ 25,550,805	\$ 23,698,473
Custodian Service Fees ²	118,050	117,250
Actuarial Valuation Fees ^{1, 2}	68,000	68,000
Due Diligence Travel	5,715	17,516
Investment Legal Fees ²	226,848	306,938
Investment Consultant Fees ²	452,347	399,925
Subtotal Investment Expenses²	26,421,765	24,608,102
Securities Lending Expenses	342,345	198,670
Total Investment and Security Lending Expenses	\$ 26,764,110	\$ 24,806,772

¹ Actuarial Valuation Fees are the fees for producing the Actuarial Valuation Report.

² Investment Legal Fees, Investment Consultant Fees, Custodian Service Fees, and Actuarial Valuation Fees can also be found on page 60 as Payments to Consultants.

Other Supplementary Information continued

Schedule of Payments to Consultants

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

(Dollars displayed as Actual)	2018	2017
Disability Attorney Fees	\$ 103,058	\$ 77,433
Retirement Board Attorney Fees	148,296	119,571
Disability Medical, Investigation, and Copying Fees	283,394	130,858
Other Professional Expenses	259,845	95,361
Audit Fees	62,200	60,374
Actuarial Consulting Fees (non-actuary study costs)	60,438	57,315
Actuarial Valuation Fees ¹	68,000	68,000
Investment Legal Fees ¹	226,848	306,938
Custodian Service Fees ¹	118,050	117,250
Investment Consultant Fees ¹	452,347	399,925
Data Processing Fees	187,311	175,564
Total Payments to Consultants	\$ 1,969,787	\$ 1,608,589

Refer to page 72 for information on fees paid to investment managers.

¹ Investment Legal Fees, Investment Consultant Fees, Custodian Service Fees, and Actuarial Valuation Fees can also be found on page 59 as Investment Expenses.



Investment Section

August 31, 2018

Board of Trustees
Fresno County Employees' Retirement Association
7772 N. Palm Avenue
Fresno, CA 93711

Dear Trustees:

Verus Advisory ("Verus") is pleased to provide the Board of Trustees of Fresno County Employees' Retirement Association ("FCERA") with an overview of the market environment, an update on performance, and a summary of recent developments for the fiscal year ended June 30, 2018.

Investment Landscape

The dominant theme from the end of fiscal year 2017 was one of synchronized global growth; this trend continued into fiscal year 2018. While on an absolute basis, global growth has been stronger during other cycles, the fact that every major economy experienced strengthening growth rates at roughly the same time proved to be a powerful tailwind for markets to start the fiscal year.

While there were periods of heightened volatility stemming from geopolitical risk in the Korean Peninsula, the market largely shrugged off these concerns and the low volatility positive momentum environment continued. The labor market in the U.S. continued to strengthen as U3 unemployment hit 4.2%, its lowest level since March of 2001. In Europe, third quarter real GDP grew at 2.6%, its fastest pace since 2011. Business and consumer sentiment improved, as did earnings growth rates across equity markets. For the quarter ending September 30, 2017, U.S. large cap stocks returned 4.5%, small cap stocks returned 5.7%, international developed market stocks returned 5.4%, and emerging market equities were up 7.9%.

The Federal Reserve continued its steady path normalizing interest rates with a third increase in calendar 2017 culminating in a fed funds target rate of 1.5% in December. By June 2018 the Fed had raised interest rates twice more, targeting a fed funds rate of 2%. Despite slightly higher inflation expectations the long end of the curve remained relatively anchored, resulting in a very flat yield curve environment. During the fourth quarter the Fed also began reducing the size of its balance sheet, approximately \$30 billion in Treasuries and mortgage-backed securities were trimmed during the quarter.

While the Fed's monetary policy continued in a hawkish manner, Congress took steps to support the expansion by passing a major overhaul to the U.S. tax system, signed into law by President Trump in December. The most widely publicized aspect of the bill was lowering the statutory tax rate for corporations from 35% to 21%. The passing of this legislation provided a further boon to equity earnings (both realized and forward-looking estimates) heading into 2018, leading to an almost-parabolic rally in January.

Sentiment in markets took an abrupt shift in February; the sell-off in equities led to the largest-ever one-day change in the VIX. Somewhat ironically, the widely accepted narrative surrounding this sell-off was a stronger-than-expected wage growth print that led to concerns that higher inflation may lead to further tightening by the Fed. The sell-off was also likely exacerbated by the growth in popularity of volatility-selling strategies. The net impact of this was that global stock

markets were down between 1-2% during the third fiscal quarter, the exception being emerging market equities, which were up 1.2%. The increase in intra-quarter volatility was a U.S. focused event rather than a global phenomenon; volatility remained relatively benign in international developed and emerging markets.

International trade took center-stage towards the end of the fiscal year. The Trump Administration enacted a 25% tariff on steel and a 10% tariff on aluminum which went into effect in March. While trade re-negotiations were initially proposed as broad-based, many U.S. trade partners were exempted, and the issue evolved into a more focused U.S.-China trade dispute. The actions of both governments did little to quell fears of a global trade war igniting; we view the relative amounts of current and proposed tariffs as less consequential to the overall economy than the risk of escalation or the knock-on effects on investor sentiment.

During the final quarter of the fiscal year there was a strong divergence in performance across equity markets; while the Russell 3000 (U.S. stocks) gained 3.9%, international developed markets lost 1.1% and emerging markets depreciated 7.8%. The sell-off in emerging markets was driven by the ongoing trade war fears, weaker oil prices, and a stronger U.S. dollar.

Plan Performance

The FCERA investment portfolio (“the Portfolio”) earned a 7.2% return net of fees for the fiscal year ending June 30, 2018. This return outperformed the policy index return by 0.2%. Portfolio risk as measured by standard deviation has fallen over the last several years. For the trailing ten and seven-year periods, the Portfolio’s standard deviation was 10.5% and 7.3% respectively. However, the Portfolio’s standard deviation dropped to 5.2% over the five-year period and 5.3% over the three-year period.

The steady global upswing that occurred during the first half of the fiscal year led to strong performance from the Portfolio’s domestic equity, commodities, infrastructure, and private market assets on an absolute basis. The domestic equity portfolio returned 16.5%, outperforming the Russell 3000 Index return of 14.8%. Private equity and credit produced net returns of 17.7% and 8.5% for the year, outpacing their public market benchmarks by a considerable margin. The Portfolio’s infrastructure and commodity allocations, while relatively small, were also additive. The portfolio’s infrastructure fund investment generated an 18.1% net return while the commodity investments appreciated 12.4%, both investments significantly outperformed their market benchmark.

The Portfolio’s international equity investments were up 5.3%, underperforming the benchmark by 2.5%, primarily due to an overweight to value-oriented strategies, which have lagged growth during a period of very strong performance from the technology sector.

Hedge funds performed in line with expectations, generating a 5.3% return and outperforming the benchmark by 0.2%. Real estate investments were up 6.5%, lagging the benchmark return of 7.7%. Amidst a rising interest rate environment, the fixed income portfolio finished the year up 1.3%, slightly trailing the benchmark return of 1.4%. Within this portfolio, stronger performance from high yield, bank loans, and inflation-linked bonds was offset by investment grade credit and non-U.S. bonds, the latter of which were negatively impacted by the strengthening U.S. dollar in the last few months of the year.

On a longer-term annualized basis, the Portfolio has generated consistent performance in line with the conservative and diversified strategic targets. For the three-years ending June 30, 2018, the Portfolio returned 5.7%, underperforming the policy index by 0.3%. Over the five-year period, the Portfolio returned 6.7%, outperforming the policy index by 0.4%. For the trailing ten-year period, the Portfolio returned 6.2% while the policy index returned 5.5%. In computing individual manager returns, Verus utilizes the industry-standard approach of computing a time-weighted rate of return based on the market rate of return. All returns cited are net of investment manager fees.

Plan Activity

During the 2018 fiscal year we worked with staff and the Board to conduct a comprehensive asset-liability study. This study was conducted in five parts. First, we sought to better understand the System's enterprise risk tolerance through board surveys, a detailed analysis of the actuarial valuation, and a survey of the peer landscape. Next, we reviewed 2018 ten-year capital market assumptions relative to the current economic environment and established "goal-post" portfolios encompassing a wide range of asset allocations to facilitate further discussion. During the third phase of the Study, we integrated actuarial models with asset projections to better understand how the system's fiscal dynamics might evolve over time with different portfolio structures and across varying economic regimes. Through this exercise we were able to refine the goal-post portfolios and determine the target asset allocation with the optimal characteristics. Lastly, we worked with the Board to establish a road-map to implementation.

During the fiscal year we also worked with the Board to finalize the private markets program, identify a new small cap domestic equity manager, deploy additional capital to a private value-add real estate fund, and identify a new higher-conviction large-cap growth equity manager.

Lastly, Verus identified and underwrote a unique community investment strategy aimed at driving economic development within the County of Fresno in a prudent and risk-managed fashion.

All of us here at Verus appreciate the opportunity to assist the FCERA Board in meeting the Plan's investment objectives. We are confident in the direction of the portfolio, and we look forward to continuing our partnership as we navigate ever-changing capital markets.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeffrey J. MacLean".

Jeffrey J. MacLean
Chief Executive Officer

General Information

The goal of Fresno County Employees' Retirement Association (FCERA) is to provide retirement compensation, death benefits, and disability benefits to its members. The Plan should meet this goal through prudent investment of employee and employer contributions.

The County Employees Retirement Law of 1937 governs the Plan. California Public Law (including Sections 31594 and 31595) also regulates Plan action. Sections 31594 and 31595 are especially important because they provide for prudent person governance of the Plan. These laws do not specify the type, amount, and quality of Plan investments. Rather, these laws guide the Plan to make investments assumed to be in the best interest of the Plan's beneficiaries. Such decisions should be consistent with the decisions of other investors possessing similar information.

The Board of Retirement has exclusive control of the investments of the Plan's retirement fund. The assets of the Plan are trust funds and shall be held for the exclusive purposes of providing benefits to its members in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the Plan. Except as otherwise expressly restricted by the California Constitution and by law, the Board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund 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.

The officers and employees of the Board shall discharge their duties to the Plan as follows:

- The Board will act solely in the interest of and for exclusive purposes of providing benefits to participants and their beneficiaries. The Board will keep employer contributions to the Plan at a minimum level. The Board will also pay reasonable expenses required to administer the plan.
- The Board will act like a prudent person under equivalent circumstances and having similar goals. Attention to care, skill, prudence, and diligence is of utmost importance when acting on behalf of the Plan.
- The Board shall diversify the Plan's investments to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so. The diversification of the Plan's portfolio is displayed in the tables and graphs included in the following pages.

The Plan's assets are exclusively managed by external, professional investment management firms. The Board closely monitors the performance of the managers with the assistance of an external investment consultant.

Summary of Investment Objectives

Summary of Investment Objectives

The Plan's primary objective is to efficiently allocate and manage the assets dedicated to the payment of retirement and disability benefits. While recognizing the importance of "preservation of capital," the Plan also adheres to the principle that varying degrees of investment risk are generally rewarded with compensating returns in the long run.

To accomplish its investment objectives, the Plan has established a series of procedures and guidelines. The procedures, grouped together as the Investment Policy, serve to guide the Plan's investment program. The procedures also help to define the responsibilities of the Board members as they relate to the investment process.

The policy drives the investment actions of the Plan. This policy considers various mixes of different investment asset class risk and return expectations for each mixed-class portfolio current and projected plan liabilities. The policy places responsibility for proxy voting with its equity investment managers.

The Investment Results on page 68 are based on time-weighted rate of return using fair value and are annualized for three and five years. All other information is reported at fair value.

