Good VIBES of the OC

ORANGE COUNTY
OCERS
EMPLOYEES RETIREMENT SYSTEM

2016
Comprehensive Annual Financial Report

For the Year Ended December 31, 2016

Orange County, California

Good VIBES of the OC

Orange County

Comprehensive Annual Financial Report

For the Year Ended December 31, 2016

Prepared by: The Finance Division of the Orange County Employees Retirement System

Issued by: Steve Delaney, Chief Executive Officer
Brenda Shott, Assistant CEO of Finance and Internal Operations

Orange County Employees Retirement System
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Santa Ana, CA 92701-3161

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OCERS
EMPLOYEES RETIREMENT SYSTEM

2016 Comprehensive Annual Financial Report

For the Year Ended December 31, 2016

Table of Contents

Huntington Beach SURF CITY Marathon

The Huntington Beach Surf City Marathon and Half Marathon is an oceanfront run held the first Sunday of February each year. The race offers spectacular views of Southern California surfing beaches, the famous Huntington Beach pier and Huntington Central Park. Runners from around the world participate in this beautiful winter race. Along the course, several surf bands and volunteers cheer on the runners. At the end of the race, runners can enjoy the beach, the beer garden and other festivities.

HALF MARATHON
Surf City USA
MARATHON

Introductory

Section I

Introductory

Letter of Transmittal

ORANGE COUNTY OCERS EMPLOYEES RETIREMENT SYSTEM

Serving the Active and Retired Members of:

City of San Juan Capistrano

County of Orange

Orange County Cemetery District

Orange County Children & Families Commission

Orange County Department of Education (closed to new members)

Orange County Employees Retirement System

Orange County Fire Authority

Orange County In-Home Supportive Services Public Authority

Orange County Local Agency Formation Commission

Orange County Public Law Library

Orange County Sanitation District

Orange County Transportation Authority

Superior Court of California, County of Orange

Transportation Corridor Agencies

UCI Medical Center and Campus (closed to new members)

June 1, 2017

Board of Retirement
Orange County Employees Retirement System
2223 East Wellington Avenue, Suite 100
Santa Ana, CA 92701

Dear Board Members,

I am pleased to present the Comprehensive Annual Financial Report (CAFR) of the Orange County Employees Retirement System (OCERS or System) as of and for the year ended December 31, 2016. The information contained in this report is intended to provide a detailed overview of the System's financial and investment results for the year ended December 31, 2016. It also includes information from the current actuarial valuation as of December 31, 2015.

OCERS and its Services

Established in 1945, OCERS is a public retirement system that has provided service retirement, disability, death and survivor benefits to its members for over 70 years, administered in accordance with the County Employees Retirement Law of 1937 (CERL).

Pursuant to certain provisions of CERL, OCERS is an independent governmental unit within the County of Orange, with a separate operating budget and professional staff. The California Constitution gives the Board of Retirement full authority over the administration of the system, which includes administering plan benefits and managing the System's assets. In addition to the System, OCERS' participating agencies include the County of Orange, the Orange County Superior Court of California, one city, nine active special districts, two special districts that are closed to new members and one special district that terminated participation for active employees but continues to pay for liabilities related to their deferred members. In addition, there are two other outside districts and one city that are no longer active plan sponsors, but retired members and their beneficiaries, as well as deferred members, remain in the System.

OCERS' mission is to provide secure retirement and disability benefits with the highest standards of excellence. The Board of Retirement and OCERS' staff members are committed to act for the exclusive benefit of the plan and its more than 43,000 participants, manage the assets of the plan prudently, and administer benefits with impartiality. To fulfill this mandate and our mission, OCERS employs a skilled professional staff and independent consultants that operate under a robust system of governance, operational and fiduciary policies and procedures.

OCERS is very proud to continue serving the County of Orange which provides the back-drop for many long-held events and traditions. Some of these events draw attendees from around the world, while others you may never have known existed. We salute some of these events and traditions in this year's CAFR theme, "Good Vibes of the OC."

Management Responsibility for Financial Reporting

OCERS' management is responsible for the complete and fair presentation of the financial information in accordance with generally accepted accounting principles (GAAP) in the United States. To the best of our knowledge, the enclosed data is accurate in all material respects and is reported in a manner designed to fairly present the financial position and operating results of OCERS.

Letter of Transmittal

(continued)

Major Initiatives and Significant Events

The following were major initiatives and significant events in the past year:

Pension Administration System Solution

Our Pension Administration System Solution (PASS), V3, has been successfully in operation for a year. During the first year of operation, we continued to refine the system, including defect remediation, system design changes, enhancements and regression testing of new V3 build deliveries that were scheduled to be delivered after the post "go-live" date of December 14, 2015.

Technology Update

OCERS has continued making significant progress towards the implementation of its revised business continuity and disaster recovery (BC/DR) plan. Through a competitive bid process for an implementation vendor, Side Path was selected to assist with the procurement of hardware, software and other related services, as well as perform the installation and testing of the BC/DR data center solution.

In an on-going effort to protect our members' confidential information and safeguard our data from cyber-attacks, OCERS rolled out a computer-based security awareness training program that was required to be completed by all employees and will be an ongoing activity that staff will be participating in to ensure that data security remains a top priority. We also conducted two security assessments performed by external security firms with the aim of enhancing and improving both electronic and physical security. Assessments such as these are planned on an annual basis.

We will also be adding security enhancements to our Member Self-Service (MSS) portal, including the creation of a unique PIN number for each member which will be required whenever a member creates an MSS portal account; improving the current "Forgot Password" functionality to provide members via email a limited-time, temporary password with a link to reset the password; and automatic generation of a paper letter informing a member whenever a new MSS portal account has been created (currently prepared manually). These future enhancements are in addition to improvements already implemented during the year, including phone verification with a member for all direct deposit requests submitted to OCERS.

Key Staff Additions

After completing a competitive recruitment and selection process, OCERS appointed Gina Ratto as its new General Counsel. Ms. Ratto assumed her new position in October 2016 after previously serving as the Deputy General Counsel of CalPERS for 10 years.

Board Member Updates

On May 16, 2016, Frank Eley stepped down as an elected active member, where he served on the Board of Retirement for more than 17 years, after his retirement from the County of Orange. As a retiree, Mr. Eley became eligible for the elected retired member seat vacated by Tom Beckett, who decided not to run for re-election after his term ended on December 31, 2016. Mr. Eley ran for this seat unopposed and began serving a new 3-year term beginning January 1, 2017. Mr. Russell Baldwin, who served on the Board of Retirement from January 1, 2006 until December 31, 2012, ran unopposed to fill Mr. Eley's former active member seat and began serving a new 3-year term beginning January 1, 2017.

Accounting Systems and Reports

OCERS' management is responsible for establishing a system of internal controls to safeguard assets and for the presentation of the accompanying basic financial statements. Oversight is provided by OCERS' Audit Committee, supported by internal auditing staff. Macias Gini & O Connell LLP (MGO) audited the accompanying basic financial statements and related disclosures. The financial audit provides reasonable assurance that OCERS' financial statements are presented in conformity with GAAP and are free from material misstatement. Internal controls are considered in assessing whether OCERS' operating policies and procedures are being adhered to and are sufficient to safeguard OCERS' assets. OCERS recognizes even sound internal controls have inherent limitations. OCERS' internal controls are designed to provide reasonable, but not absolute, assurance these objectives are met. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgment by management.

The CAFR was prepared in accordance with GAAP and reporting guidelines set forth by the Governmental Accounting Standards Board (GASB) and CERL. GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of management's discussion and analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. OCERS' MD&A can be found immediately following the independent auditor's report.

Letter of Transmittal

(continued)

Investment Activities

In accordance with state constitutional mandates, the OCERS' Board has adopted a strategic asset allocation policy designed to ensure diversification among asset classes and achieve OCERS' long-term investment objectives of greater than twenty years to safeguard and grow the retirement benefits required to pay current and future payees. In 2016, OCERS' Board selected a new investment consultant, Meketa Investment Group, and a strategic portfolio and risk advisor, Pension Consulting Alliance, who along with investment staff and OCERS' actuary, conducted an asset liability study. Additionally, the Board adopted a formal Investment Beliefs Statement to help guide decisions that impact OCERS' investment structure, as well as adopted a more simplified asset allocation policy in January 2017, taking into consideration a risk framework with an objective to lower investment management fees. The Board also made a decision to exit a number of hedge funds in light of high fees and low returns.

For the year ended December 31, 2016, OCERS' investment portfolio returned 8.52%, net of fees. Our annual net return at 20 years and 25 years was approximately 7.00% and 7.60%, respectively. As the historical average years of service for a new OCERS' retiree approximates 21 years for a general member and 24 years for a safety member, these returns are within range of the System's 7.25% long-term assumed earnings rate over the same period.

Pension Actuarial Funding Status

OCERS maintains a funding goal to establish contributions that fully fund the System's liabilities, and that, as a percentage of payroll, remain as level as possible for each generation of active members. It also ensures that contributions are sufficient for each generation of active members to avoid an intergenerational burden on future employees' contributions. Actuarial valuations are performed annually with actuarial experience investigations conducted triennially in accordance with state statute. The use of realistic assumptions is important in maintaining the necessary funding while paying promised benefits. Each year the actual experience of the System is compared to our assumptions and the differences are studied to determine whether changes in the contribution requirements are necessary. In addition, triennially, the actuarial experience investigation is undertaken to review the actuarial assumptions and compare the actual experience during the preceding three year period with that expected under those assumptions. The latest experience investigation was completed during 2014 for plan years ending in 2011 through 2013. The Board adopted changes in several assumptions that were incorporated into the 2014 actuarial valuation, but left the assumed rate of return at 7.25%. The next triennial experience study is scheduled to be completed in 2017 for the plan years ending 2014 through 2016, with the goal of taking into consideration other factors, in addition to reviewing the actual experience from the previous three years, that could impact funding goals and future contributions.

As of the most current actuarial valuation for the year ended December 31, 2015, OCERS' funding status was 71.72% with an Unfunded Actuarial Accrued Liability (UAAL) of $4.82 billion. Average employer and employee contribution rates for the year ended December 31, 2015, were 39.05% and 12.77%, respectively.

Budget

The Board of Retirement approves OCERS' annual budget. The 1937 Act limits OCERS' annual administrative expenses, excluding the costs of administration for computer software and hardware and computer technology consulting services (IT costs), to twenty-one hundredths of one percent (0.21%) of OCERS' actuarial accrued liability. OCERS' 2016 administrative expense of $16.9 million was .09% of OCERS' actuarial accrued liability.

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 OCERS for its CAFR for the year ended December 31, 2015. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current CAFR continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Letter of Transmittal

(continued)

OCERS was also the recipient of the Public Pension Coordinating Council (PPCC) Award in recognition of compliance with professional standards for plan design and administration for the year ended December 31, 2015. This is awarded to a retirement system who meets the professional standards for plan design and administration as set forth in the Public Pension Standards, including a Comprehensive Benefit Program, Funding Adequacy, Actuarial Valuation, Independent Audit, Investments, and Communications. A Public Pension Standards Award is valid for a period of one year.

Acknowledgements

I would like to take this opportunity to thank the members of the System for their continued confidence in OCERS during the past year. Also, I would like to express my thanks to the Board of Retirement for its dedicated effort in supporting the System throughout this past year. Finally, I would like to thank the staff and consultants for their commitment to OCERS and their diligent work to assure the System's continued success.