Target and Actual Asset Allocations

The Board reviews the Plan's investment results each quarter. Periodically, the Board reviews the asset allocation, taking into consideration the latest actuarial study. Based on this review, the Board adopts an asset allocation mix with the goal of helping the Plan achieve a fully funded status. Each asset class has a target allocation. The Plan treats these targets as long-term funding objectives. Adhering to these targets allows the Plan to keep investment risk at a manageable level and minimizes investment costs.

One keystone of asset allocation is diversification among asset classes. Diversification helps to maintain risk at a tolerable level. Therefore, the Board reviews the investment performance and volatility of each asset class on a regular basis over various time periods (quarterly, annually, multi-years) to ensure that the current allocation continues to meet the Plan's needs.

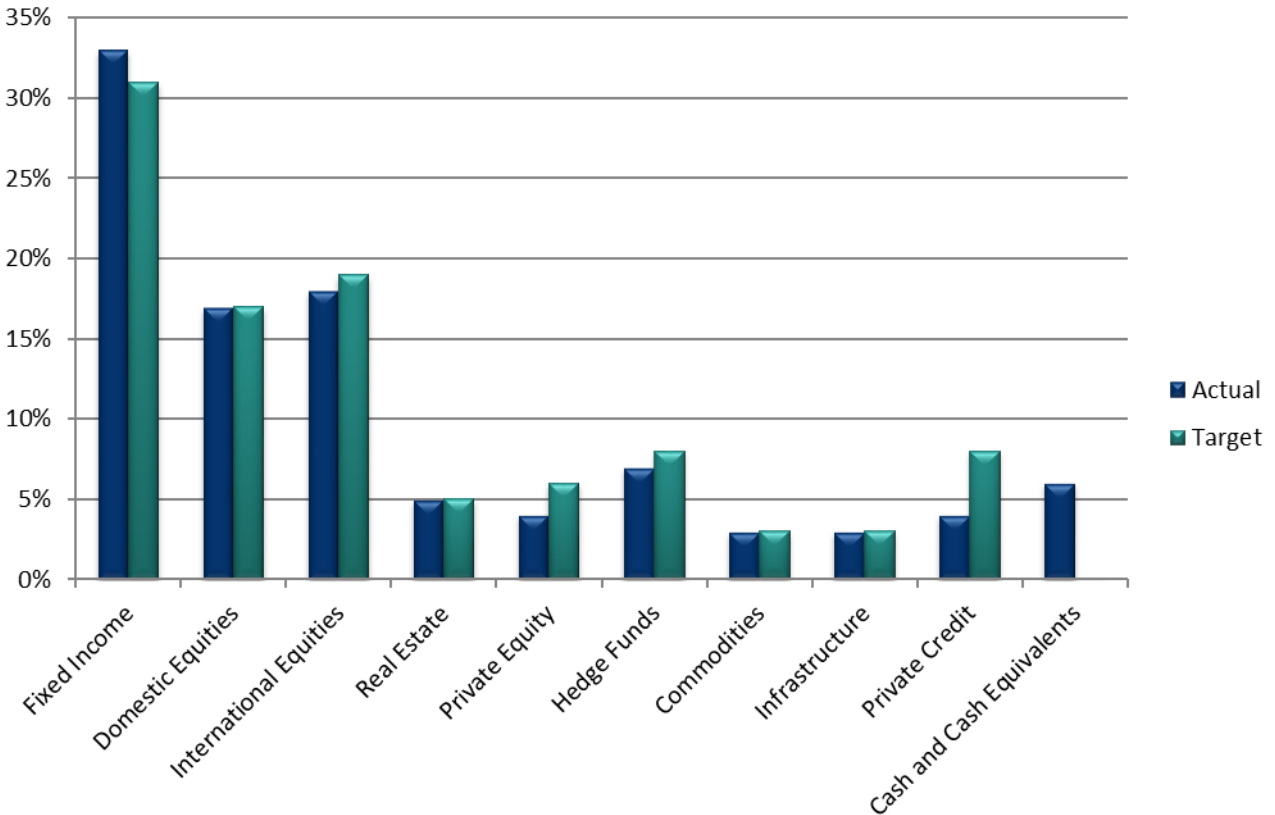
Over time, the Board implements the asset allocation plan by hiring investment managers to invest assets on behalf of the Plan, subject to investment guidelines incorporated into each firm's investment management contract.

The information provided on subsequent pages is a representation of the Plan's financial statements. Individually, they may not tie to the investment consultant's report on pages 61 to 63 of this Comprehensive Annual Financial Report (CAFR) due to the different reporting methodologies used by the investment consultant and the Plan.

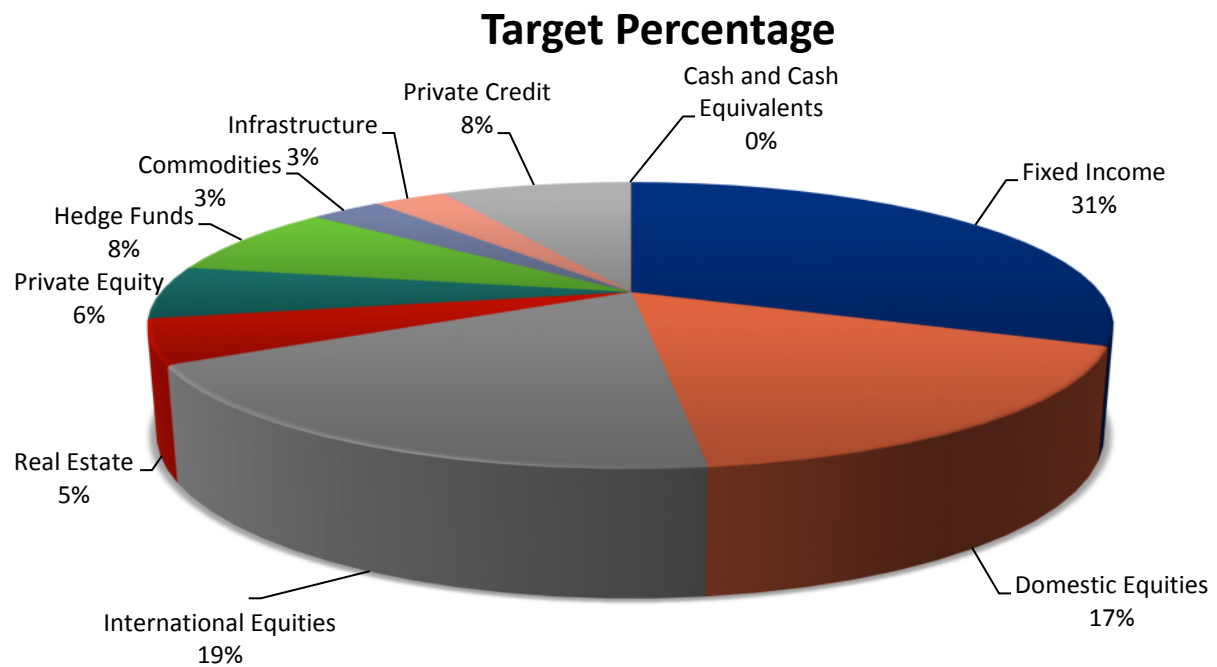
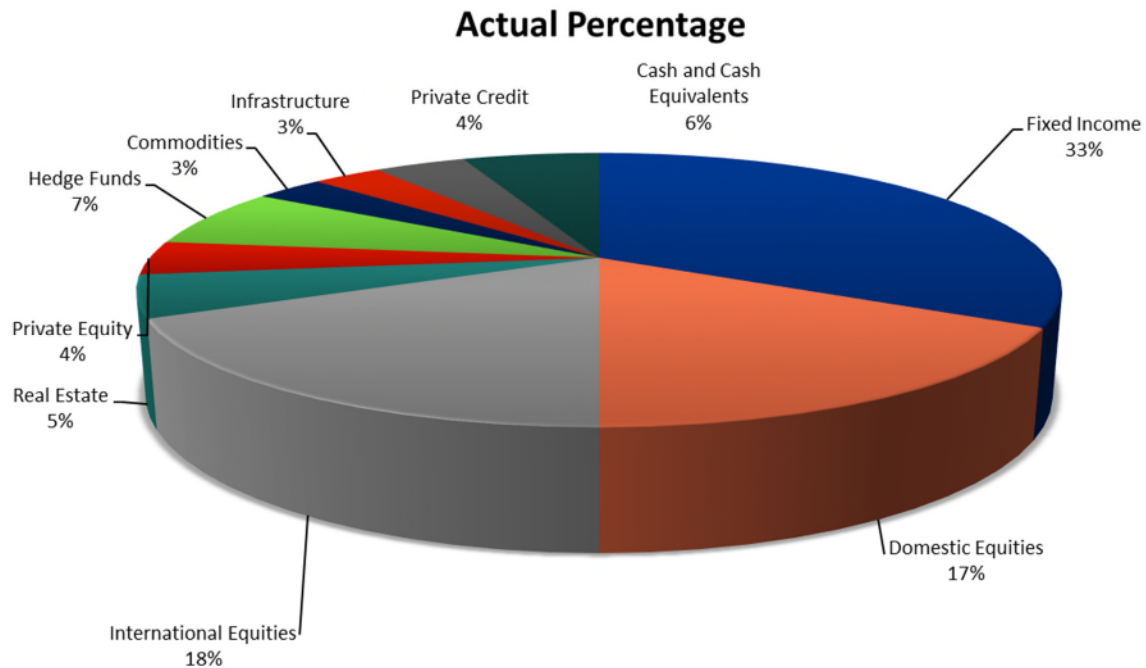
Target and Actual Asset Allocations continued

For example, the investment consultant reports cash held with investment managers as part of the investment manager's investment portfolio not as cash and cash equivalents as reported on the Investment Summary. Also, the target asset allocation calls for all cash requirements of the Plan to be classified as Fixed Income. However, the Plan's actual operating cash is reported separately in the Financial Statements and on the Investment Summary.

The fiscal year 2017 – 2018 target and actual asset allocations are presented in the following graphs and charts.



Target and Actual Asset Allocations continued



Investment Results

Investment Results

As of June 30, 2018

Investments	Current Year	3-Year Return	5-Year Return
Fixed Income			
Investment Grade Credit	-0.60%	3.50%	0.00% ¹
Benchmark : BBgBarc US Credit TR	-0.60%	2.90%	3.40%
Domestic High Yield	2.20%	4.20%	0.00% ¹
Benchmark : BBgBarc US High Yield TR	2.60%	5.50%	5.50%
Domestic Senior Loan	4.40%	4.40%	0.00% ¹
Benchmark : Leveraged Loan Index	4.40%	4.20%	4.00%
Eaton Vance Senior Loan Plus	3.80%	0.00% ¹	0.00%
Leveraged Loan Index	4.40%	4.20%	4.00%
TIPS Index Fund	2.10%	1.90%	1.60%
Benchmark : BBgBarc US TIPS TR	2.10%	1.90%	1.70%
Global Sovereign	-0.50%	2.30%	0.00% ¹
Benchmark : Citi WGBI	1.90%	2.80%	1.10%
Emerging Markets Debt	-2.70%	1.50%	0.00% ¹
Benchmark : JP Morgan GBI EM Diversified	-2.30%	2.00%	-1.40%
Equities			
Domestic Large Capital Value	11.40%	7.00%	10.30%
Benchmark: Russell 1000 Value	6.80%	8.30%	10.30%
Domestic Large Capital	14.40%	12.00%	13.40%
Benchmark: S&P 500 Index	14.40%	11.90%	13.40%
Domestic Large Capital Growth	26.60%	14.10%	16.80%
Benchmark: Russell 1000 Growth	22.50%	15.00%	16.40%
Domestic Small/Mid Capital Value	11.90%	8.00%	11.00%
Benchmark: Russell 2500 Value	11.50%	9.80%	10.80%
Emerging Markets Equity	-0.40%	2.10%	1.00%
Benchmark: MSCI Emerging Markets	8.20%	5.60%	5.00%
International Growth	7.90%	3.50%	6.40%
Benchmark : MSCI EAFE	6.80%	4.90%	6.40%
International Equity	7.00%	6.00%	7.50%
Benchmark : MSCI EAFE	6.80%	4.90%	6.40%
International Equity Small Cap	12.70%	8.70%	8.60%
Benchmark : S&P Developed ex U.S. SC Index	11.40%	9.30%	10.80%
Private Markets			
Real Estate	6.10%	7.90%	9.80%
Benchmark : NCREIF Classic Property	7.70%	8.50%	10.10%
Infrastructure	18.10%	12.50%	0.00% ¹
Benchmark : NCREIF ODCE	7.70%	8.50%	10.10%
Hedge Funds	5.30%	2.70%	3.40%
Benchmark : HFRI FOF Composite Index	5.10%	1.90%	3.50%
Private Equity	17.70%	8.90%	0.00% ¹
Benchmark : Russell 2000	11.80%	8.20%	10.80%
Commodities	12.40%	0.70%	-2.60%
Benchmark : Bloomberg Commodity Index TR	7.30%	-4.50%	-6.40%
Private Credit	8.50%	5.60%	0.00% ¹
Benchmark: BBgBarc US Corp High Yield	3.80%	5.20%	5.30%
Cash, Custodial, and Investment Pool			
Cash	0.80%	0.60%	0.40%
Benchmark: 91-Day Treasury Bill	1.40%	0.70%	0.40%
Total Fund	7.20%	5.70%	6.70%