Respectfully submitted,

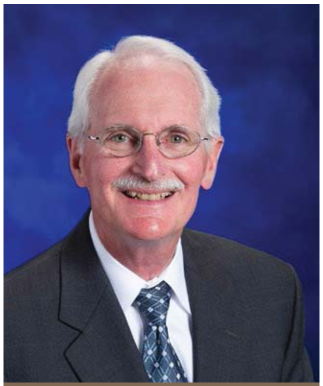
Steve Delaney
Chief Executive Officer

Members of the Board of Retirement

As of December 31, 2016

Roger Hilton
Chair Person
Elected by Safety Members

David Ball
Vice Chair Person
Appointed by the Board of Supervisors



Tom Beckett
Elected by Retired Members

Frank E. Eley
Elected by General Members (Retired May 2016)

Thomas E. Flanigan
Appointed by the Board of Supervisors

Shari L. Freidenrich
Ex-Officio Member
Treasurer-Tax Collector County of Orange

Eric W. Gilbert
Alternate elected by Safety Members

Wayne Lindholm
Appointed by the Board of Supervisors

Charles E. Packard
Appointed by the Board of Supervisors

Chris Prevatt
Elected by General Members

Organization of OCERS

Board of Retirement

The Board of Retirement is responsible for establishing policies governing the administration of the retirement plan, disability determinations, assuring benefit payments, establishing investment policy for the System and monitoring execution of its policies. The Board of Retirement consists of nine members and one alternate. Four members of the Board of Retirement are appointed by the Board of Supervisors of the County; four members are elected by active members of the System, including two by the general members, two by the safety members, of which one is the alternate member; one member is elected by the retirees; and the Treasurer of the County elected by registered voters in the County, serves as an Ex-Officio member.

Executive Department

This department consists of the Chief Executive Officer (CEO) who implements and executes policies promulgated by the Board of Retirement. Two Assistant CEOs, an Internal Auditor, a Chief Investment Officer and a Chief Legal Officer assist the CEO in the daily operations of the System.

Investment Department

This department is responsible for the administration and management of the investment program, in accordance with policies, regulations, and guidelines set forth by the Board of Retirement. It is responsible for the interface with investment managers, including monitoring investment performance objectives, adherence to investment guidelines, conducting due diligence visits to investment managers' sites, and interviewing prospective investment managers. This department is also responsible for the interface with outside investment consultants in reviewing and evaluating all investment managers' performance and investment manager fees. Refer to the Investment Section on pages 88 and 89 for the Schedules of Commissions and Investment Expenses.

External Operations Department

This department is comprised of the following divisions: Member Services and Communications.

The Member Services Division is responsible for providing all benefit services to the members of the System. This includes benefit calculations, preparation of data to support applications for retirement, preparation of the retiree payroll, processing transmittals, membership counseling, and retirement seminars. The Disability section of Member Services is responsible for reviewing claims and medical records; interviewing applicants and witnesses; preparing written reports of findings and recommendations; and making presentations to the Board of Retirement regarding the disposition of cases.

The Communications Division is responsible for developing and coordinating information for members and plan sponsors through publications, newsletters, seminars and publishing content to the website.

Internal Operations Department

This department is comprised of the following divisions: Finance, Information Technology, and Administrative Services.

The Finance Division is responsible for all of the financial records and reports of OCERS. This includes the preparation of the Comprehensive Annual Financial Report, monthly and quarterly financial statements and the annual operating budget. The Finance Division also maintains OCERS' system of internal controls; processes and accounts for retirement payroll and refunds of contributions and interest to members; collects and accounts for employers' and members' contributions; reconciles investment portfolios; and pays costs incurred for goods received and services rendered.

The Information Technology Division is responsible for OCERS' network systems, personal computers, website and databases, as well as providing programming and technical support to our Benefits Administration System. In addition, this division is responsible for overseeing cyber security, business continuity/disaster recovery and administering all audio/visual services.

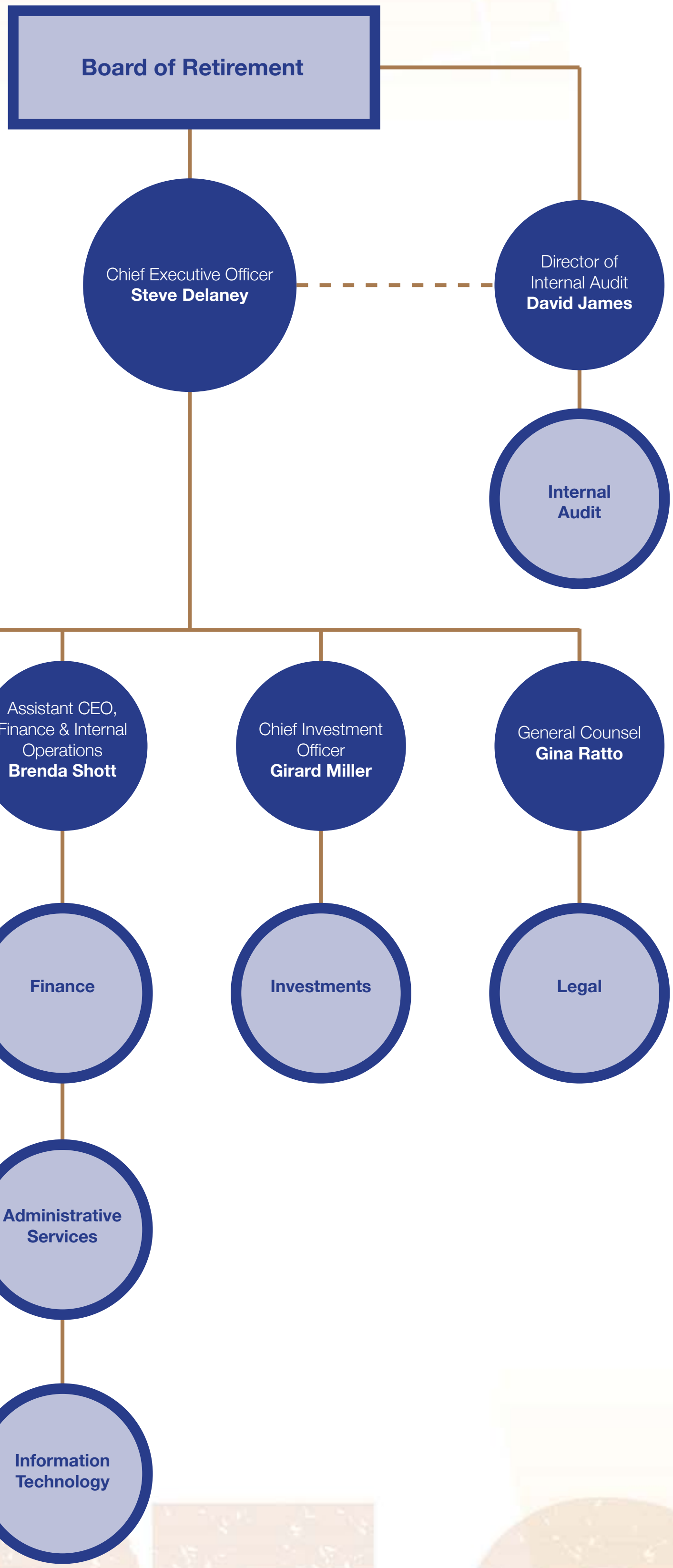
The Administrative Services Division is responsible for providing contract administration, risk management, purchasing, headquarters building administration, human resources and labor relations functions of OCERS.

Legal Department

This department provides legal advice and representation to the Board of Retirement and OCERS on a wide variety of issues. Among other things, this includes issues involving pension benefits, disability retirements, investments, legislation and vendor contracts.

Administrative Organization Chart

As of December 31, 2016



List of Professional Consultants

As of December 31, 2016

Actuary
The Segal Company

Investment Consultant
Meketa Investment Group

Hedge Fund Consultant
Aksia, LLC

Operational Due Diligence Service Providers
Aksia, LLC
Laven Partners US LLC

Real Estate Consultant
R.V. Kuhns & Associates, Inc.

Risk Reporting & Portfolio Review Services
Pension Consulting Alliance

Independent Auditor
Macias Gini & O'Connell LLP

Investment Counsel
Foley and Lardner, LLP

Fiduciary Counsel
Reed Smith, LLP

Tax Counsel
Hanson Bridgett, LLP

Custodian
State Street Bank and Trust Company

Note: List of Investment Managers is located on page 91 of the Investment Section of this report.

Certificate of Achievement for Excellence in Financial Reporting

Public Pension Standards Award for Funding and Administration

PPCC

Public Pension Coordinating Council

Public Pension Standards Award For Funding and Administration 2016

Presented to

Orange County Employees Retirement System

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

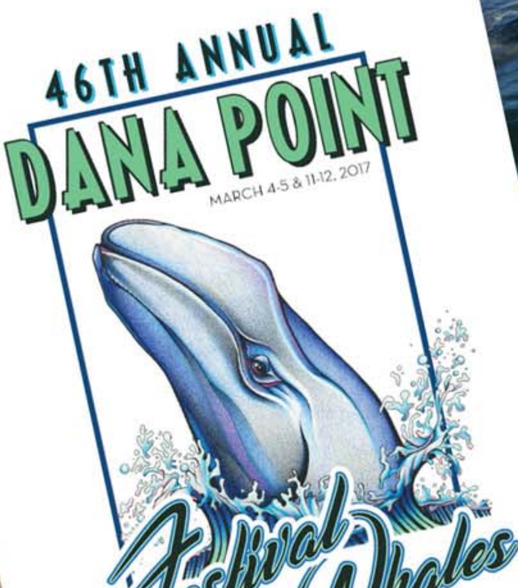
Presented by the Public Pension Coordinating Council, a confederation of

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

Alan H. Winkle
Program Administrator

Dana Point FESTIVAL of Whales

The Dana Point Festival of Whales celebrates the incredible 5000 miles migration of the California Gray Whale from Alaska to Mexico. The migration occurs from December to March and the festival is held in early March. During this peak season, 40-50 whales will pass by Dana Point daily. The Dana Point Headland's cliffs near the harbor are a landmark for their migration path. In addition to whale watching, the festival includes arts and crafts, a sand sculpting competition, classic cars display, a parade and other fun events.



Section II

Financial

ORANGE COUNTY

OCERS

EMPLOYEES RETIREMENT SYSTEM

Independent Auditor's Report

mGO Certified Public Accountants

Independent Auditor's Report

To the Board of Retirement of the
Orange County Employees Retirement System
Santa Ana, California

Report on the Financial Statements

We have audited the accompanying financial statements of the Orange County Employees Retirement System (the System), California, as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity'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 the entity'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 financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Orange County Employees Retirement System as of December 31, 2016, and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Macias Gini & O'Connell LLP
4675 MacArthur Court, Suite 600
Newport Beach, CA 92660

www.mgocpa.com

Emphasis of Matters

As discussed in Note 2 to the basic financial statements, the System implemented the provisions of Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*, for the year ended December 31, 2016.

As discussed in Note 9 to the basic financial statements, based on the actuarial valuation of the pension plan as of December 31, 2015, rolled forward to December 31, 2016, the total pension liability of participating employers exceeded the pension plan's fiduciary net position by $5.2 billion. The actuarial valuation is very sensitive to the underlying assumptions, including a discount rate of 7.25 percent, which represents the long-term expected rate of return.

As discussed in Note 10 to the basic financial statements, based on the most recent actuarial valuation of the Orange County Fire Authority (the Authority) health care plan as of July 1, 2016, the Authority's independent actuary determined that the actuarial accrued liability exceeded the actuarial value of its assets by $227.4 million.

Our opinion is not modified with respect to these matters.

Other Matters

Prior-Year Comparative Information

The financial statements include partial prior-year comparative information. Such information does not include all of the information required to constitute a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended December 31, 2015, from which such partial information was derived.

We have previously audited the System's 2015 financial statements, and we expressed an unmodified audit opinion on the financial statements in our report dated June 10, 2016. In our opinion, the partial comparative information presented herein as of and for the year ended December 31, 2015, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, the Schedule of Changes in Net Pension Liability of Participating Employers, Schedule of Investment Returns, Schedule of Employer Contributions, Schedule of Funding Progress – OPEB Plan Orange County Fire Authority and the Schedule of Employer Contributions – OPEB Plan Orange County Fire Authority, 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 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.

Independent Auditor's Report

(continued)

Other Information

Our audit was conducted for the purpose of forming an opinion on the System's basic financial statements. The other supplementary information, introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. The other supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplemental 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 June 1, 2017, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on 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 the System's internal control over financial reporting and compliance.

Macias Gini & O'Connell LLP

Newport Beach, California
June 1, 2017

Management's Discussion and Analysis

The Management's Discussion and Analysis (MD&A) of the Orange County Employees Retirement System (OCERS or System) presents the financial performance and provides a summary of OCERS' financial position and activities as of and for the year ended December 31, 2016. The narrative overview and analysis is presented in conjunction with the Chief Executive Officer's Letter of Transmittal, included in Section I – Introductory to this Comprehensive Annual Financial Report. The MD&A should be read in conjunction with OCERS' Basic Financial Statements as presented in this report. Amounts in this section have been grouped together to facilitate readability.

OCERS administers the OCERS pension plan—a cost-sharing multiple-employer defined benefit pension plan (the Plan) as well as acts as a trustee and custodian for retirement health benefit plan funds that are sponsored by participating employers. OCERS' financial information is comprised of four fiduciary funds: a defined benefit pension trust fund, two other post-employment benefit (OPEB) trust funds for retiree medical plans and an agency fund.

Financial Highlights

- The net position restricted for pension and other post-employment benefits as of December 31, 2016 totaled $13.1 billion, an increase of $1.2 billion or 9.9% from the prior year. This was primarily due to positive returns on investments and a net positive cash flow from contributions less deductions.
- Total additions to fiduciary net position increased 130.1% from $0.8 billion in 2015 to $1.9 billion in 2016.
  - Net investment income increased significantly from a net investment loss of $11.6 million in 2015 to a net investment income of $1.1 billion in 2016. The net year-to-date rate of return on investments on a fair value basis was approximately 8.52% in 2016 versus a net return of -0.11% in 2015.
  - Contributions received from employers and employees totaled $870.3 million in 2016, an increase of 1.2% compared to 2015 contributions received of $859.8 million.
- Total deductions from fiduciary net position increased $47.5 million from $722.1 million in 2015 to $769.6 million in 2016.
  - Member pension benefit payments increased by $40.3 million or 6.1% in 2016 from $663.6 million to $703.9 million.
  - The number of retired members and beneficiaries receiving a benefit payment increased 3.5% from 15,810 payees at the end of 2015 to 16,369 payees as of December 31, 2016.
  - The average annual benefit paid to retired members and beneficiaries during 2016 was $43,005, an increase of 2.5% over the average annual benefit payment of $41,972 in 2015.
- The net pension liability of participating employers as calculated in the December 31, 2016 Governmental Accounting Standards Board (GASB) Statement No. 67 Actuarial Valuation used for financial reporting purposes is $5.2 billion which as a percentage of covered payroll is 323.91%. The plan fiduciary net position of the pension trust fund of $12.8 billion as a percentage of the total pension liability of $18.0 billion is 71.16%.
- Based upon the most recent actuarial funding valuation dated as of December 31, 2015, the funding status for the pension plan, as measured by the ratio of the actuarial value of assets (which smooths market gains and losses over five years) to the actuarial value of accrued liabilities was 71.72% versus 67.73% if market gains and losses were recognized immediately.

Overview of the Financial Statements

The following discussion and analysis serve as an introduction and overview of the OCERS' Basic Financial Statements. The Basic Financial Statements and required disclosures are prepared in accordance with accounting principles and reporting guidelines as set forth by the Governmental Accounting Standards Board (GASB). These pronouncements require OCERS to make certain disclosures and to report using the full accrual method of accounting.

OCERS' Basic Financial Statements are comprised of the following:

Statement of Fiduciary Net Position

The Statement of Fiduciary Net Position presents the major categories of assets and liabilities and their related value as of year-end. The difference between assets and liabilities is reported as "Net Position Restricted for Pension and Other Post-Employment Benefits," representing funds available to pay future benefits to plan participants. The Statement of Fiduciary Net Position includes prior year-end balances for comparative purposes. Increases and decreases in Net Position Restricted for Pension and Other Post-Employment Benefits, when analyzed over time, may serve as an indicator of whether OCERS' financial position is improving or deteriorating. Other factors, such as market conditions, should also be considered when measuring the overall financial health of the System.

The County of Orange (the County) and Orange County Fire Authority (OCFA) participate in irrevocable post-employment health care plan trusts (retiree medical plans) that are reported as other post-employment benefit trust funds in the Statement of Fiduciary Net Position as separate health care funds. OCERS serves as trustee for these trusts and assets are commingled with pension trust assets for investment purposes and are used exclusively to pay health allowances.

The Orange County Transportation Authority has revocable trust assets held by OCERS in an investment capacity and are not commingled with those of the pension plan and health care plan trusts. The assets and offsetting liabilities are reported in the Statement of Fiduciary Net Position as an agency fund.

Statement of Changes in Fiduciary Net Position

The Statement of Changes in Fiduciary Net Position provides information about the financial activities during the reporting period that increased and decreased Net Position Restricted for Pension and Other Post-Employment Benefits. The trend of additions versus deductions to the Plan indicates the strength of OCERS' financial position over time. For comparative purposes, prior year-end balances are also provided.

To distinguish the activities of the health care plan trusts from the pension plan, the health care plan trusts are also reported separately in the Statement of Changes in Fiduciary Net Position as health care funds.

Notes to the Basic Financial Statements

The Notes to the Basic Financial Statements are an integral part of the basic financial statements and provide additional information that is essential to acquire a full understanding of the information provided in the two statements discussed above. The notes include further discussion and details regarding OCERS' key policies, programs, investments and activities that occurred during the year.

Required Supplementary Information

The Required Supplementary Information (RSI) presents historical trend information related to the pension plan and OCFA's retiree medical plan (the County maintains the financial reporting responsibility of its retiree medical plan, so it is not included in OCERS' RSI schedules) reported in the Basic Financial Statements. The pension plan includes a schedule of changes in net pension liability, a schedule of money-weighted investment returns, a schedule of employer contributions and other required supplementary information as required by GASB Statement No. 67. The information contained in both the pension and retiree medical plan schedules is based on separate actuarial valuations prepared for each benefit plan. The valuation reports include additional actuarial information that contributes to the understanding of the changes in the net pension liability of participating employers in the pension plan and the actuarial funding progress of the retiree medical plan as presented in the schedules. The actuarial information is based upon assumptions made regarding future events at the time the valuations were performed. Therefore, the amounts presented in the schedules are management's estimates. A summary of factors that affected the trends of the actuarial information is included in this section as well.

Other Supplementary Information

The Other Supplementary Information includes schedules pertaining to contributions by plan sponsors and members, OCERS' administrative expenses, investment expenses, professional services and a statement of changes for the agency fund.

Financial Analysis

Table 1 and 2 compare and summarize OCERS' financial activity for the current and prior years.

Table 1 : Fiduciary Net Position

As of December 31, 2016 and 2015
(Dollars in Thousands)

	12/31/2016	12/31/2015	Increase / (Decrease)	Percentage Change
Assets				
Cash and Cash Equivalents	$ 466,328	$ 367,681	$ 98,647	26.8%
Securities Lending Collateral	168,896	108,296	60,600	56.0%
Receivables	180,475	90,998	89,477	98.3%
Investments at Fair Value	12,891,389	11,781,914	1,109,475	9.4%
Capital Assets, Net	22,620	24,935	(2,315)	-9.3%
Total Assets	**13,729,708**	**12,373,824**	**1,355,884**	**11.0%**
Liabilites				
Obligations Under Securities Lending Program	168,896	108,296	60,600	56.0%
Securities Purchased	161,150	51,531	109,619	212.7%
Other	321,811	317,903	3,908	1.2%
Total Liabilities	**651,857**	**477,730**	**174,127**	**36.4%**
Net Position Restricted for Pension and Other Post-Employment Benefits	**$ 13,077,851**	**$ 11,896,094**	**$ 1,181,757**	**9.9%**

As of December 31, 2016, OCERS has a net position of $13.1 billion restricted for pension and other post-employment benefits. Net position increased $1.2 billion, an increase of 9.9% over 2015. The increase in net position includes an increase in total assets of $1.4 billion and an increase in total liabilities of $174.1 million.

The increase in total assets is primarily attributed to an increase in fair value of investments, with additional increases in cash and short-term investments, the security lending program and receivables at year end. The increase in total assets is offset by a decrease in capital assets. Investments at fair value increased $1.1 billion primarily due to greater returns in 2016. Investments experienced strong returns in domestic equity securities, diversified credit, and real return, of 13.1%, 11.4% and 12.1%, respectively. All investment categories experienced positive returns in 2016. Cash and short-term equivalents increased $98.6 million due to timing of contributions and other receipts near year-end. Securities lending collateral increased $60.6 million due to a post-election rally and low energy prices within the corporate bond portfolio which led to an increase in lending at year-end in the securities lending program. Receivables increased $89.5 million from the prior year due to the timing of investments for unsettled trades, and other receivables related to year-end investment redemptions. Capital assets decreased $2.3 million from 2015 to 2016. The decrease is depreciation expense primarily related to the Pension Administration System Solution (PASS) Project, V3, which is fully capitalized and depreciable in 2016. For additional information regarding capital assets, please see the accompanying notes to the basic financial statements, Note 2.

The increase in total liabilities of $174.1 million is primarily a result of the timing of unsettled security purchases of $109.6 million, as well as an increase in the obligations under the securities lending program which increased by $60.6 million and is directly related to the increase in securities lending collateral as previously discussed. All other liabilities increased by $3.9 million which include unearned contributions, foreign currency forward contracts, retiree payroll payables and other liabilities.

Table 2 : Changes in Fiduciary Net Position

For the Years Ended December 31, 2016 and 2015
(Dollars in Thousands)