Notes: Hedge Funds, Private Equity and Commodities are net of fees. Private Equity returns are lagged one quarter. Other investments are reported gross of fees. Investment results were prepared using a time-weighted rate of return based on the market rate of return.

¹ Domestic Fixed Income and Emerging Market Debt is incorporated under Global Fixed Income. Return data will be available for the 3 year and 5 year going forward. Private Equity and Private Credit return data for the 5 year results are not currently available due to a change in reporting software at June 30, 2016. Infrastructure was funded in May 2015.

Investment Summary

Investment Summary

As of June 30, 2018

(Dollars in Thousands)

Investments	Fair Value	Actual Percentages ²	Target Percentages
Fixed Income			
Domestic Fixed Income	\$ 751,148	16.07%	19.00%
Foreign Fixed Income	470,360	10.06%	12.00%
U.S. Government and Agencies ¹	335,304	7.17%	0.00%
Total Fixed Income	1,556,812	33.30%	31.00%
Equities			
Domestic Equities	787,250	16.84%	17.00%
International Equities	838,920	17.95%	19.00%
Real Estate Investment Trusts	17,443	0.37%	0.00%
Total Equities	1,643,613	35.16%	36.00%
Private Markets and Alternatives			
Real Estate	220,259	4.71%	5.00%
Private Equity	182,082	3.90%	6.00%
Hedge Funds	332,868	7.12%	8.00%
Commodities	137,737	2.95%	3.00%
Infrastructure	145,130	3.10%	3.00%
Private Credit	177,956	3.81%	8.00%
Total Private Markets and Alternatives	1,196,032	25.59%	33.00%
Derivatives	(3,361)	-0.07%	0.00%
Total Investments	4,393,096	93.98%	100.00%
Cash and Cash Equivalents			
Cash Held in County Investment Pool	94,256	2.02%	0.00%
Short - Term Investment with Fiscal Agent	187,107	4.00%	0.00%
Total Cash and Cash Equivalents	281,363	6.02%	0.00%
Total Investments, Cash and Cash Equivalent	\$ 4,674,459	100.00%	100.00%

¹ Includes TIPS.

² Amounts may not equal 100% due to rounding.

Largest Fixed Income and Equity Holdings

Largest Fixed Income Holdings (By Fair Value)

As of June 30, 2018

Par	Name	Yield	Maturity Date	Fair Value
\$ 776	FUT SEP 18 CBT 5Y T-NOTE	0.6400	09/28/2018	\$ 88,166,938
160	FUT SEP 18 US 2YR T-NOTE	0.5500	09/28/2018	33,892,500
2,578,114	CF LOOMIS SAYLES FULL DISCRETION INST	4.8800	N/A	28,204,564
26,410,000	UNITED STATES TREAS NTS FLTG RATE	1.9770	04/30/2019	26,432,264
22,295,000	UNITED STATES TREAS NTS DTD	1.9670	07/31/2019	22,315,890
21,535,000	UNITED STATES TREAS NTS FRN	2.0770	10/31/2018	21,550,677
17,592,331	UNITED KINGDOM (GOVERNMENT OF)	1.2490	07/22/2018	17,600,072
1,298,637	MFO PIMCO PAPS ASSET BACKED SECURITIES	3.9580	N/A	16,570,604
15,520,000	US TREASURY TNOTE FRNS	1.9420	04/30/2020	15,517,222
134,617	MEXICO (UNITED MEXICAN STATES)	0.0770	11/13/2042	13,576,403
\$ 107,364,635	Total			\$ 283,827,134

Largest Equity Holdings (By Fair Value)

As of June 30, 2018

Shares	Name	Fair Value
193,705	MICROSOFT CORP	\$ 19,101,250
10,853	AMAZON.COM INC	18,447,929
68,652	APPLE INC	12,708,172
61,650	MASTERCARD INC CL A	12,115,458
86,750	VISA INC COM CL A STK	11,490,038
83,200	SALESFORCE COM INC	11,348,480
84,553	DEUTSCHE BOERSE AG NPV (REGD)	11,268,872
45,982	LINDE AG NPV (ASD 24/11/2017)	10,973,477
65,800	CME GROUP INC	10,785,936
54,150	HOME DEPOT INC	10,564,665
755,295	Total	\$ 128,804,277

A complete list of portfolio holdings is available upon request.

List of Investment Managers

Domestic Bonds

Eaton Vance
Loomis Sayles
State Street TIPS Index Fund
Western Asset Management Company

Global Bonds

Brandywine
Pimco EMD

Domestic Stocks

Aronson, Johnson & Ortiz, L.P.
Ivy (formerly Waddell & Reed)
PIMCO Stocks Plus
State Street Global Advisors
Systematic Financial Management

International Stocks

Artisan Partners International
Mondrian Investment Partners
Research Affiliates

Private Credit

AlpInvest FC Credit Partners VII
Angelo Gordon VII
Carlyle CPC V, L.P.
Carlyle TCG BDC II
Colony Distressed Credit I, L.P.
Colony Distressed Credit III, L.P.
CVI Credit Value Fund III
EQT Credit Opportunities III
GSO European Senior Debt Fund, L.P.
KKR Mezzanine Partners
Lone Star Fund IV
Oaktree Opportunities IX, L.P.
OHA Strategic Credit Fund II
TCW Shop III
TSSP Adjacent Opportunities

Private Equity

Avista Capital IV
Blackstone IV
Hamilton Lane Advisors LLC
Hamilton Lane VI
Hamilton Lane IX
Hamilton Lane Secondary IV
Horsley Bridge XI
Landmark Equity, XIV, L.P.
New Mountain Partners III
Platinum Equity Small Cap
WP Equity Partners, L.P.
WP Private Equity VIII, L.P.
WP Private Equity X, L.P.
WP Private Equity, XII L.P.

Real Estate Investments

FCERA Realty Group, LLC
Gerding Edlen Green Cities III, L.P.
Invesco Core Real Estate
Kennedy Wilson Real Estate Fund V, L.P.
TA Realty Associates IX

Infrastructure

IFM Global Infrastructure

Hedge Fund

GCM Better Futures Fund
Grosvenor Capital Management

Commodities

Invesco Commodity Trust

Cash Overlay

Parametric

Schedule of Fees

Schedule of Fees

For the Fiscal Year Ended June 30, 2018, with Comparative Totals

	2018	2017
Investment Managers' Fees		
Domestic Equity Managers:		
Kalmar Management ¹	\$ -	\$ 402,887
Pimco Stocks Plus Small AR	129,617	-
State Street Global Advisors	49,504	67,426
Systematic Financial Management	331,622	228,222
Waddell & Reed Investment Management	692,325	530,600
Total Domestic Equity Managers	1,203,068	1,229,135
International Equity Managers:		
Artisan International	690,366	620,846
Mondrian Investment Partners	3,018,240	2,638,538
Research Affiliates	460,663	413,599
Total International Equity Managers	4,169,269	3,672,983
Domestic Fixed Income Managers:		
Barclays U.S. AGG Bond ²	1,594	46,859
Brandywine Global	384,282	284,562
Eaton Vance	1,599,112	1,155,552
Loomis Sayles	755,145	532,943
Pimco EMD	1,069,787	985,123
State Street TIPS Index Fund	67,637	64,268
Western Asset Management Company	657,090	703,286
Total Domestic Fixed Income Managers	4,534,647	3,772,593
Private Market Managers:		
Private Equity	3,604,632	2,547,292
Real Estate	2,192,949	2,681,217
Hedge Funds	4,411,209	4,358,612
Commodities	1,125,879	907,865
Infrastructure	1,296,422	2,501,749
Private Credit	2,782,055	1,928,557
Total Private Market Managers	15,413,146	14,925,292
Total Investment Managers' Fees	25,320,130	23,600,003
Cash Overlay Manager:		
Parametric	230,675	98,470
Total Cash Overlay Managers	230,675	98,470
Other Investment Expenses		
Securities Lending Management Fees & Rebates	342,345	167,484
Due Diligence Travel	5,715	17,516
Custodian Service Fees	118,050	117,250
Actuarial Valuation Fees	68,000	68,000
Consulting and Legal Fees	679,195	706,863
Total Other Investment Expenses	\$ 1,213,305	\$ 1,077,113

¹ Closed in April 2017

² Closed in July 2017 Fresno County Employees' Retirement Association

Schedule of Commissions

Schedule of Commissions

As of June 30, 2018

Brokerage Firm	Rank	Number of Shares Traded	Total Commissions	Commissions Per Share	Percentage of Commissions
MORGAN STANLEY AND CO., LLC	1	62,359,563	\$45,383	\$ 0.00073	9.40%
BROADCORT CAPITAL (THRU ML)	2	904,243	30,156	0.03335	6.24%
J.P. MORGAN SECURITIES PLC	3	106,289,219,001	28,997	0.00000	6.00%
INVESTMENT TECHNOLOGY GROUP INC.	4	2,062,840	23,501	0.01139	4.87%
BANK OF AMERICA CORPORATION	5	9,595,052	21,774	0.00227	4.51%
COWEN AND COMPANY LLC	6	722,685	21,681	0.03000	4.49%
GOLDMAN, SACHS AND CO.	7	6,099,485,584	20,124	0.00000	4.17%
LIQUIDNET INC	8	1,562,093	19,967	0.01278	4.13%
J.P. MORGAN SECURITIES LLC	9	42,584,360	14,898	0.00035	3.09%
CITIGROUP GLOBAL MARKETS INC.	10	38,950,502,354	13,004	0.00000	2.69%
INSTINET INVESTMENT SERVICES LIMITED	11	1,548,243	12,219	0.00789	2.53%
MERRILL LYNCH INTERNATIONAL LIMITED	12	29,087,096	10,114	0.00035	2.09%
INSTINET EUROPE LIMITED	13	1,355,430	9,453	0.00697	1.96%
ROSENBLATT SECURITIES INC.	14	1,121,541	9,377	0.00836	1.94%
CREDIT SUISSE SECURITIES(EUROPE)LTD	15	476,992	8,938	0.01874	1.85%
DEUTSCHE BANK SECURITIES INC.	16	28,484,008	8,578	0.00030	1.78%
DEUTSCHE BANK SECURITITES	17	307,418	8,279	0.02693	1.71%
BARCLAYS CAPITAL	18	61,791,885	7,471	0.00012	1.55%
HSBC BANK PLC	19	1,989,238,974	7,092	0.00000	1.47%
SOCIETE GENERALE LONDON BRANCH	20	733,810	5,878	0.00801	1.22%
Top 20 Firms by Commission Dollars		153,573,143,172	\$326,884	\$ 0.00000	67.69%
All other Brokerage Firms		402,493,085,503	155,997	0.00000	32.31%
Total Brokerage Commissions		556,066,228,674	\$482,881	\$ 0.00000	100.00%



Actuarial Section



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T 415.263.8200 www.segalco.com

March 20, 2018

Board of Retirement
Fresno County Employees' Retirement Association
7772 N Palm Ave
Fresno, CA 93711

**Re: June 30, 2017 Actuarial Valuation for the Fresno County Employees'
Retirement Association**

Dear Members of the Board:

Segal Consulting (Segal) prepared the June 30, 2017 actuarial valuation of the Fresno County Employees' Retirement Association (FCERA) for funding purposes. We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and FCERA's funding policy that was originally approved by the Board in 2015 and reaffirmed by the Board in 2017.¹ In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice (ASOPs).