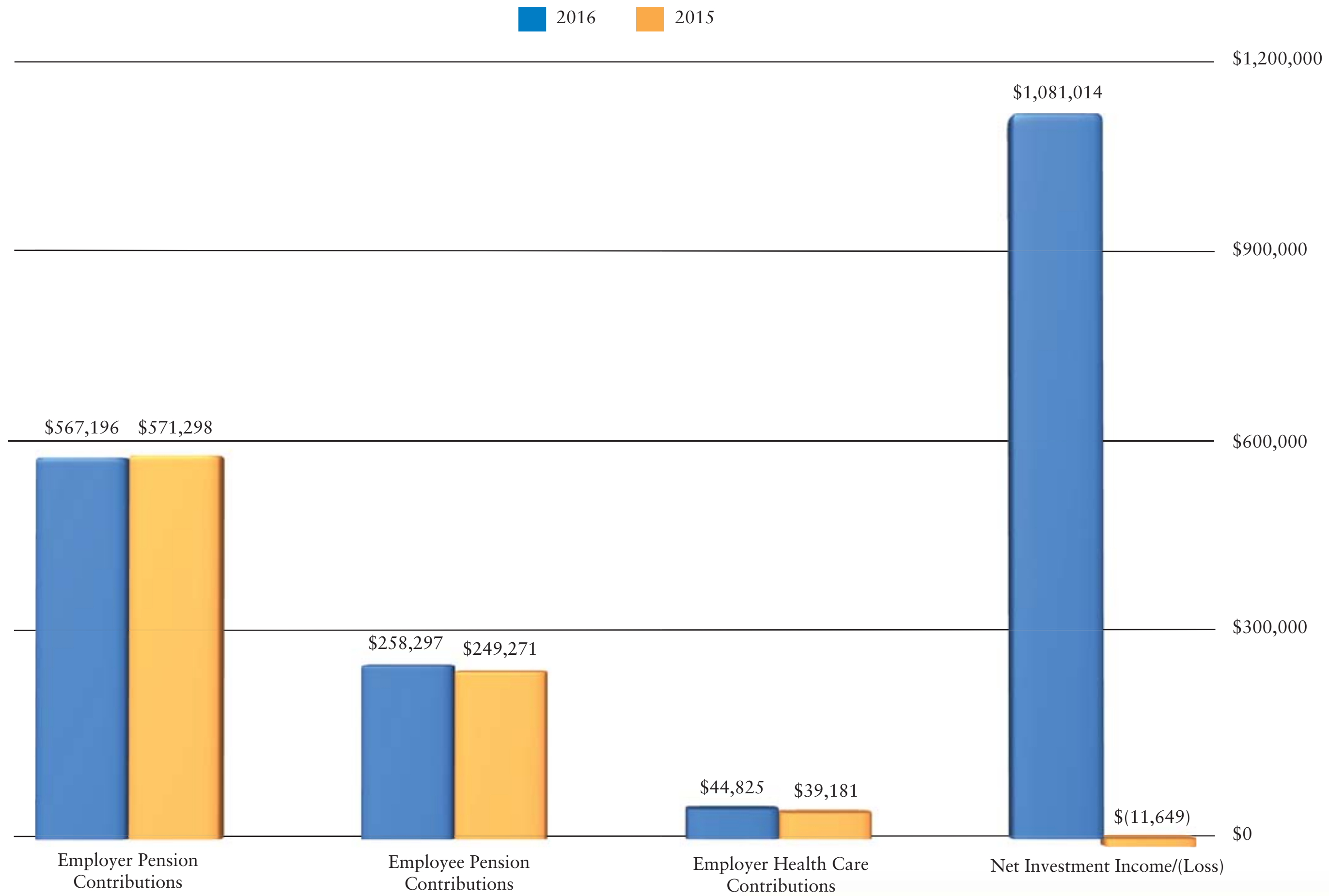
	12/31/2016	12/31/2015	Increase / (Decrease)	Percentage Change
Additions				
Employer Pension Contributions	$ 567,196	$ 571,298	$ (4,102)	-0.7%
Employer Health Care Contributions	44,825	39,181	5,644	14.4%
Employee Pension Contributions	258,297	249,271	9,026	3.6%
Net Investment Income/(Loss)	1,081,014	(11,649)	1,092,663	9,379.9%
Total Additions	**1,951,332**	**848,101**	**1,103,231**	**130.1%**
Deductions				
Participant Benefits - Pension	703,949	663,582	40,367	6.1%
Participant Benefits - Health Care	34,685	33,555	1,130	3.4%
Death Benefits	384	524	(140)	-26.7%
Member Withdrawals and Refunds	13,643	11,857	1,786	15.1%
Administrative Expenses - Pension	16,870	12,521	4,349	34.7%
Administrative Expenses - Health Care	44	44	-	0.0%
Total Deductions	**769,575**	**722,083**	**47,492**	**6.6%**
Increase in Net Position Restricted for Pension and Other Post-Employment Benefits	**1,181,757**	**126,018**	**1,055,739**	**837.8%**
Net Position Restricted for Pension and Other Post-Employment Benefits				
Beginning of the Year	11,896,094	11,770,076		
End of the Year	**$ 13,077,851**	**$ 11,896,094**		

Additions to Fiduciary Net Position

The primary funding sources of pension benefits are the collection of participating employer and member contributions and earnings on investments, net of investment expenses. Additions to fiduciary net position increased 130.1% in 2016. Total additions for the year ended December 31, 2016 were $1.9 billion compared to $848.1 million for the same period in 2015. The increase is comprised of an increase in total contributions of $10.6 million and an increase in investment income of $1.1 billion. The increase in contributions is mainly attributed to an increase in employee contributions due to higher salaries. The increase in investment income is attributed to higher appreciation in the fair value of investments and greater returns on the underlying investments. Overall market performance as of December 31, 2016 has improved significantly over December 31, 2015, as all of the investment categories experienced positive returns, versus approximately 50% of the investment categories in 2015 experienced negative returns. Overall net investment returns for the year ended December 31, 2016 were 8.52% compared to the prior year's return of -0.11%.

Additions to Fiduciary Net Position

(Dollars in Thousands)

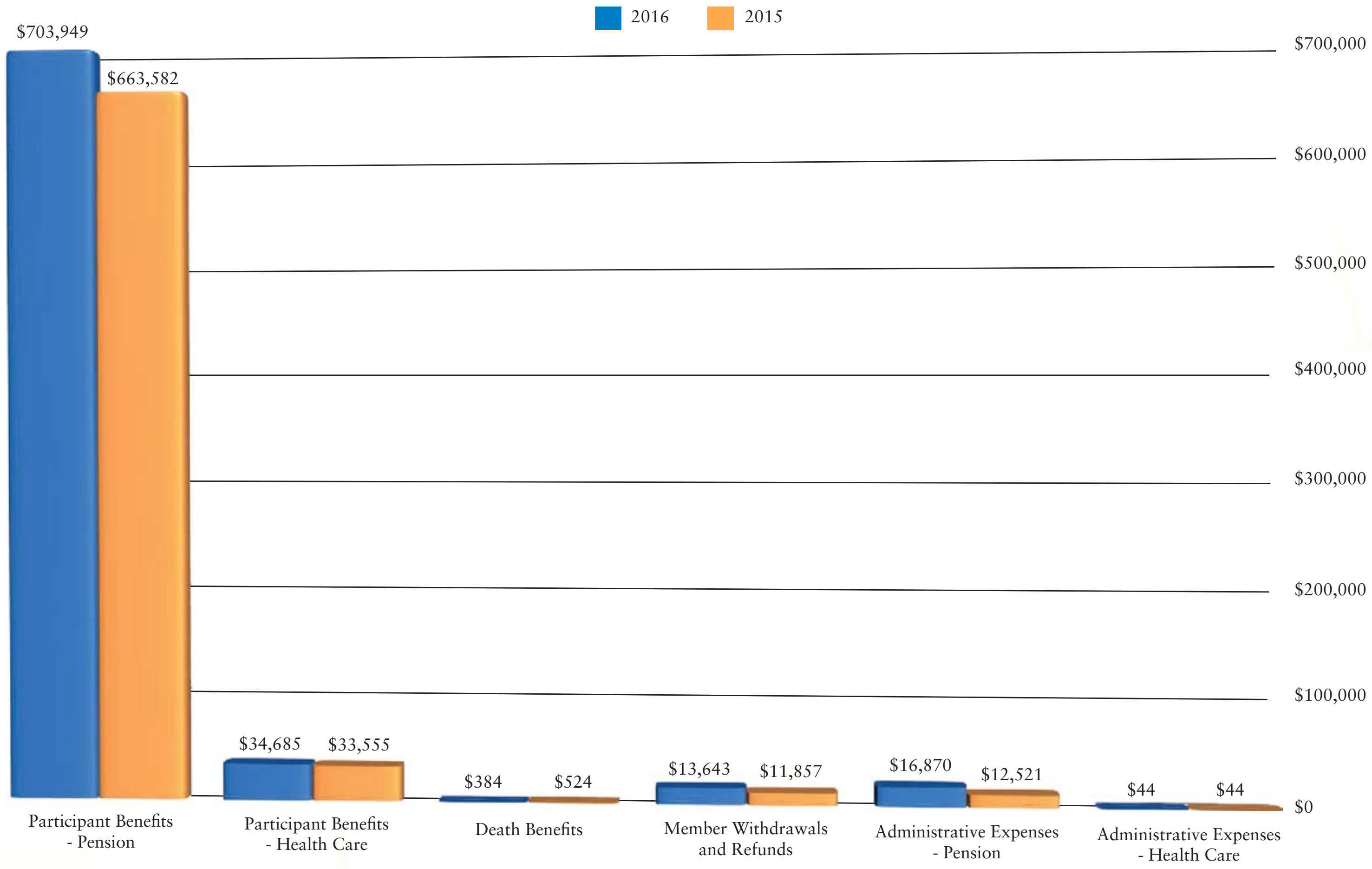


Deductions from Fiduciary Net Position

The costs associated with the System include payments of benefits to members and their beneficiaries, refunds of contributions to terminated members and the costs of administering the plan. Deductions from fiduciary net position increased $47.5 million or 6.6% compared to the prior year, primarily due to the continued and anticipated growth in member pension benefit payments, both in the total number of OCERS' retired members receiving a pension benefit and an increase in the average benefit received. Participant benefit payments have increased by $41.5 million. Total benefit recipients increased by 559, from 15,810 to 16,369. The average annual pension benefit increased from $41,972 to $43,005. Additionally, administrative expenses have increased $4.3 million which can be attributed to an increase in depreciation expense of $2.2 million due to the completion of the V3 project, increases in professional services related to V3 post implementation consulting of approximately $1.0 million, and increases in legal and litigation costs and personnel costs of approximately $1.0 million.

Deductions to Fiduciary Net Position

(Dollars in Thousands)



OCERS Membership

The table below provides comparative OCERS' membership data for the last two years.

Table 3 : Membership Data

As of December 31, 2016 and 2015

	12/31/2016	12/31/2015	Increase/ (Decrease)	Percentage Change
Active Members	21,746	21,525	221	1.0%
Retired Members	16,369	15,810	559	3.5%
Deferred Members	5,370	5,092*	278	5.5%
Total Membership	**43,485**	**42,427**	**1,058**	**2.5%**

* Includes one member excluded from the December 31, 2015 actuarial valuation due to timing differences in status.

Total OCERS' membership increased during 2016 with a net increase of 1,058 members. The number of active members increased by 221 or 1.0% and the number of retirees increased by 559 or 3.5% suggesting that plan sponsors are hiring employees at a higher rate than members leaving their employment for retirement or other opportunities.

Actuarial Valuations

In order to determine whether Net Position Restricted for Pension Benefits will be sufficient to meet future obligations, a calculation of the actuarial funded status is required. An actuarial valuation includes an appraisal of both the assets available to pay future benefits and the liabilities of the system, which represent the actuarial present value of all future benefits expected to be paid for each member. The purpose of the valuation is to determine the amount of future contributions by the employees (members) and employers (plan sponsors) which will be required to pay all expected future benefits. OCERS utilizes an independent actuarial firm, The Segal Company (Segal), to prepare an annual valuation. The most recent Annual Actuarial Valuation as of December 31, 2015 is included in the Actuarial Section of this report, and contains a detailed discussion of the funding requirements. This valuation is used for funding purposes and establishing employer and employee contribution rates. For the year ending December 31, 2016, Segal prepared a Governmental Accounting Standards Board (GASB) Statement 67 Actuarial Valuation as of December 31, 2016, used for financial reporting purposes.

In order to prepare the valuations, the actuary must use several assumptions with regards to OCERS' members such as their life expectancy, projected salary increases over time, and the age in which members will retire. The actuary must also utilize assumptions with regards to how the assets will perform over time. A key assumption in this regard is the expected rate of return which has remained at 7.25% since the December 31, 2012 valuation. All assumptions used by the actuary are reviewed and adjusted, as required, on a triennial basis and adopted by the Board of Retirement. The most recent triennial study was adopted by the Board on September 23, 2014, for the three-year experience period ending December 31, 2013. As a result, the following assumptions were changed as of the December 31, 2014 valuation: inflation was lowered from 3.25% to 3.00%; active member payroll increases were lowered from 3.75% to 3.50%; and projected salary increases for general members were lowered from a range of 4.75% to 13.75% to a range of 4.25% to 13.50% and for safety members, the range was changed from 4.75% to 17.75% to 5.00% to 17.50%. In addition, mortality rates were adjusted for after service retirement to reflect shorter life expectancies for general members and longer life expectancies for safety members and longer life expectancies for both general and safety members for after disability retirement.

The GASB 67 valuation provides the calculation of the employers' pension liability. In order to accommodate the annual reporting requirements of our plan sponsors in a timely manner, the valuation was prepared using the December 31, 2015 valuation as the basis for calculating the total pension liability (TPL) and rolled forward to December 31, 2016. Based on this actuarial valuation, the TPL was $18.0 billion compared to a fiduciary net position of $12.8 billion, resulting in the employers' net pension liability (NPL) of $5.2 billion and a fiduciary net position as a percentage of the TPL of 71.2%. The NPL as a percentage of covered payroll was 323.91%.

In the actuarial funding valuation for the pension plan as of December 31, 2015, the funding ratio of the valuation value of assets to actuarial accrued liabilities was 71.72%. The calculation of funding status takes into account OCERS' policy to smooth the impact of market volatility by spreading each year's gains or losses over five years. Using the market value of assets as of the valuation date, the funded status of OCERS' pension plan was 67.73% in 2015.

Management's Discussion and Analysis

(continued)

Investment and Economic Summary

The United States economy continued to strengthen throughout 2016. Labor market conditions continued to strengthen with solid gains in payroll employment; the consumer price index increased by a percentage point but remains below the targeted objective of 2 percent; financial vulnerabilities in the U.S. financial system have continued to be moderate as U.S. banks are well capitalized and have sizable liquidity buffers; and the Federal Open Market Committee (FOMC) raised the target for the federal funds rate by ¼ percentage point. The United States unemployment rate fell to 4.7% at the end of 2016, the lowest year-end rate since 2007, and wage growth began to pick up when compared to prior years. Consumer spending expanded at a moderate pace, supported by solid income gains. In December 2016, the FOMC raised the target range for the federal funds rate from a range of .25%-.50% to a range of .50%-.75%, the second rate increase in 8 years. The FOMC expects economic conditions will evolve in a manner that will warrant continued gradual increases in the federal funds rate in 2017 and 2018.

In 2016, a couple of major events, which had an effect on the uncertainty of the financial markets, included the United States presidential election and the exit of the United Kingdom from the European Union. Domestic financial conditions have supported economic growth, treasury yields and mortgage rates moved up, stock prices have risen, and the financial sector outperformed the broader equity market. Bond yields reversed their downward trend and increased following the election, in part on expectations of a more expansionary U.S. fiscal policy. The U.S. dollar was strong in foreign markets. Foreign financial market conditions, both advanced and emerging markets, improved despite global political uncertainties.

OCERS' net investment return for 2016 was 8.52% after investment management fees. As of December 31, 2016 the three-year and five-year returns after investment management fees were 4.32% and 7.10%, respectively. Regardless of fluctuations and uncertainty in the financial markets, OCERS continues to preserve a sound financial position to meet the obligations of the Plan participants and their beneficiaries. During 2016, OCERS developed a transition plan to reduce the number and cost of hedge funds in light of reduced expectations for these higher-fee funds to contribute meaningfully to the investment portfolio. The current asset allocation was reviewed with the goal of simplifying the investment portfolio and lowering investment management fees to better position the portfolio for the future, with a new asset allocation policy being put in place in January 2017 to achieve these goals.

Request for Financial Information

This Comprehensive Annual Financial Report is designed to provide the Board of Retirement, plan members, participating employers, taxpayers, investment managers and other interested parties with a general overview of OCERS' financial condition and to demonstrate OCERS' accountability for the funds under its stewardship.

Please address any questions about this report or requests for additional information to:

Orange County Employees Retirement System
2223 East Wellington Avenue, Suite 100
Santa Ana, CA 92701

San Juan Capistrano SWALLOWS Day Parade

The Swallows Day Parade is one of the nation's largest non-motorized parades. The parade takes place in downtown San Juan Capistrano to celebrate the return of the swallows to the San Juan Capistrano Mission on St. Joseph's Day. The Parade and Mercado Street Fair is a full day of family fun, celebrating the Old West and the return of the swallows from their winter home in Argentina.

San Juan Capistrano Fiesta Association

Section II

Financial

Basic Financial Statements

Statement of Fiduciary Net Position

As of December 31, 2016
(with summarized comparative amounts as of December 31, 2015)
(Dollars in Thousands)

	Pension Trust Fund	Health Care Fund-County	Health Care Fund-OCFA	OPEB 115 Agency Fund	Total Fund	Comparative Totals 2015
Assets						
Cash and Short-Term Investments						
Cash and Cash Equivalents	$ 456,545	$ 8,198	$ 1,297	$ 288	$ 466,328	$ 367,681
Securities Lending Collateral	165,455	2,971	470	-	168,896	108,296
Total Cash and Short-Term Investments	622,000	11,169	1,767	288	635,224	475,977
Receivables						
Investment Income	15,880	285	45	-	16,210	15,835
Securities Sales	85,263	1,531	242	-	87,036	49,554
Contributions	19,206	-	-	-	19,206	17,730
Foreign Currency Forward Contracts	822	15	2	-	839	6,170
Other Receivables	56,019	1,006	159	-	57,184	1,709
Total Receivables	177,190	2,837	448	-	180,475	90,998
Investments at Fair Value						
Domestic Equity Securities	2,271,307	40,783	6,453	6,479	2,325,022	2,002,135
International Equity Securities	1,329,226	23,867	3,776	2,495	1,359,364	1,128,864
Global Equity Securities	411,279	7,385	1,168	-	419,832	576,945
Domestic Fixed Income	1,669,709	29,981	4,743	5,432	1,709,865	1,469,570
Real Estate	1,096,693	19,692	3,116	-	1,119,501	1,131,770
Diversified Credit	1,647,073	29,575	4,679	-	1,681,327	1,225,464
Emerging Markets Equity	762,196	13,686	2,165	-	778,047	718,540
Emerging Markets Debt	381,567	6,851	1,084	-	389,502	331,118
Real Return	924,423	16,599	2,626	-	943,648	891,015
Absolute Return	1,411,239	25,340	4,009	-	1,440,588	1,675,015
Private Equity	709,929	12,747	2,017	-	724,693	631,478
Total Investments at Fair Value	12,614,641	226,506	35,836	14,406	12,891,389	11,781,914
Capital Assets, Net	22,620	-	-	-	22,620	24,935
Total Assets	**13,436,451**	**240,512**	**38,051**	**14,694**	**13,729,708**	**12,373,824**
Liabilities						
Obligations Under Securities Lending Program	165,455	2,971	470	-	168,896	108,296
Securities Purchased	157,867	2,835	448	-	161,150	51,531
Unearned Contributions	222,524	-	-	-	222,524	227,166
Foreign Currency Forward Contracts	896	16	2	-	914	-
Retiree Payroll Payable	59,661	2,511	234	-	62,406	59,015
Other	20,840	374	59	-	21,273	17,729
Due to Employers	-	-	-	14,694	14,694	13,993
Total Liabilities	**627,243**	**8,707**	**1,213**	**14,694**	**651,857**	**477,730**
Net Position Restricted for Pension and Other Post-Employment Benefits	**$ 12,809,208**	**$ 231,805**	**$ 36,838**	**$ -**	**$ 13,077,851**	**$ 11,896,094**

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

Statement of Changes in Fiduciary Net Position

For the Year Ended December 31, 2016
(with summarized comparative amounts for the Year Ended December 31, 2015)
(Dollars in Thousands)

	Pension Trust Fund	Health Care Fund - County	Health Care Fund- OCFA	Total Fund	Comparative Totals 2015
Additions					
Contributions					
Employer	$ 567,196	$ 42,411	$ 2,414	$ 612,021	$ 610,479
Employee	258,297	-	-	258,297	249,271
Total Contributions	825,493	42,411	2,414	870,318	859,750
Investment Income/(Loss)					
Net Appreciation/(Depreciation) in Fair Value of Investments	921,529	14,413	2,448	938,390	(133,255)
Interest	115,001	2,066	329	117,396	54,805
Dividends	40,104	721	115	40,940	50,535
Real Estate Income	26,898	483	77	27,458	24,074
Alternative Investments	36,041	648	103	36,792	45,725
Other Investment Income	1,277	23	4	1,304	1,049
Securities Lending Income					
Gross Earnings	1,857	33	5	1,895	1,342
Less: Borrower Rebates and Bank Charges	(654)	(12)	(2)	(668)	(291)
Net Securities Lending Income	1,203	21	3	1,227	1,051
Total Investment Income	1,142,053	18,375	3,079	1,163,507	43,984
Investment Fees and Expenses	(80,810)	(1,452)	(231)	(82,493)	(55,633)
Net Investment Income/(Loss)	1,061,243	16,923	2,848	1,081,014	(11,649)
Total Additions	**1,886,736**	**59,334**	**5,262**	**1,951,332**	**848,101**
Deductions					
Participant Benefits	703,949	30,818	3,867	738,634	697,137
Death Benefits	384	-	-	384	524
Member Withdrawals and Refunds	13,643	-	-	13,643	11,857
Administrative Expenses	16,870	22	22	16,914	12,565
Total Deductions	**734,846**	**30,840**	**3,889**	**769,575**	**722,083**
Net Increase	1,151,890	28,494	1,373	1,181,757	126,018
Net Position Restricted For Pension and Other Post-Employment Benefits, Beginning of Year	11,657,318	203,311	35,465	11,896,094	11,770,076
Ending Net Position Restricted For Pension and Other Post-Employment Benefits	**$ 12,809,208**	**$ 231,805**	**$ 36,838**	**$ 13,077,851**	**$ 11,896,094**

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

Notes to the Basic Financial Statements

NOTE 1 : Plan Descriptions

The Orange County Employees Retirement System (OCERS or System) was established in 1945 under the provisions of the County Employees Retirement Law of 1937 (CERL). OCERS is governed by a ten-member Board of Retirement, nine voting members and one alternate member. Board membership consists of four members appointed by the County of Orange Board of Supervisors, five members elected by the members of the System, including an alternate, two by the general members, one by the safety members, and one by the retired members. Safety members elect the alternate member. The County of Orange Treasurer Tax-Collector, elected by the voters registered in the County, serves as an Ex-Officio member.

OCERS operates as a cost-sharing multi-employer defined benefit pension plan for the County of Orange, Orange County Superior Court of California, City of San Juan Capistrano, and twelve special districts: Orange County Cemetery District, Orange County Children and Families Commission, Orange County Department of Education, Orange County Employees Retirement System, Orange County Fire Authority, Orange County In-Home Supportive Services Public Authority, Orange County Local Agency Formation Commission (LAFCO), Orange County Public Law Library, Orange County Sanitation District, Orange County Transportation Authority, Transportation Corridor Agencies and the University of California, Irvine Medical Center and Campus. The Orange County Department of Education and the University of California, Irvine Medical Center and Campus are closed to new member participation. Capistrano Beach, Cypress Recreation & Parks District, Orange County Mosquito and Vector Control and City of Rancho Santa Margarita are no longer active plan sponsors, but retired members and their beneficiaries, as well as deferred members, remain in the System. OCERS is legally and fiscally independent of the County of Orange.

Pension Plan Membership

OCERS provides retirement, disability and death benefits to general and safety members. Safety membership includes those members serving in active law enforcement, fire suppression and as probation officers. General membership applies to all other occupations. Plan retirement benefits are tiered based upon date of OCERS membership. Tier 1 members were hired prior to September 21, 1979 and use their highest one-year average salary to determine their retirement allowance while Tier II members were hired after September 21, 1979 and use their highest three-year average salary to determine their retirement allowance. Member rate groups are determined by employer, bargaining unit, and benefit plan (a description of the benefit plans can be found under Member Retirement Benefits). The benefit plan represents the benefit formula and tier that will be used in calculating a retirement benefit. All regular employees scheduled to work 20 hours or more per week become members of the plan upon commencing employment with one of OCERS' plan sponsors, with the exception of a provision adopted in 2014 that allows new members over the age of 60 to opt out of the plan if their employer has implemented the provision. Active members are categorized as vested in the table below upon accumulating five years of accredited service or attaining the age of 70. Additional information regarding the pension plan's benefit structure is included in the Summary Plan Description that is available on the web at **www.ocers.org/member_active/spd.htm**.