Actuarial valuations are performed on an annual basis with the last valuation completed as of June 30, 2017. The actuarial calculations presented in the valuation report have been made on a basis consistent with our understanding of the historical funding methods used in determination of the liability for statutory retirement benefits.

The June 30, 2017 actuarial valuation is based on the plan of benefits verified by FCERA and on participant and financial data provided by FCERA. Segal conducted an examination of these data elements and found them to be reasonably consistent and comparable with data used for other purposes. 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, Retirement Plan assets are valued at actuarial value. Under this method, the assets used to determine employer contribution rates take into account market value by recognizing the

¹ As part of the Board's deliberation in 2017, FCERA also expanded the funding policy to include procedures to address the delay in receiving contributions and to specify the discount rate on prepayment of employer contributions.

differences between the total return at market value and the expected investment return over a five-year period. The deferred gains and losses are further adjusted, if necessary, so that the actuarial value of assets will stay within 30% of the market value of assets.

One of the general goals of an actuarial valuation is to establish contribution rates, which, over time, will remain level as a percentage of payroll 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 UAAL is amortized as a level percentage of payroll over a declining period with 16 years remaining for the outstanding balance of the UAAL established as of the June 30, 2003 valuation and a separate 15-year period is used for new UAAL established on each subsequent valuation as a result of actuarial gains/losses or changes in actuarial assumptions. Any increase in UAAL due to new benefit improvements is also amortized over 15 years. The progress being made towards meeting the funding objective through June 30, 2017 is illustrated in the Schedule of Funding Progress.

Note number 2 to the 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 (GAS) Statement No. 67 actuarial valuation as of June 30, 2017 prepared by Segal. For the Financial Section of the Comprehensive Annual Financial Report, Segal provided the Schedule of Change in Net Pension Liability and Schedule of Employer Contributions as shown in the RSI. A listing of 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 June 30, 2017 for funding purposes.

1. Solvency test;
2. Actuarial Analysis of Financial Experience;
3. Schedule of Funding Progress;
4. Average Benefit Payments; and
5. Years of Life Expectancy after Service and Disability Retirement.

The valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on the June 30, 2015 Experience Analysis or in conjunction with the June 30, 2016 actuarial valuation. Note that the investment return assumption was developed without taking into consideration the impact of the Board's policy of utilizing excess earnings

to provide contribution offsets and additional settlement and non-statutory benefits.² It is our opinion that the assumptions used in the June 30, 2017 valuation produce results, which, in aggregate, reflect the future experience of the Plan. An experience analysis is performed every three years and the next experience analysis is due to be performed as of June 30, 2018 and any changes in assumptions that result will be reflected in the June 30, 2019 valuation.

In the June 30, 2017 valuation, the ratio of the valuation assets to actuarial accrued liabilities (funded percentage) increased from 78.2% to 80.3%. The aggregate employer rate has decreased from 56.01% of payroll to 55.93% of payroll before reflecting the three-year phase-in as discussed below, while the aggregate member rate has decreased from 9.51% to 9.47% of payroll.

Last year, the Board approved a three-year phase-in of the employer cost impact due to the changes in actuarial assumptions in the June 30, 2016 valuation. This is the second year of the phase-in. The aggregate employer contribution rate after reflecting the phase-in is 54.09% of payroll in the June 30, 2017 valuation.

Under the actuarial value of assets method, the total unrecognized investment losses as of June 30, 2017 are \$122.3 million. These investment losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, and will offset any investment gains that may occur after June 30, 2017. If the Association earns the assumed net rate of investment return of 7.00% per year on a market value basis, that will result in investment losses on the valuation value of assets in the next few years. This means that, if the actual market return is equal to the assumed 7.00% rate and all other actuarial assumptions are met, the contribution requirements would increase in the next few years.

The current unrecognized investment losses represent about 2.8% of the market value of assets. Unless offset by future investments gains or other favorable experience, the recognition of the \$122.3 million in past market losses is expected to have an impact on the Association's future funded ratio and the aggregate employer contributions. This potential impact may be illustrated as follows:

- If the deferred losses were recognized immediately in the valuation value of assets, the funded percentage would decrease from 80.3% to 78.1%.
- If the deferred losses were recognized immediately in the actuarial value of assets, the aggregate employer contribution rate would increase from 55.9% of payroll to 58.5% of payroll before reflecting the three-year phase-in.

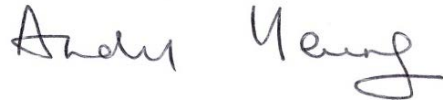
² Under the Board's interest crediting policy, the balance of \$912.6 million (negative) in the Contra Tracking Account has to be fully restored before any excess earnings can be utilized in the future to provide any of the above offsets and benefits.

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

Sincerely,



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



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

AW/bbf
Enclosures

Summary of Actuarial Assumptions and Methods

The Entry Age Normal Actuarial Cost Method was used in conjunction with the following actuarial assumptions. The Unfunded Actuarial Accrued Liability (UAAL) established as of the June 30, 2003 valuation is being amortized over a declining 30-year period with 16 years remaining as of June 30, 2017. Any new UAAL established on each subsequent valuation after June 30, 2003, as a result of actuarial gains or losses and changes in actuarial assumptions is amortized over a separate 15-year declining period. The increase in UAAL due to benefit improvements is amortized over 30 years for periods ending through June 30, 2010, and is 15 years for all periods thereafter. The following interest rate assumptions along with the post retirement and pre-retirement demographic experiences are based on the plan's actuarial experience through June 30, 2015. The actuarial valuation report as of June 30, 2017, was approved and adopted by the Fresno County Employees' Retirement Association (FCERA) Board of Retirement (the Board) on December 13, 2017.

1.	Investment Rate of Return	7.00% per annum
2.	Interest Credited to Employee Accounts	Nominal rate of 3.00% per annum, compounded semiannually
3.	Inflation	3.00% per annum
4.	Salary Scale:	
	• General Members	Salary increases range from 4.50% to 11.50% based on years of service (merit ranges from 1.00% to 8.00%; plus 3.00% inflation plus 0.50% "across the board" salary increase)
	• Safety Members	Salary increases range from 4.90% to 11.50% based on years of service (merit ranges from 1.40% to 8.00%; plus 3.00% inflation plus 0.50% "across the board" salary increase)
5.	Asset Valuation	Smoothed market value
6.	Spouses and Dependents	75% of male active members and 50% of female active members assumed married at retirement, with wives assumed three years younger than husbands
7.	Rates of Termination of Employment	0.00% to 17.00%, depending on age, gender, and service classification
8.	Years of Life Expectancy After Retirement:	
	• General Members	RP-2014 Healthy Annuitant Mortality Table with two-dimensional scale MP2015D set forward one year for females

Summary of Actuarial Assumptions and Methods continued

	<ul style="list-style-type: none"> Safety Members 	RP-2014 Healthy Annuitant Mortality Table with two-dimensional scale MP2015D set back two years
9.	Years of Life Expectancy After Disability	RP-2014 Healthy Annuitant Mortality Table with two-dimensional scale MP2015D set forward eight years for General members, and forward seven years for Safety members
10.	Life Expectancy After Retirement for Employee Contribution Rate Purposes:	
	<ul style="list-style-type: none"> General Members 	RP-2014 Healthy Annuitant Mortality Table with two-dimensional scale MP2015D, set forward one year for females, weighted 35% male and 65% female for members and 65% male and 35% female for beneficiaries
	<ul style="list-style-type: none"> Safety Member 	RP-2014 Healthy Annuitant Mortality Table with two-dimensional scale MP2015D, set back two years weighted 80% male and 20% female
11.	Reciprocity Assumption	20% of General and 30% of Safety members who terminate with less than 5 years of service and 35% of General and 55% of Safety members who terminate with 5 or more years of service are assumed to enter a reciprocal system
12.	Vested Terminations	Varies by age and years of service
13.	Service and Disability Retirements	Varies by tier of membership and by age
14.	Gains & Losses	16 years (declining) for UAAL established as of June 30, 2003 plus 15 years (declining) for UAAL and change in actuarial assumptions established on each subsequent valuation. The increase in UAAL due to benefit improvements is amortized over 30 years for periods ended June 30, 2010 and 15 years for all periods thereafter

Note: Information compiled from Actuarial Report prepared by Segal Consulting as of June 30, 2017. Please refer to pages 33 and 55 for the latest actuarial valuation methods.

Active Member Data

Schedule of Active Member Valuation Data

Valuation Date	Plan Type	Number	Annual Payroll (in thousands)	Average Monthly Salary	% Increase in Average Salary
6/30/2017	General	6,421	\$ 344,809	4,475	1.9%
	Safety	932	68,951	6,165	2.0%
	Total	7,353	\$ 413,760	4,689	2.0%
6/30/2016	General	6,377	\$ 335,815	4,388	0.5%
	Safety	920	66,719	6,043	0.0%
	Total	7,297	\$ 402,534	4,597	0.6%
6/30/2015	General	6,159	\$ 322,735	4,367	2.7%
	Safety	842	61,040	6,041	-0.6%
	Total	7,001	\$ 383,775	4,568	2.1%
6/30/2014	General	6,130	\$ 312,663	4,250	-0.8%
	Safety	838	61,111	6,077	1.6%
	Total	6,968	\$ 373,774	4,470	-0.5%
6/30/2013 ³	General	6,020	\$ 309,356	4,282	-1.4%
	Safety	846	60,723	5,981	-4.3%
	Total	6,866	\$ 370,079	4,492	-1.6%
6/30/2012 ²	General	5,900	\$ 307,416	4,342	-8.1%
	Safety	777	58,180	6,240	-6.8%
	Total	6,677	\$ 365,596	4,563	-7.2%
6/30/2011	General	5,996	\$ 337,646	4,693	0.8%
	Safety	767	61,330	6,663	-1.8%
	Total	6,763	\$ 398,976	4,916	0.2%
6/30/2010	General	6,134	\$ 342,741	4,656	3.1%
	Safety	812	66,120	6,786	4.6%
	Total	6,946	\$ 408,861	4,905	3.2%
6/30/2009	General	6,489	\$ 351,233	4,511	3.1%
	Safety	918	71,286	6,471	8.0%
	Total	7,407	\$ 422,519	4,754	4.1%
6/30/2008 ¹	General	6,787	\$ 355,992	4,371	5.4%
	Safety	953	68,091	5,954	5.9%
	Total	7,740	\$ 424,083	4,566	5.7%

¹ New benefit tier effective December 2007.