The following table is a summary of OCERS' general and safety membership as of December 31, 2016, consisting of active members, retired members or their beneficiaries, and deferred members who have terminated, but are not yet receiving benefits (further information regarding benefit eligibility for deferred members is described under Deferred Members Benefits):

Notes to the Basic Financial Statements

NOTE 1 : Plan Descriptions (continued)

OCERS Membership (General Members)

As of December 31, 2016

	Rate Group	Benefit Plan	Tier	Active Vested	Active Non-Vested	Retired Members & Beneficiaries	Deferred Members	Total
	1	A	I	2	-	382	1	385
	1	B	II	784	81	365	302	1,532
	1	U	II-PEPRA	1	773	-	142	916
Sub-Total				787	854	747	445	2,833
	2	A	I	-	-	3,344	18	3,362
	2	B	II	1	1	1,940	799	2,741
	2	I	I	53	-	1,125	-	1,178
	2	J	II	10,408	401	4,326	2,257	17,392
	2	P	II	96	110	2	79	287
	2	S	II	2	9	-	3	14
	2	T	II-PEPRA	23	2,828	2	453	3,306
	2	U	II-PEPRA	1	141	-	20	162
Sub-Total				10,584	3,490	10,739	3,629	28,442
	3	A	I	-	-	93	1	94
	3	B	II	16	38	64	38	156
	3	G	I	1	-	29	-	30
	3	H	II	407	-	253	55	715
	3	U	II-PEPRA	-	116	-	10	126
Sub-Total				424	154	439	104	1,121
	4	H	II	-	-	1	-	1
Sub-Total				-	-	1	-	1
	5	A	I	13	-	388	4	405
	5	B	II	1,020	208	897	534	2,659
	5	U	II-PEPRA	-	131	-	30	161
Sub-Total				1,033	339	1,285	568	3,225
	9	A	I	-	-	4	-	4
	9	B	II	-	-	10	12	22
	9	N	II	44	3	28	40	115
	9	U	II-PEPRA	-	21	1	4	26
Sub-Total				44	24	43	56	167
	10	A	I	-	-	8	-	8
	10	B	II	-	-	36	11	47
	10	I	I	-	-	17	-	17
	10	J	II	157	2	100	81	340
	10	N	II	4	39	-	6	49
	10	U	II-PEPRA	1	99	-	33	133
Sub-Total				162	140	161	131	594
	11	A	I	-	-	4	-	4
	11	B	II	-	-	3	-	3
	11	N	II	18	-	2	3	23
	11	U	II-PEPRA	-	4	-	-	4
Sub-Total				18	4	9	3	34
	12	A	I	-	-	2	-	2
	12	B	II	-	-	3	2	5
	12	H	II	14	-	5	2	21
	12	U	II-PEPRA	-	1	-	-	1
Sub-Total				14	1	10	4	29
Total General Members				13,066	5,006	13,434	4,940	36,446

NOTE 1 : Plan Descriptions (continued)

OCERS Membership (Safety Members)

As of December 31, 2016

	Rate Group	Benefit Plan	Tier	Active Vested	Active Non-Vested	Retired Members & Beneficiaries	Deferred Members	Total
	6	C	I	-	-	89	-	89
	6	D	II	-	-	46	35	81
	6	E	I	1	-	44	-	45
	6	F	II	758	20	158	174	1,110
	6	V	II-PEPRA	-	27	-	2	29
Sub-Total				759	47	337	211	1,354
	7	C	I	-	-	503	-	503
	7	D	II	-	-	242	51	293
	7	E	I	-	-	283	-	283
	7	F	II	1,310	-	923	87	2,320
	7	R	II	154	223	2	20	399
	7	V	II-PEPRA	1	219	-	12	232
Sub-Total				1,465	442	1,953	170	4,030
	8	C	I	-	-	27	-	27
	8	D	II	-	-	72	6	78
	8	E	I	-	-	17	-	17
	8	F	II	625	172	529	31	1,357
	8	R	II	1	51	-	2	54
	8	V	II-PEPRA	-	112	-	10	122
Sub-Total				626	335	645	49	1,655
Total Safety Members				**2,850**	**824**	**2,935**	**430**	**7,039**
Grand Total				**15,916**	**5,830**	**16,369**	**5,370**	**43,485**

Member Retirement Benefits

Members are entitled to receive a retirement allowance with ten or more years of service credit beginning at age 50 (5 years of service and age 52 for General Public Employees Pension Reform Act (PEPRA) plans and 5 years of service and age 50 for Safety PEPRA, for all plans except those identified as PEPRA compliant), at any age with thirty years of service credit (twenty years of service credit for safety members), or if a part-time employee at age 55 or older with five or more years of service credit and at least ten years of active employment with a sponsoring agency covered by OCERS. Members attaining age 70 are eligible to retire regardless of credited service. Benefits received are determined by plan formula, age, years of service and final average salary (see Section II, Notes to the Required Supplementary Information, for any changes in benefit terms). Member rate groups and benefit plans as of December 31, 2016 are as follows:

Notes to the Basic Financial Statements

NOTE 1 : Plan Descriptions (continued)

Rate Groups and Benefit Plans

As of December 31, 2016

Rate Group	Plan Type	Benefit Plan	Benefit Formula per Year of Service	Sponsoring Agency
1	General	A	2.0% @ 57	County of Orange; OC In-Home Supportive Services Public Authority; OC Department of Education & UCI Medical Center and Campus (Capistrano Beach Sanitary District, Cypress Recreation & Parks District, and OC Mosquito and Vector Control District are no longer active participants)
		B	1.67% @ 57.5	
		U	2.5% @ 67 PEPRA	
2	General	A	2.0% @ 57	County of Orange; City of San Juan Capistrano; LAFCO; OCERS; Orange County Superior Court of California; & OC Children and Families Commission
		B	1.67% @ 57.5	
		I	2.7% @ 55	
		J	2.7% @ 55	
		O	1.62% @ 65	
		P	1.62% @ 65	
		S	2.0% @ 57	
		T	1.62% @ 65 PEPRA	
		U	2.5% @ 67 PEPRA	
		W	1.62% @ 65 PEPRA	
3	General	A	2.0% @ 57	OC Sanitation District
		B	1.67% @ 57.5	
		G	2.5% @ 55	
		H	2.5% @ 55	
		U	2.5% @ 67 PEPRA	
4	General	H	2.5% @ 55	City of Rancho Santa Margarita (no longer active participant)
5	General	A	2.0% @ 57	OC Transportation Authority
		B	1.67% @ 57.5	
		U	2.5% @ 67 PEPRA	
6	Safety	C	2.0% @ 50	County of Orange (Probation)
		D	2.0% @ 50	
		E	3.0% @ 50	
		F	3.0 % @ 50	
		V	2.7% @ 57 PEPRA	
7	Safety	C	2.0% @ 50	County of Orange (Law Enforcement)
		D	2.0% @ 50	
		E	3.0% @ 50	
		F	3.0% @ 50	
		Q	3.0% @ 55	
		R	3.0% @ 55	
		V	2.7% @ 57 PEPRA	
8	Safety	C	2.0% @ 50	OC Fire Authority
		D	2.0% @ 50	
		E	3.0% @ 50	
		F	3.0% @ 50	
		Q	3.0% @ 55	
		R	3.0% @ 55	
		V	2.7% @ 57 PEPRA	

Notes to the Basic Financial Statements

NOTE 1 : Plan Descriptions (continued)

Rate Groups and Benefit Plans (continued)

As of December 31, 2016

Rate Group	Plan Type	Benefit Plan	Benefit Formula per Year of Service	Sponsoring Agency
9	General	A	2.0% @ 57	Transportation Corridor Agencies
		B	1.67% @ 57.5	
		M	2.0% @ 55	
		N	2.0% @ 55	
		U	2.5% @ 67 PEPRA	
10	General	A	2.0% @ 57	OC Fire Authority
		B	1.67% @ 57.5	
		I	2.7% @ 55	
		J	2.7% @ 55	
		M	2.0% @ 55	
		N	2.0% @ 55	
		U	2.5% @ 67 PEPRA	
11	General	A	2.0% @ 57	OC Cemetery District
		B	1.67% @ 57.5	
		M	2.0% @ 55	
		N	2.0% @ 55	
		U	2.5% @ 67 PEPRA	
12	General	A	2.0% @ 57	OC Public Law Library
		B	1.67% @ 57.5	
		G	2.5% @ 55	
		H	2.5% @ 55	
		U	2.5% @ 67 PEPRA	

Public Employees Pension Reform Act (PEPRA)

During 2012, the Public Employees Pension Reform Act (PEPRA) was signed into law, resulting in the creation of three new benefit formulas for employees entering OCERS on or after January 1, 2013: 1.62% @ 65 PEPRA - General; 2.5% @ 67 PEPRA - General; and 2.7% @ 57 PEPRA - Safety. New plan provisions include a cap on pensionable compensation at 120% of the social security taxable wage base limit, three year final average salary, and new cost-sharing requirements by members to pay at least 50% of the total normal cost of the plan.

Deferred Member Benefits

If a member terminates employment with a participating plan sponsor, the member is entitled to withdraw the employee contributions made, together with accumulated interest, unless the member enters a reciprocal retirement system within 180 days and leaves their accumulated contributions on deposit with OCERS and receives a deferred retirement allowance when eligible. There are different deferred retirement eligibility requirements for members with less than five years of service when terminating and leaving funds on deposit. It is possible for these members to earn a deferred retirement allowance upon attaining the age of 70, or upon accumulating reciprocal service. Members who terminate employment with a participating plan sponsor, and defer with five or more years of service may become eligible for a service retirement allowance when they would have accrued ten years of service and attain the age of 50 or greater (5 years of service and age 52 for PEPRA).

Disability Benefits

Members found by the Board of Retirement to be permanently incapacitated from the performance of their job are eligible for disability retirement benefits. A disability retirement benefit may either be service-connected or non-service-connected. Members applying for non-service-connected disability must have five or more years of eligible service credit. There are no service credit requirements for members applying for service-connected disability benefits, but the disabling condition must be a result of injury or disease arising out of or in the course of the member's employment.

NOTE 1 : Plan Descriptions (continued)

Death Benefits

Death benefits are payable to eligible beneficiaries of OCERS members. Eligible beneficiaries of retired members may receive a percentage of a deceased member's retirement allowance based upon the retirement option selected by the member at the time of retirement. The beneficiary of a retired member will also receive a $1,000 burial allowance.

Survivor benefits for members who die prior to retirement are dependent upon a number of factors including whether or not the member was eligible for a service retirement or disability retirement at the time of death, and whether the death was job related. The eligible beneficiary of a member who is not eligible for service retirement or disability retirement is eligible to receive the member's accumulated contributions plus one month's salary for each year of creditable service, subject to a maximum of six month's salary. The eligible beneficiary of a member who is entitled to receive a service retirement or disability retirement, in lieu of the benefit described above, may elect to receive a monthly retirement allowance equal to 60% of the monthly allowance the member would have received for a non-service connected disability as of the day after the date of death, or a monthly allowance equal to the higher of 50% of the member's monthly compensation and service retirement allowance if the death was found to be service-connected.

Cost-of-Living Adjustments

Retired member monthly allowances will be adjusted annually in accordance with changes in the cost-of-living, as determined by the average annual change in the Consumer Price Index (CPI) for the prior calendar year. The cost-of-living adjustment is limited to a maximum increase or decrease of three percent per year as established by the Board of Retirement. The 2016 cost-of-living adjustment ranged from 1% to 3% based on the date benefit recipients began receiving benefits.

STAR COLA

Retired members and eligible beneficiaries who have lost more than 20% of their original retirement benefit's purchasing power due to inflation are eligible to receive the STAR COLA (Supplemental Targeted Adjustment for Retirees Cost of Living Adjustment). STAR COLA benefits are reviewed annually by the Board of Retirement and as of December 31, 2016 only those members that retired on or before April 1, 1980 are eligible to receive the STAR COLA benefit.

Post-Employment Health Care Plans

OCERS serves as trustee for the County of Orange (County) and Orange County Fire Authority (OCFA) post-employment health care plan trusts established under Internal Revenue Code section 401(h), which are reported as other post-employment benefit trust funds in OCERS annual financial statements. Health care assets for the 401(h) trusts are commingled with pension trust assets for investment purposes and are used exclusively to pay health allowances to eligible retired members of the County of Orange and participating special districts including OCERS and the OCFA.

In July 2007, the County of Orange established under Internal Revenue Code both a 115 trust and a 401(h) trust as funding sources of retiree health care benefits, including grants, for the County of Orange Retiree Medical Plan (the "Plan"). The County maintains control and custody of all the 115 trust assets, which acts as a conduit for collecting contributions and passing them through to the 401(h) trust at their discretion, as well as distributing lump sum health care grant payments as part of a termination program that is being phased-out. OCERS maintains custody of the assets in the 401(h) trust and pays all primary benefits of the Plan as directed by the County. The County has taken financial reporting responsibility of the Plan including financial statement disclosures and required supplementary information regarding the plan's funded status and contributions, in accordance with GASB Statement No. 43, *Financial Reporting for Post-employment Benefit Plans Other than Pension Plans*. A publicly available financial report can be obtained from the County of Orange at 12 Civic Center Plaza, Santa Ana, California 92702 or their website at **http://ac.ocgov.com**.

In order to be eligible to receive the County of Orange Retiree Medical Grant (Grant) upon retirement, the employee must have completed at least ten years of continuous County or participating special districts service (although exceptions for disability retirements exist), be enrolled in a County sponsored health plan and/or Medicare, qualify as a retiree as defined by the pension plan and be able to receive a monthly benefit payment from OCERS. To qualify as a retiree as defined by the Plan, the employee upon retirement must be at least 50 years of age with a minimum of 10 years of service or have at least 20 years of service for a safety member of OCERS or at least 30 years of service for a general member of OCERS.

Employees represented by the American Federation of State, County and Municipal Employees (AFSCME) who were employed on or after September 30, 2005 are not eligible for the Grant. Employees represented by the Association of Orange County Deputy Sheriffs (AOCDS) who were hired on or after October 12, 2007 are not eligible for the Grant or lump sum payment. Law enforcement management employees who were hired on or after June 19, 2009 are not eligible for the Grant.

NOTE 1 : Plan Descriptions (continued)

The monthly Grant amount is determined by a formula that multiplies a base number by the number of years of qualifying County employment up to a maximum of 25 years. The base number for calendar year 2016 is $21.45 per year of County service, and the maximum monthly Grant is $536.25. The amount of the Grant is netted against the monthly health plan premium and/or reimburses Medicare premiums paid by the retiree for retiree and dependent coverage with the retiree obligated to pay the remaining balance. Any Grant in excess of the monthly health plan and/or Medicare premium payable is forfeited.

The Grant is reduced by 50% once the retiree becomes Medicare A and B eligible. Retirees who were age 65 and/or Medicare A and B eligible on the effective date are not subject to the Medicare reduction. The Grant is also reduced by 7.5% for each year of age prior to age 60 and increased by 7.5% for each year of age after age 60 up to age 70 for employees retiring after the effective date. The effective date varies by labor agreement. Safety employees and disability retirements are exempt from the age adjustment. The base number for the Grant is adjusted annually based on a formula defined in the Plan document with a maximum increase/decrease of 3%. Surviving dependents of a deceased employee or retiree eligible for the Grant are entitled to receive 50% of the Grant that the employee/retiree was eligible to receive.

AFSCME employees are not subject to the Medicare reduction or age adjustment. In addition, the base number for the Grant is adjusted annually with a maximum increase/decrease of 5%. The base number for calendar year 2016 is $24.79 per year of County service, and the maximum monthly Grant is $619.75.

As trustee of OCFA's 401(h) OPEB trust fund, the sole source of funding for OCFA's post-employment health care plan, OCERS has taken financial reporting responsibility for this plan. All OCFA retirees and full-time employees hired prior to January 1, 2007, are eligible to participate in the OCFA health care plan. Eligible employees who are credited with at least one year of service are eligible to receive plan benefits upon retirement. Participants must be covered under a qualified health plan, Medicare or a recognized health insurance plan. In 2016, retired OCFA members received $24.33 per year of creditable service, with a maximum monthly benefit of $608.25 based upon 25 or more years of creditable service.

Post-Employment Health Care Plan Membership - OCFA

	July 1, 2016
Active Participants	602
Retired Participants and Surviving Spouses	654
Terminated Participants	3
Total Plan Participants*	**1,259**

* Membership count obtained from OCFA financial statements.

Assets are allocated on the Statement of Fiduciary Net Position between the pension plan and the two 401(h) health care trusts based upon pro-rata shares after balances and transactions specific to the respective trusts are assigned. Contributions and benefit payment information for the Pension Plan and individual Health Care Trusts are readily identified; however, investment income must be allocated and is based upon the individual Health Care Trusts' pro-rata share of total fund assets.

In addition to serving as Trustee for the two 401(h) health care trusts, OCERS also provides investment advisory services to the Orange County Transportation Authority (OCTA) health care plan pursuant to an agreement established in accordance with Internal Revenue Code section 115 (115 Plan). The OCTA 115 Plan provides post-employment health care benefits to retired members with at least ten years of OCTA service. Investments in the 115 Plan are not commingled with those of the pension plan and 401(h) plan trusts, but rather are invested in separately managed index funds.

An Agency Fund is used to account for OCTA's 115 Plan assets held by OCERS in an investment capacity with the revocable trust assets reported being offset by a liability for the resources held on behalf of OCTA. Additional information regarding the OCTA 115 Plan is available by contacting OCTA at 550 S. Main Street, Orange, California 92868 or their website at **http://www.octa.net**.

Notes to the Basic Financial Statements

NOTE 2 : Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting and in accordance with accounting principles generally accepted in the United States of America (GAAP). Employee and employer contributions are recognized in the period in which contributions are due pursuant to legal requirements, and benefits and refunds are recognized when currently due and payable in accordance with plan terms. Unearned contributions represent prepaid employer contributions that will be recognized as an addition to plan net position in future periods. Investment income is recognized as revenue when earned. The net appreciation/(depreciation) in the fair value of investments is recorded as an increase/(decrease) to investment income based upon investment valuations, which includes both realized and unrealized gains and losses on investments.

Investment Policy and Valuation

State Street Bank and Trust (State Street) maintains custody of the majority of OCERS' investments held as of December 31, 2016. The acquisition of investments is authorized by state statute and OCERS' Investment Policy Statement (refer to Note 3 : Investments for further information). The allocation of investment assets is approved by OCERS' Board of Retirement, as outlined in the Investment Policy Statement, and System assets are invested solely for the benefit of plan participants and beneficiaries while attempting to minimize employer contributions and investment and administration costs. The Investment Policy Statement calls for an asset allocation plan that seeks to optimize long-term returns for the level of risk that the Board of Retirement considers appropriate. The current asset allocation adopted by the Board of Retirement as of December 31, 2016 is detailed in Section III - Investments. The Board of Retirement conducts a periodic review of the asset allocation plan to maintain an optimal allocation, and may also revise the asset allocation in response to significantly changing market conditions that may affect valuations and forward-looking expected returns of asset classes.

Plan investments consist of domestic, international and global equity securities; domestic fixed income; real estate; diversified credit; emerging markets equity and debt; real return strategies; absolute return strategies; and private equity. Investments are reported at fair value, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 72 *Fair Value Measurement and Application* (GASB 72) guidelines, and the overall valuation process and information sources by major asset classification are as follows:

Cash and Short-Term Investments

Cash and short-term investments represent funds held in operating accounts with State Street, Wells Fargo Bank and deposits held in a pooled account with the County of Orange Treasurer. Short-term investments are expected to be utilized within 30-90 days and are reported at fair value. OCERS is a participant in the County Treasurer's Orange County Investment Pool (OCIP). The OCIP is an external investment pool, is not rated, and is not registered with the Securities and Exchange Commission. The County Treasury Oversight Committee conducts OCIP oversight. Cash on deposit in the OCIP is stated at fair value. The OCIP values participant shares on an amortized cost basis during the year and adjusts to fair value at year-end. Deposits held in the OCIP are invested in the Orange County Money Market Fund and the Extended Fund. At December 31, 2016 the OCIP had a weighted average maturity of 328 days. The Orange County Money Market Fund is rated AAAm by Standard & Poor's. The Extended Fund is not rated. For further information regarding the OCIP, refer to the County of Orange Comprehensive Annual Financial Report.

Equities

The majority of OCERS' domestic, international and global securities, including those traded in emerging markets, consist of institutional funds that are valued based on the fair value of underlying investments using pricing models or other valuation methodologies that use pricing inputs that are either directly or indirectly observable on the valuation date for the securities or assets held in the fund. Other domestic, international and global securities are actively traded on major security exchanges, or over-the-counter. Fair value for exchange traded securities is determined as of the close of the trading date in the primary market or agreed upon exchange. The last known price is used for listed securities that did not trade on a particular date. Fair value is obtained from third-party pricing sources for securities traded over-the-counter.

Debt Securities

Actively traded debt instruments such as those securities issued by the U.S. Treasury, Federal Agencies and corporate issuers are reported at fair value as of the close of the trading date. Fair values of irregularly traded debt securities are obtained from pricing vendors who employ modeling techniques in determining security values. Inputs typically employed by pricing vendors include cash flows, maturity and credit rating.

Real Estate

OCERS holds real estate assets directly and in commingled real estate funds structured as either limited partnerships or trust funds. Real estate investments owned directly are appraised annually by independent third-party appraisers in accordance with the Uniform Standards of Professional Appraisal Practice. Properties held in commingled funds are based on the investment's net asset value (NAV) per share provided by the investment management firms/general partners, who perform regular internal appraisals and obtained at regular intervals independent third-party appraisals and are further supported by annual financial statements which are audited by an independent third-party accountant. Primary determinants of fair value include market and property type specific information, which typically involve a degree of expert judgment.

Notes to the Basic Financial Statements

NOTE 2 : Summary of Significant Accounting Policies (continued)

OCERS engages real estate management firms to assist in the day-to-day operations of the real estate in its portfolio that is directly held by OCERS. At December 31, 2016, the estimated fair value of OCERS' real estate held directly was $19.2 million. The total real estate portfolio was $1.1 billion.

OCERS' Investment Committee has approved a maximum fifty percent (50%) leverage limit for the total real estate portfolio at the time of financing. Additionally, leverage targets are established for each investment style based on the risk/return profile of the underlying investment. Established leverage limits by investment style are as follows:

- Core Real Estate: limited to 50% of the individual asset market value at the time of financing with leverage limits at the portfolio level of 40%.

- Non-Core Real Estate: accessed through commingled funds that have pre-specified leverage limits in offering documents but will be limited to 75% of the market value of the commingled funds, at the time of financing.

Diversified Credit

Diversified credit is a global allocation that includes a number of diverse fixed-income related strategies. It represents an allocation that is diversified by region, by credit quality, and by sources of risk. The general shared characteristics of these strategies are a degree of illiquidity, and a focus on current yield as a principal source of expected return. Hedging of market and individual security risks and diversified risk-controlled tactical trading may be permitted.

Diversified credit is a combination of liquid and illiquid credit strategies and the fair value depends on the nature of the investment. For credit funds structured as partnerships, the fair values are based on NAV. Diversified credit included in Level 3 of the fair value hierarchy may be estimated by the underlying managers in the absence of observable market data or the general partner may estimate the fair value in good faith using the best information available which may incorporate the general partner's own assumptions. The liquid strategies comprised of multi-strategies are actively traded and are generally reported at fair value as of the close of the trading date. The illiquid strategies comprised of mortgages, direct lending and energy-based credit funds are valued initially at cost as an approximation of fair value with subsequent adjustments to fair value as determined by the general partner. The factors considered include readily available market quotes, earnings-multiple analysis using comparable companies or discounted cash flow analysis.

Alternative Investments

OCERS invests in a variety of alternative strategies including private equity, real return and absolute return. The fair value of OCERS' alternative investments depends upon the nature of the investment and the underlying business. Typically, alternative investments are less liquid and subject to redemption restrictions. Fair value is determined either quarterly or semi-annually with valuations conducted by general partners, management and valuation specialists. Valuation techniques vary by investment type and involve expert judgment or estimates made in good faith using the best information available, including the general partner's or management's own assumptions. Investments that are reported at NAV are based on audited financial statements.