² New benefit tier effective June 2012.

³ New benefit tier effective January 2013.

Please see Note 1 Description of the Plan-Benefit Provisions pages xx to xx.

Source: Segal Consulting Actuarial Valuation Reports dated June 30, 2008 through 2017.

Retiree Payroll & Funding Progress

Schedule of Retirants and Beneficiaries Added to and Removed From Retiree Payroll

(Dollars in Thousands)

Fiscal Year	Number at Beginning of Fiscal Year	Number Added to Payroll	Allowances Added	Number Removed From Payroll	Allowances Removed	Number at End of Fiscal Year	Annual Allowance (in thousands)	Percent Increase in Annual Allowance	Average Annual Allowance (in thousands)	Percent Increase/ (Decrease) in Average Annual Allowance
2017-18	7,240	399	\$8,219	191	\$2,835	7,448	\$260,806	9.61%	35	3.53%
2016-17	7,035	373	7,394	168	2,213	7,240	246,649	7.68%	34	1.78%
2015-16	6,843	339	7,606	147	2,064	7,035	237,950	3.88%	34	1.05%
2014-15	6,626	367	7,972	150	1,871	6,843	229,053	3.11%	33	-0.18%
2013-14	6,403	368	7,584	145	1,885	6,626	222,155	5.46%	34	1.91%
2012-13	6,148	397	8,249	142	2,132	6,403	210,654	8.97%	33	4.64%
2011-12	5,769	525 ¹	10,794	146	2,033	6,148	193,320	7.36%	31	0.74%
2010-11	5,509	414	9,022	154	1,827	5,769	180,063	6.33%	31	1.53%
2009-10	5,283	378	8,182	152	1,356	5,509	169,338	9.40%	31	4.91%
2008-09	5,030	393	7,370	140	1,051	5,283	154,794	8.91%	29	3.68%

¹ Number Added to Payroll in Year 2011-12 has been revised to tie to the Number at End of Fiscal Year and to reconcile with the Schedule of Membership reported in the Notes to the Financial Section in the 2011-2012 CAFR.

Source: Schedule provided by FCERA.

Schedule of Funding Progress

(Dollars in Thousands)

Actuarial Valuation Date	Valuation Value of Assets (VVA) (a)	Actuarial Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c) ⁽¹⁾	UAAL as a Percentage of Covered Payroll [(b) - (a)]/(c)
2016-17	\$ 4,529,508	\$ 5,643,444	\$ 1,113,936	80.3%	\$ 413,760	269.2%
2015-16	4,278,001	5,472,149	1,194,148	78.2%	402,535	296.7%
2014-15	4,092,647	5,074,333	981,686	80.7%	383,775	255.8%
2013-14	3,824,221	4,876,754	1,052,533	78.4%	373,774	281.6%
2012-13	3,518,982	4,694,780	1,175,798	75.0%	370,079	317.7%
2011-12	3,305,045	4,345,402	1,040,357	76.1%	365,596	284.6%
2010-11	3,114,483	4,237,961	1,123,478	73.5%	398,976	281.6%
2009-10	2,983,044	4,092,464	1,109,420	72.9%	408,861	271.3%
2008-09	2,864,956	3,644,743	779,787	78.6%	422,519	184.6%
2007-08	2,812,423	3,429,990	617,567	82.0%	424,083	145.6%

Source: Schedule provided by Segal Consulting.

¹ Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.

Actuarial Analysis

Schedule of Analysis of Financial Experience

(Dollars in Thousands)

Changes to UAAL	2017
1 Unfunded actuarial accrued liability at beginning of year	\$ 1,194,148
2 Total Normal Cost payable at middle of year ⁽¹⁾	112,990
3 Expected administrative expenses	4,426
4 Expected employer and member contributions ⁽²⁾	(267,118)
5 Interest (full year on (1) plus half year on (2)+(3)+(4))	79,069
6 Expected unfunded actuarial accrued liability at end of year	1,123,515
7 Actuarial (gain)/loss due to all changes: <u>Experience (gain)/loss</u>	
a. Loss from investment return on valuation value of assets (6.36%)	27,432
b. Loss from actual contributions less than expected ⁽³⁾	33,501
c. Gain from lower than expected salary increases	(16,634)
d. Gain from lower than expected COLA increases	(45,521)
e. Other experience gains	(8,357)
f. Subtotal	(9,579)
Actual unfunded actuarial accrued liability at end of year (6) + (7f)	\$ 1,113,936

⁽¹⁾ Excludes administrative expense load.

⁽²⁾ Includes contributions toward administrative expenses.

⁽³⁾ Contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2016 valuation.

Changes to UAAL	2016
1 Unfunded actuarial accrued liability at beginning of year	\$ 981,686
2 Total Normal Cost payable at middle of year ⁽¹⁾	109,353
3 Expected administrative expenses	4,224
4 Expected employer and member contributions ⁽²⁾	(235,761)
5 Interest (full year on (1) plus half year on (2)+(3)+(4))	68,180
6 Expected unfunded actuarial accrued liability at end of year	927,682
7 Actuarial (gain)/loss due to all changes: <u>Experience (gain)/loss</u>	
a. Loss from investment return on valuation value of assets (4.97%)	92,984
b. Loss from actual contributions less than expected ⁽³⁾	9,341
c. Gain from lower than expected salary increases	(8,130)
d. Gain from lower than expected COLA increases	(72,001)
e. Other experience losses	3,500
f. Subtotal	25,694
<u>Other changes</u>	
g. Change in actuarial assumptions	240,772
h. Subtotal	240,772
Actual unfunded actuarial accrued liability at end of year (6) + (7f) + (7h)	\$ 1,194,148

⁽¹⁾ Excludes administrative expense load.

⁽²⁾ Includes contributions toward administrative expenses.

⁽³⁾ Contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2015 valuation offset somewhat by the contribution gains from payroll increase more than expected.

Source: Information for 2016 and 2017 schedules provided by Actuary, Segal Consulting.

Fresno County Employees' Retirement Association

Actuary Solvency

Solvency Test

(Dollars in Thousands)

Valuation Date	Actuarial Accrued Liabilities (AAL) for				Portion of Accrued Liabilities Covered by Reported Assets		
	(1) Active Member Contributions ^(a)	(2) Vested, Retirants and Beneficiaries	(3) Active Members Employer Financed	Valuation Value of Assets (VVA)	(1) Active Member Contributions	(2) Vested, Retirants and Beneficiaries	(3) Active Members Employer Financed
June 30, 2017	\$ 460,664	\$ 3,764,617	\$ 1,418,163	\$ 4,529,508	100%	100%	21%
June 30, 2016	444,552	3,609,392	1,418,205	4,278,001	100%	100%	16%
June 30, 2015	427,130	3,347,346	1,299,857	4,092,647	100%	100%	24%
June 30, 2014	412,209	3,142,414	1,322,131	3,824,221	100%	100%	20%
June 30, 2013	398,888	2,961,186	1,334,706	3,518,982	100%	100%	12%
June 30, 2012	385,537	2,731,606	1,228,259	3,305,045	100%	100%	15%
June 30, 2011	379,029	2,486,960	1,371,972	3,114,483	100%	100%	18%
June 30, 2010	370,623	2,365,220	1,356,621	2,983,044	100%	100%	18%
June 30, 2009	356,159	2,055,024	1,233,560	2,864,956	100%	100%	37%
June 30, 2008	335,820	1,895,024	1,199,146	2,812,423	100%	100%	48%

(a) Equal to the total balance (in market value) of the reserve account maintained for member contributions.

Source: Information provided by Segal Consulting.

Probability of Occurrence

Probabilities of Separation from Active Service

(Current Assumptions)

Age	Total Terminations	Ordinary Death ¹	Total Disability ²
General Members – Male			
20	0.05750	0.00000	0.00010
30	0.05300	0.00030	0.00020
40	0.03920	0.00040	0.00120
50	0.03440	0.00110	0.00250
60	0.03100	0.00350	0.00680
General Members – Female			
20	0.05750	0.00000	0.00010
30	0.05300	0.00020	0.00020
40	0.03920	0.00030	0.00100
50	0.03440	0.00080	0.00170
60	0.03100	0.00190	0.00330
Safety Members – Male			
20	0.03500	0.00000	0.00050
30	0.02900	0.00030	0.00240
40	0.01850	0.00040	0.00560
50	0.01500	0.00110	0.00760
60	0.00600	0.00350	0.03200
Safety Members – Female			
20	0.03500	0.00000	0.00050
30	0.02900	0.00020	0.00240
40	0.01850	0.00030	0.00560
50	0.01500	0.00080	0.00760
60	0.00600	0.00190	0.03200

¹ All pre-retirement deaths are assumed to be non-service connected.

² 50% of General disabilities are assumed to be duty disabilities. The other 50% are assumed to be ordinary disabilities. 100% of Safety disabilities are assumed to be duty disabilities.

Note: Information compiled from Actuarial Report prepared by Segal Consulting dated June 30, 2017. Assumptions for separation from active service are based on combined tiers with the exception of service retirement.

Probability of Occurrence continued

Probabilities of Separation from Active Service

(Current assumptions)

Age	Service Retirement
General Tier 1 - Male	
50	0.05000
55	0.08000
60	0.25000
65	0.45000
70	0.50000
General Tier 1 - Female	
50	0.04000
55	0.09000
60	0.20000
65	0.35000
70	0.50000
General Tier 2 - Male and Female	
50	0.03000
55	0.08400
60	0.15000
65	0.35000
70	0.70000
General Tier 3 - Male and Female	
50	0.02400
55	0.06700
60	0.15400
65	0.34600
70	0.60000
General Tier 4 - Male and Female	
50	0.02000
55	0.04000
60	0.09000
65	0.23000
70	0.60000
General Tier 5 - Male and Female	
50	0.00000
55	0.03500
60	0.08500
65	0.22000
70	0.60000
Safety Tiers 1 and 2 - Male and Female	
50	0.05000
55	0.40000
60	0.40000
65	1.00000
Safety Tiers 4 and 5 - Male and Female	
50	0.04000
55	0.20000
60	0.45000
65	1.00000

Note: Information compiled from Actuarial Report prepared by Segal Consulting dated June 30, 2017.
Assumptions for separation from active service are based on combined tiers with the exception of service retirement.

Probability of Occurrence continued

Proportion of Withdrawals from Active Service

(Current assumptions)

Years of Service	Refunds	Deferred Vested
0	60.00%	40.00%
1	60.00%	40.00%
2	60.00%	40.00%
3	60.00%	40.00%
4	60.00%	40.00%
5	30.00%	70.00%
6	30.00%	70.00%
7	30.00%	70.00%
8	30.00%	70.00%
9	30.00%	70.00%
10	25.00%	75.00%
11	25.00%	75.00%
12	25.00%	75.00%
13	25.00%	75.00%
14	25.00%	75.00%
15	15.00%	85.00%
16	15.00%	85.00%
17	15.00%	85.00%
18	15.00%	85.00%
19	15.00%	85.00%
20 or more	10.00%	90.00%

Note: Probability of refunds by age are not available. Refunds are more closely associated with years of service. Information compiled from Actuarial Report prepared by Segal Consulting dated June 30, 2017.

Probability of Occurrence continued

Years of Life Expectancy after Service Retirement

(Current Assumptions)

Age	Years of Life Expectancy
General Members - Male	
50	33.10
60	24.60
70	16.80
80	10.00
90	5.00
100	2.20
110	1.10
General Members - Female	
50	35.20
60	26.40
70	18.10
80	10.80
90	5.40
100	2.40
110	1.10
Safety Members - Male	
50	34.80
60	26.30
70	18.30
80	11.20
90	5.80
100	2.60
110	1.20
Safety Members - Female	
50	37.80
60	29.00
70	20.50
80	12.90
90	6.80
100	3.10
110	1.40

Probability of Occurrence continued

Years of Life Expectancy after Disability Retirement

(Current assumptions)

Age	Years of Life Expectancy	
General Members	Male	Female
20	51.40	54.70
30	43.30	46.40
40	34.80	37.80
50	26.30	29.00
60	18.30	20.50
70	11.20	12.90
80	5.80	6.80
90	2.60	3.10
100	1.20	1.40
110	0.80	0.80
Safety Members	Male	Female
20	52.20	55.60
30	44.10	47.30
40	35.70	38.70
50	27.10	29.90
60	19.10	21.30
70	11.90	13.60
80	6.20	7.30
90	2.90	3.30
100	1.30	1.50
110	0.90	0.90

Note: Information provided by Segal Consulting.

Summary of Major Plan Provisions

1. ELIGIBILITY

First day of pay period following date of employment in an eligible position.

2. DEFINITION OF SALARY

- Tiers 1 and 2
Highest one-year average compensation earnable.
- Tiers 3 and 4
Highest three-year average compensation earnable.
- Tier 5
Highest consecutive three years of pensionable compensation.

3. SERVICE RETIREMENT

Benefit Level

- Tier 1
 - General offers 2.5% at age 55, California Government Code § 31676.12, 31676.14 and 31627.
 - Safety offers 2.5% at age 50, California Government Code § 31664 and 31627.
- Tier 2
 - General offers 2% at age 55, California Government Code § 31676.16.
 - Safety offers 2.29% at age 50, California Government Code § 31664.2.
- Tier 3
 - General offers 2% at age 55, California Government Code § 31676.15.
- Tier 4
 - General offers 1.49% at age 55, California Government Code § 31676.1.
 - Safety offers 2% at age 50, California Government Code § 31664.
- Tier 5
 - General offers 1% at age 52, California Government Code § 7522.20(a).
 - Safety offers 2% at age 50, California Government Code § 7522.25(d).

Summary of Major Plan Provisions continued

Eligibility

- Early Retirement
 - Tiers 1, 2, 3, and 4 - Age 50 with 10 years of service, or any age with 30 years of service for General, or any age with 20 years of service for Safety.
 - Tier 5 – Age 52 with 5 years of service for General or age 50 with 5 years of service for Safety
- Benefit Adjustments
 - General and Safety Tier 1
 - Reduced for retirement before age 55 and age 50, respectively.
 - Increased for retirement after age 55 and age 50, respectively.
 - Maximum benefit for retirement at or after age 60 and age 55, respectively.
 - General Tiers 2 and 3
 - Reduced for retirement before age 55.
 - Increased for retirement after age 55.
 - Maximum benefit for retirement at or after age 62 or age 65, respectively.
 - Safety Tier 2
 - Reduced for retirement before age 50.
 - Increased for retirement after age 50.
 - Maximum benefit for retirement at or after age 55.
 - General and Safety Tier 4
 - Reduced for retirement before age 61 $\frac{1}{4}$, General only.
 - Increased for retirement after age 61 $\frac{1}{4}$ and age 50, respectively.
 - Maximum benefit for retirement at or after age 65 or age 55, respectively.
 - General and Safety Tier 5
 - Reduced for retirement before age 62.
 - Maximum benefit for retirement at or after age 67 or age 57, respectively.

4. DISABILITY RETIREMENT

- Non-service connected

1.5% for General Tiers 1, 2, 4, and 5; 1.8% General Tier 3; and 1.8% for Safety of final average salary per year of service, with a maximum of 33.33% if projected service is used (age 65 for General Tiers 1, 2, 4, and 5; age 65 for Tier 3; age 55 for Safety), or service retirement benefit (if eligible).

Summary of Major Plan Provisions continued

- Service-connected

Greater of 50% of final average salary or service retirement benefit (if eligible).

5. DEATH BEFORE RETIREMENT

- Refund of contributions plus 1/12th of monthly salary per year of service, maximum of six months' salary.
- If eligible for non-service connected disability or service retirement, eligible beneficiary will receive 60% of member's accrued allowance.
- If service-connected, beneficiary will receive 50% of final compensation or 100% of service retirement, if eligible.

6. DEATH AFTER RETIREMENT

- Service retirement or non-service connected disability, eligible beneficiary will receive 60% of member's allowance.
- Service disability, eligible beneficiary will receive 100% of member's allowance.

7. VESTING

- After five years of service.
- Must leave contributions on deposit.

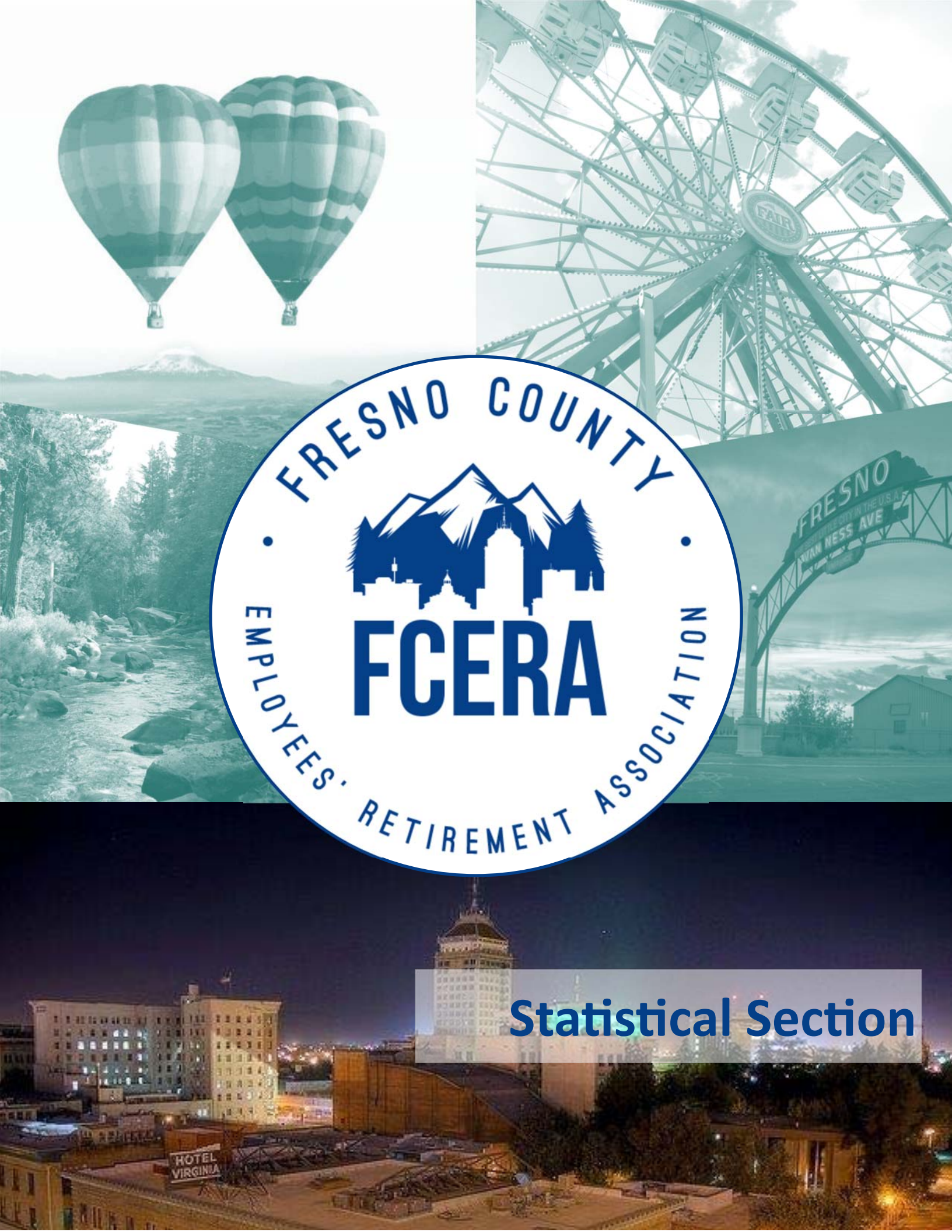
8. MEMBERS' CONTRIBUTIONS

- Tiers 1, 2, 3, and 4 - Based on entry age.
- Tier 5 – Flat rate as determined by valuation.

9. COST OF LIVING

Maximum 3% COLA for members enrolled in Tiers 1, 2, and 3. No COLA for members enrolled in Tier 4 or 5.

Note: Information for the Summary of Major Plan Provisions was compiled from the Actuarial Report prepared by Segal Consulting dated June 30, 2017.



Statistical Section

Statistical Information and Fiduciary Net Position

STATISTICAL SECTION INFORMATION

This section contains additional comparative information in order to provide a more detailed understanding of the financial statements, note disclosures and supplementary information. The financial trend information displayed on the following pages is intended to show how FCERA's financial position has changed over a period of time, including changes of plan net position, revenues and expenses, retiree benefit information and membership history.

Table of Changes in Fiduciary Net Position

Last Ten Fiscal Years

(Dollars in Thousands)

	2018	2017	2016	2015	2014
Additions					
Employer Contributions	\$ 210,535	\$ 198,472	\$ 191,529	\$ 184,213	\$ 165,309
Member Contributions	38,467	36,259	35,212	33,110	30,154
Net Investment Income/(Loss)	312,770	417,681	(4,258)	406	583,169
Total Additions	561,772	652,412	222,483	217,729	778,632
Deductions ¹					
Total Benefit Expenses	\$ 260,823	\$ 247,491	\$ 238,028	\$ 229,115	\$ 222,289
Refunds	2,408	2,356	2,203	2,282	2,103
Administrative Expenses	5,677	4,762	4,814	4,297	3,542
Other	215	77	61	45	21
Total Deductions	269,123	254,686	245,106	235,739	227,955
Change in Fiduciary Net Position	\$ 292,649	\$ 397,726	\$ (22,623)	\$ (18,010)	\$ 550,677
	2013	2012	2011	2010	2009
Additions					
Employer Contributions	\$ 158,572	\$ 157,869	\$ 130,290	\$ 126,138	\$ 113,959
Member Contributions	30,516	32,627	31,293	32,209	34,562
Net Investment Income/(Loss)	378,483	(10,242)	605,422	341,439	(451,499)
Total Additions	567,571	180,254	767,005	499,786	(302,978)
Deductions ¹					
Total Benefit Expenses	\$ 210,745	\$ 193,535	\$ 180,363	\$ 169,526	\$ 155,783
Refunds	2,211	1,786	2,044	1,915	2,077
Administrative Expenses	3,634 ²	3,597	4,108	3,570	3,855
Other	42 ²	N/A	N/A	N/A	N/A
Total Deductions	216,632	198,918	186,515	175,011	161,715
Change in Fiduciary Net Position	\$ 350,939	\$ (18,664)	\$ 580,490	\$ 324,775	\$ (464,693)

¹ See page 103 for detailed information on Benefit and Refund deductions by type.

² Restated as defined in Government Code Section 31580.2, excludes Information Technology expenses.

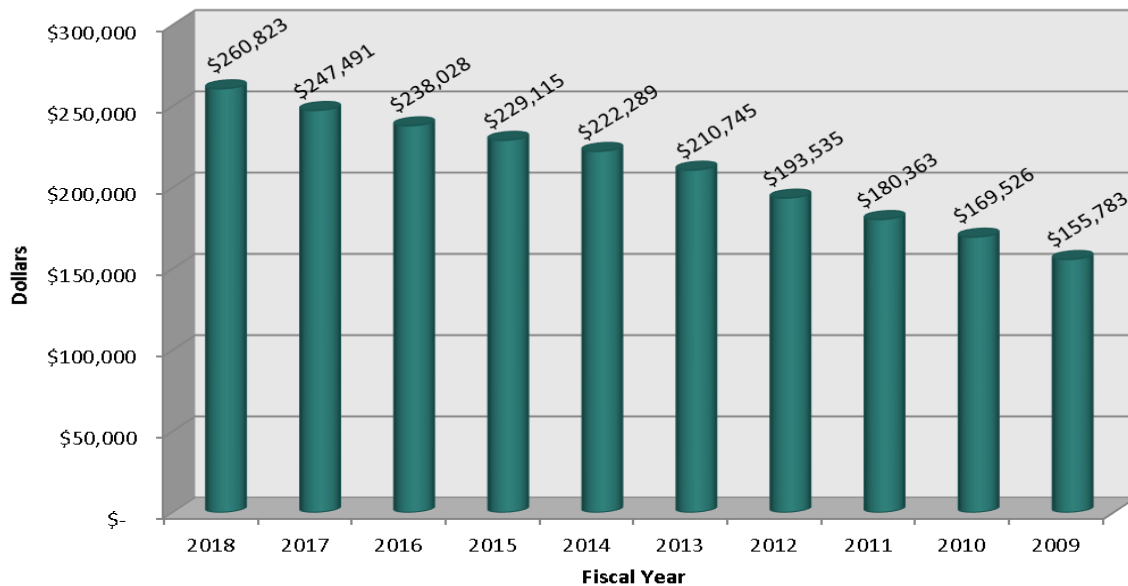
Retired Members

Schedule of Benefit Expenses by Type

Last Ten Fiscal Years

(Dollars in Thousands)

FISCAL YEAR-END	SERVICE		SURVIVOR		DISABILITIES		TOTAL ¹
	GENERAL	SAFETY	GENERAL	SAFETY	GENERAL	SAFETY	
2018	\$ 207,672	\$ 35,617	\$ 1,283	\$ 753	\$ 7,927	\$ 7,571	\$ 260,823
2017	198,137	33,063	2,536	1,898	5,970	5,887	247,491
2016	185,490	36,201	2,498	1,432	5,230	7,177	238,028
2015	179,054	34,516	2,298	1,426	5,314	6,507	229,115
2014	173,829	33,021	2,004	1,200	5,411	6,824	222,289
2013	165,066	31,343	1,971	994	5,241	6,130	210,745
2012	151,022	28,698	1,899	741	4,883	6,292	193,535
2011	139,412	26,584	1,548	703	5,655	6,461	180,363
2010	131,465	24,758	1,392	536	5,015	6,360	169,526
2009	120,975	23,014	1,398	470	4,771	5,155	155,783



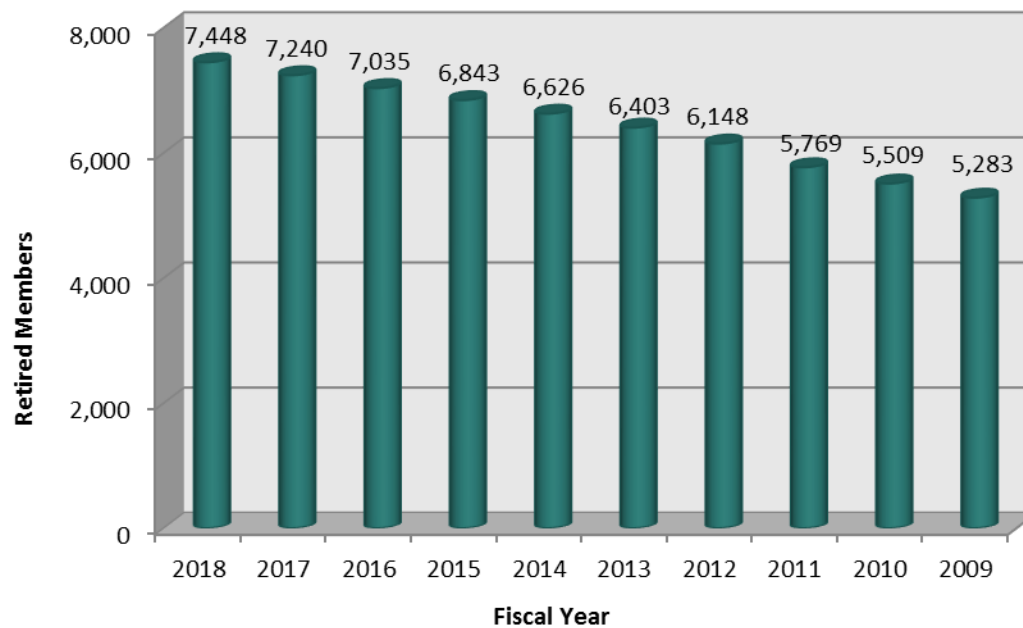
¹ Total Benefit Expenses are the actual expenses paid and will not equal Total Average Annual Benefits reported on page 100.

Retired Members continued

Schedule of Retired Members by Type of Retirement

Last Ten Fiscal Years

FISCAL YEAR-END ¹	GENERAL	SAFETY	SURVIVOR	TOTAL
2018	6,345	999	104	7,448
2017	6,191	943	106	7,240
2016	6,036	901	98	7,035
2015	5,874	872	97	6,843
2014	5,687	841	98	6,626
2013	5,498	805	100	6,403
2012	5,276	772	100	6,148
2011	4,937	733	99	5,769
2010	4,705	702	102	5,509
2009	4,519	663	101	5,283



¹ Includes a correction to the allocation of General, Safety Retired and Survivor at June 30, 2017. Total count for year-end 2017 remains unchanged.

Source: Schedule provided by FCERA

Retired Members continued

Schedule of Average Annual Benefit and Membership Distribution of Retired Members

Last Ten Fiscal Years

Valuation Date	Plan Type	Annual ² Number	Total Average ¹ Annual Benefits	Annual Average Benefits	Average Monthly Benefits	% Change in Average Benefits
6/30/2017	General Tier 1	6,186	\$ 204,466,584	\$ 33,053	\$ 2,754	2.6%
	General Tier 2	17	404,940	23,820	1,985	-2.6%
	General Tier 3	28	401,304	14,332	1,194	-67.2%
	Safety Tier 1	969	46,903,332	48,404	4,034	1.7%
	Total	7,200	\$ 252,176,160	\$ 35,024	\$ 2,918.71	2.2%
6/30/2016	General Tier 1	6,068	\$ 195,506,184	\$ 32,219	\$ 2,685	1.2%
	General Tier 2	16	391,296	24,456	2,038	-18.3%
	General Tier 3	15	655,668	43,711	3,643	236.6%
	Safety Tier 1	933	44,399,616	47,588	3,966	-0.2%
	Total	7,032	\$ 240,952,764	\$ 34,265	\$ 2,855	1.1%
6/30/2015	General Tier 1	5,918	\$ 188,340,180	\$ 31,825	\$ 2,652	2.2%
	General Tier 2	11	329,076	29,916	2,493	-8.1%
	General Tier 3	9	116,892	12,988	1,082	-20.8%
	Safety Tier 1	901	42,943,056	47,662	3,972	0.8%
	Total	6,839	\$ 231,729,204	\$ 33,883	\$ 2,824	2.0%
6/30/2014	General Tier 1	5,707	\$ 177,666,204	\$ 31,131	\$ 2,594	2.7%
	General Tier 2	8	260,352	32,544	2,712	24.8%
	General Tier 3	6	98,388	16,398	1,367	-18.0%
	Safety Tier 1	849	40,128,876	47,266	3,939	2.6%
	Total	6,570	\$ 218,153,820	\$ 33,205	\$ 2,767	2.7%
6/30/2013	General Tier 1	5,536	\$ 167,842,464	\$ 30,318	\$ 2,527	2.5%
	General Tier 2	5	130,380	26,076	2,173	2.1%
	General Tier 3	3	59,988	19,996	1,666	-9.5%
	Safety Tier 1	819	37,731,336	46,070	3,839	1.6%
	Total	6,363	\$ 205,764,168	\$ 32,338	\$ 2,695	2.3%
6/30/2012	General Tier 1	5,425	\$ 160,482,984	\$ 29,582	\$ 2,465	4.4%
	General Tier 2	5	127,740	25,548	2,129	2.9%
	General Tier 3	2	44,208	22,104	1,842	2.9%
	Safety Tier 1	803	36,393,984	45,323	3,777	4.0%
	Total	6,235	\$ 197,048,916	\$ 31,604	\$ 2,634	4.3%
6/30/2011	General Tier 1	5,118	\$ 145,020,096	\$ 28,335	\$ 2,361	1.4%
	General Tier 2	5	124,080	24,816	2,068	-18.2%
	General Tier 3	2	42,960	21,480	1,790	-45.6%
	Safety Tier 1	762	33,218,904	43,594	3,633	0.7%
	Total	5,887	\$ 178,406,040	\$ 30,305	\$ 2,525	1.3%
6/30/2010	General Tier 1	4,908	\$ 137,157,624	\$ 27,946	\$ 2,329	-2.4%
	General Tier 2	5	151,680	30,336	2,528	N/A
	General Tier 3	1	39,480	39,480	3,290	N/A
	Safety Tier 1	722	31,247,496	43,279	3,607	2.2%
	Total	5,636	\$ 168,596,280	\$ 29,914	\$ 2,493	-1.6%
6/30/2009	General Tier 1	4,481	\$ 128,267,304	\$ 28,625	\$ 2,385	8.0%
	General Tier 2	-	-	-	-	N/A
	General Tier 3	-	-	-	-	N/A
	Safety Tier 1	672	28,448,568	42,334	3,528	3.3%
	Total	5,153	\$ 156,715,872	\$ 30,413	\$ 2,534	7.3%
6/30/2008	General Tier 1	4,405	\$ 116,801,232	\$ 26,516	\$ 2,210	5.4%
	General Tier 2	2	72,600	36,300	3,025	3.7%
	Safety Tier 1	639	26,198,856	41,000	3,417	4.8%
	Total	5,046	\$ 143,072,688	\$ 28,354	\$ 2,363	5.3%

¹ Total Average Annual Benefits will not equal the Actual Total Benefit Expenses reported on page 94.

² Total Annual Membership provided by the Actuary will not equal the Actual Membership reported on page 95.

Note: See page 97 for information organized by years of credited service in five year increments.

Note: Effective with fiscal year ended June 30, 2007 the schedule has been expanded to display membership by benefit tier.

Source: Information provided by Segal Consulting

Retired Members continued

Schedule of Average Benefit Payments by Years of Credited Service

Last Ten Fiscal Years

Retirement Effective Date	Years of Credited Service ¹						
	0-4	5-9	10-14	15-19	20-24	25-29	30 and over
Period 7/1/2016 to 6/30/2017							
Average monthly benefit	\$483	\$1,011	\$1,908	\$2,742	\$3,711	\$4,805	\$5,753
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	16	33	44	61	43	54	36
Period 7/1/2015 to 6/30/2016							
Average monthly benefit	\$519	\$1,692	\$2,428	\$2,672	\$3,217	\$4,674	\$5,688
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	15	42	71	48	46	49	28
Period 7/1/2014 to 6/30/2015							
Average monthly benefit	\$654	\$1,242	\$1,974	\$3,483	\$3,412	\$4,967	\$5,549
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	18	52	66	70	36	46	35
Period 7/1/2013 to 6/30/2014							
Average monthly benefit	\$747	\$1,033	\$1,743	\$2,704	\$3,528	\$4,867	\$6,666
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	4	25	84	56	45	37	40
Period 7/1/2012 to 6/30/2013							
Average monthly benefit	\$1,064	\$1,341	\$2,038	\$3,268	\$4,072	\$4,714	\$5,842
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	10	27	46	24	43	21	41
Period 7/1/2011 to 6/30/2012							
Average monthly benefit	\$331	\$1,327	\$1,972	\$2,795	\$3,605	\$5,141	\$6,031
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	7	47	89	60	90	50	65
Period 7/1/2010 to 6/30/2011							
Average monthly benefit	\$699	\$1,489	\$1,847	\$2,881	\$3,140	\$5,237	\$5,703
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	16	47	63	57	58	29	40
Period 7/1/2009 to 6/30/2010							
Average monthly benefit	\$706	\$1,144	\$1,860	\$2,996	\$3,793	\$4,692	\$5,674
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	18	44	69	46	54	39	58
Period 7/1/2008 to 6/30/2009							
Average monthly benefit	\$539	\$1,116	\$1,772	\$2,643	\$3,746	\$4,489	\$5,937
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	11	51	75	59	50	34	54
Period 7/1/2007 to 6/30/2008							
Average monthly benefit	\$502	\$1,365	\$1,865	\$2,668	\$3,280	\$4,657	\$6,170
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of retired members	15	27	52	62	42	41	54

¹ Table Represents new retirees added to rolls in the period(s) noted.

Notes: N/A means that information is not available.

Average final average salary is not available at this time due to system constraints.

Source: Information provided by Segal Consulting.

Active and Deferred Members

Schedule of Active and Deferred Members

Last Ten Fiscal Years

Date	Plan Type	Active Vested	Active Nonvested	Total Active Members	Deferred Members
6/30/2018	General	3,931	2,588	6,519	2,556
	Safety	609	329	938	253
	Total	4,540	2,917	7,457	2,809
6/30/2017	General	3,976	2,443	6,419	1,373
	Safety	593	339	932	146
	Total	4,569	2,782	7,351	1,519
6/30/2016	General	4,009	2,369	6,378	1,314
	Safety	597	323	920	143
	Total	4,606	2,692	7,298	1,457
6/30/2015	General	4,134	1,997	6,131	1,293
	Safety	624	214	838	144
	Total	4,758	2,211	6,969	1,437
6/30/2014	General	4,417	1,674	6,091	1,264
	Safety	641	192	833	137
	Total	5,058	1,866	6,924	1,401
6/30/2013	General	4,653	1,346	5,999	1,131
	Safety	691	151	842	132
	Total	5,344	1,497	6,841	1,263
6/30/2012	General	4,605	1,259	5,864	1,289
	Safety	709	71	780	126
	Total	5,314	1,330	6,644	1,415
6/30/2011	General	4,581	1,374	5,955	1,325
	Safety	732	37	769	126
	Total	5,313	1,411	6,724	1,451
6/30/2010	General	4,536	1,568	6,104	1,379
	Safety	733	79	812	136
	Total	5,269	1,647	6,916	1,515
6/30/2009	General	4,476	1,967	6,443	1,403
	Safety	718	204	922	130
	Total	5,194	2,171	7,365	1,533

Participating Employers

Schedule of Principal Participating Employers

Current Year and Nine Years Ago

Participating Employers	2018		2009	
	Covered Employees	Percentage of Covered Employees	Covered Employees	Percentage of Covered Employees
County of Fresno	6,976	93.55%	7,317	99.35%
Superior Court of California-County of Fresno ¹	438	5.88%	-	-
Fresno-Madera Area Agency on Aging	23	0.31%	31	0.42%
Clovis Veterans Memorial District	10	0.13%	9	0.12%
Fresno Mosquito and Vector Control District	10	0.13%	8	0.11%
Total	7,457	100.00%	7,365	100.00%

¹ On December 11, 2011 the Superior Court of California-County of Fresno separated from the County of Fresno as a separate employer group.

Participating Employers and Active Members

Schedule of Participating Employers and Active Members

Last Ten Fiscal Years

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
County of Fresno										
General Members	6,038	5,907	5,864	5,704	5,641	5,533	5,376	5,912	6,059	6,395
Safety Members	938	932	920	837	833	842	780	769	812	922
Total	6,976	6,839	6,784	6,541	6,474	6,375	6,156	6,681	6,871	7,317
Participating Agencies (General Members)										
Clovis Veterans Memorial District	10	10	10	9	7	9	8	8	8	9
Fresno Mosquito and Vector Control District	10	7	7	5	6	5	5	5	6	8
Fresno-Madera Area Agency on Aging	23	22	22	24	25	26	28	30	31	31
Superior Court of California-County of Fresno ¹	438	473	475	390	412	426	447	-	-	-
Total	481	512	514	428	450	466	488	43	45	48
Total Active Members										
General Members	6,519	6,419	6,378	6,131	6,091	5,999	5,864	5,955	6,104	6,443
Safety Members	938	932	920	838	833	842	780	769	812	922
Total	7,457	7,351	7,298	6,969	6,924	6,841	6,644	6,724	6,916	7,365

¹ On December 11, 2011 the Superior Court of California-County of Fresno disassociated from the County of Fresno to become a separate employer group.

Employers' Contribution Rates

Schedule of Employers' Contribution Rates

Last Ten Fiscal Years

Effective Dates			General					Safety				Actuarial Report for Year Ended
			Tier 1	Tier 2	Tier 3	Tier 4 ¹	Tier 5 ²	Tier 1	Tier 2	Tier 4 ¹	Tier 5 ²	
July 1, 2017	to	June 30, 2018	56.56%	53.52%	53.06%	43.95%	42.45%	81.63%	81.80%	66.15%	63.99%	6/30/2016
July 1, 2016	to	June 30, 2017	51.43%	47.74%	47.35%	38.73%	36.96%	75.93%	75.11%	60.38%	57.99%	6/30/2015
July 1, 2015	to	June 30, 2016	50.80%	48.09%	47.38%	38.15%	37.36%	74.56%	74.20%	59.37%	57.87%	6/30/2014
July 1, 2014	to	June 30, 2015	51.07%	48.27%	47.33%	38.17%	37.48%	74.79%	74.26%	59.02%	57.41%	6/30/2013
July 1, 2013	to	June 30, 2014	44.99%	42.86%	41.64%	33.88%	32.70%	67.17%	67.21%	54.15%	51.76%	6/30/2012
July 1, 2012	to	June 30, 2013 ³	43.03%	41.15%	39.71%	31.87%	30.77%	65.06%	63.86%	51.42%	48.92%	6/30/2011
July 1, 2011	to	June 30, 2012	41.03%	38.78%	37.42%	N/A	N/A	61.25%	60.26%	N/A	N/A	6/30/2010
July 1, 2010	to	June 30, 2011	31.47%	29.48%	28.08%	N/A	N/A	47.40%	46.24%	N/A	N/A	6/30/2009
July 1, 2009	to	June 30, 2010	27.82%	25.64%	24.36%	N/A	N/A	42.19%	41.21%	N/A	N/A	6/30/2008
July 1, 2008	to	June 30, 2009	26.71%	24.86%	22.86%	N/A	N/A	38.56%	35.84%	N/A	N/A	6/30/2007

¹ New benefit tier effective June 2012.

² New benefit tier effective January 1, 2013.

³ Includes a correction to the rates reported at June 30, 2013.

Retired Members by Type of Benefit

Schedule of Retired Members by Type of Benefit

As of June 30, 2018

Monthly Benefit Amount	Members Receiving a Benefit	Type of Retirement ¹										Option Selected ²					
		1	2	3	4	5	6	7	8	9	10	U	1	2	3	4	D
\$1 - 500	414	294	2	4	64	3	0	0	7	38	1	287	17	89	7	11	3
501 - 1,000	825	593	20	3	112	14	1	0	32	47	3	612	39	140	18	10	6
1,001 - 1,500	996	766	33	26	103	11	1	1	25	29	1	786	53	116	30	8	3
1,501 - 2,000	862	687	31	23	77	6	5	1	8	21	3	661	69	105	20	6	1
2,001 - 3,000	1,408	1,131	18	86	125	9	9	4	7	21	0	1,134	112	116	31	15	0
3,001 - 4,000	1,019	799	3	105	81	1	15	3	5	7	0	839	78	74	17	8	3
4,001 - 5,000	637	580	0	29	20	0	1	3	3	0	0	524	38	50	14	9	2
5,001 - 6,000	470	443	0	5	20	0	1	1	0	0	0	401	22	36	4	7	0
Over 6,000	817	782	0	13	19	0	3	0	0	0	0	715	33	56	5	8	0
Totals	7,448	6,075	107	294	621	44	36	13	87	163	8	5,959	461	782	146	82	18

Notes:

¹ Type of Retirement

- 1 = Normal retirement
- 2 = Non-service connected disability
- 3 = Service connected disability
- 4 = Beneficiary - Normal retirement
- 5 = Beneficiary – Non-Service Disability
- 6 = Beneficiary – Service Disability
- 7 = Survivor – Service Death
- 8 = Survivor – Non-Service Death
- 9 = Alternate Payee - Normal Retirement
- 10 = Alternate Payee - Service Disability

² Option Selected:

- U = Unmodified: Eligible Surviving Spouse receives 60% continuance.
- The following options reduce the retired member's monthly benefit:
- 1 = Beneficiary receives funds remaining in member's account.
- 2 = Beneficiary receives 100% continuance of member's reduced monthly benefit.
- 3 = Beneficiary receives 50% continuance of member's reduced monthly benefit.
- 4 = Multiple beneficiaries receive a continuance calculated by Retirement Board's actuary.
- D = Beneficiary receives disability retirement continuance for eligible active member death.

Note: Information compiled from Arrivos Pension Administration System for FY 17-18 and Type of Retirement categories may not match prior years.

Benefits and Refund Deductions

Schedule of Benefits and Refund Deductions from Fiduciary Net Position by Type

Last Ten Fiscal Years

(Dollars in Thousands)

Type of Benefit	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Service Benefits										
General	\$ 207,672	\$ 198,137	\$ 185,490	\$ 179,054	\$ 173,829	\$ 165,066	\$ 151,022	\$ 139,412	\$ 131,465	\$ 120,975
Safety	35,617	33,063	36,201	34,516	33,021	31,343	28,698	26,584	24,759	23,014
Service Connected Disability										
General	4,799	4,233	3,385	3,164	3,214	3,208	2,787	3,321	2,746	2,447
Safety	6,604	5,794	7,067	6,340	6,718	6,016	6,138	6,309	6,211	4,999
Non-Service Connected Disability										
General	1,809	1,737	1,845	2,150	2,197	2,033	2,096	2,334	2,269	2,324
Safety	260	93	110	167	107	114	154	152	148	156
Non-Service Connected Disability Continuance										
General	1,802	1,772	1,764	1,705	1,421	1,383	1,276	1,188	1,118	1,070
Safety	288	239	236	248	162	155	139	138	139	135
Service Connected Disability Continuance										
General	768	764	734	593	583	496	408	183	126	142
Safety	1,172	1,159	1,118	1,117	903	839	602	442	357	335
Active Death Benefits	32	500	78	61	134	92	215	300	188	186
Total Benefits	\$260,823	\$ 247,491	\$ 238,028	\$ 229,115	\$ 222,289	\$ 210,745	\$ 193,535	\$ 180,363	\$ 169,526	\$ 155,783
Type of Refund										
Death	\$ 80	\$ 174	\$ 111	\$ 133	\$ 134	\$ 135	\$ 425	\$ 339	\$ 338	\$ 304
Miscellaneous - UAAL ¹	-	-	-	-	-	-	-	-	1	13
Separation	2,328	2,182	2,092	2,149	1,969	2,076	1,361	1,705	1,576	1,760
Total refunds	\$ 2,408	\$ 2,356	\$ 2,203	\$ 2,282	\$ 2,103	\$ 2,211	\$ 1,786	\$ 2,044	\$ 1,915	\$ 2,077

¹ UAAL means Unfunded Actuarial Accrued Liability.