Included in the real return strategy are dedicated allocations to inflation linked debt, commodities, timber, energy and agriculture resources. Fair value for inflation linked debt securities and commodities are determined by quoted market prices. Fair value for timber, energy and agriculture are determined based on independent appraisals and/or estimates made in good faith by the general partner or management.

Capital Assets

Capital assets consist of furniture, equipment, intangible assets, including computer software, and building and improvements for the portion of the OCERS' headquarters building used for plan administration. Capital assets are defined by OCERS as assets with an initial, individual cost of more than $25,000 and an estimated useful life in excess of one year. Such assets are recorded at cost. Capital assets are depreciated using the straight-line depreciation method over their estimated useful lives, ranging from five to fifteen years for furniture, equipment and building improvements; three years for purchased computer software; and sixty years for buildings.

Notes to the Basic Financial Statements

NOTE 2 : Summary of Significant Accounting Policies (continued)

Capital Assets

As of December 31, 2016
(Dollars in Thousands)

Building and Improvements	$ 5,098
Computer Software-V3 Pension System	21,853
Furniture and Equipment	1,341
Construction in Progress	873
Total Capital Assets (at cost)	29,165
Less: Accumulated Depreciation and Amortization	(6,545)
Total Capital Assets, Net of Depreciation and Amortization	**$ 22,620**

GASB Statement No. 51, *Accounting and Financial Reporting for Intangible Assets*, requires OCERS to identify and capitalize costs incurred for the development of internally generated computer software, which is considered an intangible asset. According to GASB Statement No. 51, there are three stages in the development and installation of internally generated computer software: (1) Preliminary Project Stage, (2) Application and Development Stage, and (3) Post-Implementation/Operation Stage. All outlays related to the Application and Development Stage must be capitalized.

OCERS began implementing and developing a new internally generated computer software, Pension Administration Software System (V3), in 2010. In 2016, V3 was in the Post-Implementation/Operation Stage. All outlays were expensed and amortization of the asset began over an estimated useful life of ten years. Intangible assets are included as Capital Assets in the Statement of Fiduciary Net Position.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect reported amounts of net position. Actual results could differ from those estimates.

Comparative Totals

The basic financial statements include certain prior-year summarized comparative information in total but not at the level of detail required for a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with OCERS' financial statements for the year ended December 31, 2015, from which the summarized information was derived.

Effect of New Governmental Accounting Standards Board (GASB) Pronouncements

In February 2015, GASB issued Statement No. 72, *Fair Value Measurement and Application* (GASB 72). This statement addresses accounting and financial reporting issues related to fair value measurements. The definition of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This statement provides guidance for determining a fair value measurement for financial reporting purposes. This statement also provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements and is effective for reporting periods beginning after June 15, 2015. OCERS implemented GASB 72 for the year ended December 31, 2016 and the financial statements and the related disclosures reflect the changes as required by GASB 72. Refer to Note 3 : Investments for further information.

NOTE 3 : Investments

OCERS may invest, in accordance with state statutes, in any form or type of investment deemed prudent by the Board of Retirement. Pension and 401(h) Health Care plan assets are restricted for the exclusive purposes of providing benefits to plan participants and defraying reasonable expenses of administering the plans. The Board of Retirement may invest, or delegate the authority to invest, the assets of the funds through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction. Agency fund assets, restricted pursuant to section 115 of the Internal Revenue Code, are separately invested in domestic equity, international equity and domestic bond index funds in accordance with the respective OCTA Third-Party Administrative and Investment Management Agreement.

Custodial Credit Risk

Custodial credit risk for deposits is the risk that in the event of a financial institution's failure, OCERS would not be able to recover its deposits. Deposits are exposed to custodial risk if they are not insured or not collateralized. As of December 31, 2016, OCERS' deposits with a financial institution are fully insured by Federal Deposit Insurance Corporation (FDIC) insurance up to $250,000 with the remaining balance exposed to custodial credit risk as it is not insured; however, the financial institution does collateralize the deposit of monies in excess of the FDIC insurance amount with eligible securities held by the pledging financial institution, but not in OCERS' name. Deposits held by OCERS' custodial bank are not exposed to custodial credit risk as they are held in a qualified pool trust, separate from the custodial bank assets.

For an investment, custodial credit risk is the risk that, in the event of a counterparty failure, OCERS will not be able to recover the value of its investments or collateral securities that are in the possession of counterparties. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in OCERS' name or by other qualified third-party administrator trust accounts.

OCERS' investments and collateral received through securities lending are not exposed to custodial credit risk because all securities are held by OCERS' custodial bank in OCERS' name or by other qualified third-party administrator trust accounts. OCERS does not maintain any general policies regarding custodial credit risk.

Credit Risk

By definition, credit risk measures the risk that an issuer or counterparty will not fulfill its obligations. Standard & Poor's defines investment grade as those fixed income securities with ratings between AAA and BBB. OCERS' investment policy permits, on an opportunistic basis, the investment in fixed income securities rated below investment grade. A rating of NR represents those securities that are not rated and NA represents those securities that are not subject to the GASB Statement No. 40 disclosure requirements. The credit ratings for individual OCERS' fixed income portfolios are monitored regularly.

As of December 31, 2016, the Standard & Poor's credit ratings of the OCERS' fixed income portfolio were as follows:

Credit Ratings

As of December 31, 2016
(Dollars in Thousands)

Rating	Pooled	International	U.S. Treasuries	Corporates	Agencies	Mortgages	Municipals	Asset-Backed	Swaps	Total
AAA	$ -	$ 5,501	$ -	$ 926	$ 13,952	$ 536	$ -	$ 11,109	$ -	$ 32,024
AA	-	11,912	-	4,033	131,706	16,835	12,615	3,290	-	180,391
A	-	12,225	-	28,459	-	1,926	2,521	1,098	-	46,229
BBB	-	4,010	-	146,042	-	1,264	5,553	720	-	157,589
BB	-	1,652	-	153,609	-	3,770	-	3,391	-	162,422
B	-	5,542	-	102,729	-	1,098	-	3,955	-	113,324
CCC	-	-	-	23,129	-	6,107	-	7,345	-	36,581
CC	-	-	-	144	-	1,022	-	-	-	1,166
D	-	-	-	10,927	-	3,910	-	4,334	-	19,171
NR	671,718	12,851	-	6,825	-	21,995	1,080	6,017	3,158	723,644
NA	-	-	158,888	-	6,801	-	-	-	-	165,689
Total	**$ 671,718**	**$ 53,693**	**$ 158,888**	**$ 476,823**	**$ 152,459**	**$ 58,463**	**$ 21,769**	**$ 41,259**	**$ 3,158**	**$ 1,638,230**

This schedule reflects credit ratings for OCERS' fixed income portfolio, which includes $53.7 million of international fixed income securities and excludes $71.6 million of non-fixed income securities that are included in the domestic fixed income category on the Statement of Fiduciary Net Position.

Notes to the Basic Financial Statements

NOTE 3 : Investments (continued)

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Duration is a measure of the price sensitivity of a fixed-income portfolio to changes in interest rates. It is calculated as the weighted average time to receive a bond's coupon and principal payments. The longer the duration of a portfolio, the greater its price sensitivity to changes in interest rates.

Interest rate risk is managed through OCERS' investment policies requiring that investment managers investing on behalf of OCERS have applicable investment guidelines and that the effective durations of fixed income portfolios remain within a defined range of the benchmark's effective duration. The primary benchmark for domestic fixed income is the Bloomberg Barclays Capital Universal Index. As of December 31, 2016, the duration was 5.69 years for the Bloomberg Barclays Capital Universal Index and all investment managers were in compliance within their defined range.

OCERS invests in a variety of fixed income instruments including asset-backed securities, corporate obligations and commercial mortgage backed securities. The value, liquidity and income of these securities are sensitive to changes in overall economic conditions and the fair value of these securities may be affected by changes in interest rates, default rates and the value of the underlying securities.

The interest rate risk schedule presents the duration of fixed income securities by investment category as of December 31, 2016:

Interest Rate Risk Schedule

As of December 31, 2016
(Dollars in Thousands)

Category	Amount	Duration (in Years)	Percent
Pooled	$ 671,718	4.86	42%
International	50,535	3.53	3%
U.S. Treasuries	158,888	4.22	10%
Corporates	473,184	5.89	29%
Agencies	152,456	3.92	9%
Mortgages	54,542	2.13	3%
Municipals	21,769	6.98	1%
Asset-Backed	28,055	1.04	2%
No Effective Duration:			
International	3,158	N/A	0%
Corporates	3,639	N/A	0%
Agencies	3	N/A	0%
Mortgages	3,921	N/A	0%
Asset-Backed	13,204	N/A	1%
Swaps	3,158	N/A	0%
Total	**$ 1,638,230**	**4.76**	**100%**

This schedule reflects interest risk for OCERS' fixed income portfolio, which includes $53.7 million of international fixed income securities and excludes $71.6 million of non-fixed income securities that are included in the domestic fixed income category on the Statement of Fiduciary Net Position.

Notes to the Basic Financial Statements

NOTE 3 : Investments (continued)

Foreign Currency Risk

The value of deposits or investments denominated in foreign currency may be adversely affected by changes in currency exchange rates. OCERS' investment policy permits investment in international securities that includes investments in international equity securities, global equity securities, emerging markets equity securities and debt, public real estate securities, and real return. Investment managers monitor currency exposures daily.

The following schedule represents OCERS' net exposure to foreign currency risk in U.S. dollars as of December 31, 2016:

Foreign Currency Risk Schedule

As of December 31, 2016
(Dollars in Thousands)

Currency in U.S. Dollar	Cash	Equities	Fixed Income	Options	Forwards	Swaps	Total
Austrailian Dollar	$ 1,076	$ 27,635	$ 4,930	$ -	$ (286)	$ (30)	$ 33,325
Brazilian Real	136	2,030	941	-	93	-	3,200
Canadian Dollar	13	17,854	1,797	-	(6)	-	19,658
Danish Krone	93	12,760	-	-	(46)	-	12,807
Euro Currency	(104)	222,539	10,389	-	760	60	233,644
Hong Kong Dollar	17	29,411	-	-	-	34	29,462
Iceland Krona	59	-	1,078	-	-	-	1,137
Indian Rupee	-	1,298	-	-	-	-	1,298
Indonesian Rupiah	-	566	-	-	-	-	566
Japanese Yen	(426)	141,323	5,295	-	(272)	(37)	145,883
Mexican Peso	7	298	4,078	-	(42)	(3)	4,338
New Israeli Sheqel	-	3,383	-	-	(18)	-	3,365
New Taiwan Dollar	-	-	-	-	15	-	15
New Zealand Dollar	-	396	11,912	-	(124)	-	12,184
Norwegian Krone	8	6,775	1,824	-	(77)	-	8,530
Pound Sterling	181	117,879	3,202	(2)	81	(104)	121,237
Russian Ruble	-	-	-	-	(39)	-	(39)
Singapore Dollar	54	6,290	-	-	(33)	-	6,311
South African Rand	-	2,310	-	-	-	-	2,310
South Korean Won	-	8,281	-	-	1	-	8,282
Swedish Krona	3,863	14,113	-	-	(38)	77	18,015
Swiss Franc	11	56,043	-	-	61	(68)	56,047
Thailand Baht	-	1,080	-	-	-	-	1,080
Yuan Renminbi	-	-	-	-	(105)	-	(105)
Amount Exposed to Foreign Currency Risk	**$ 4,988**	**$ 672,264**	**$ 45,446**	**$ (2)**	**$ (75)**	**$ (71)**	**$ 722,550**

The foreign currency amounts above are included within the cash and cash equivalents, international equity, global equity, real return, and domestic fixed income allocations on the Statement of Fiduciary Net Position as of December 31, 2016. Swaps are included in the domestic fixed income investment allocation.

NOTE 3 : Investments (continued)

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of OCERS' investment in a single issuer. By policy, OCERS did not hold investments in any one issuer that represented five percent (5%) or more of plan net position and net investments. Investments issued or explicitly guaranteed by the U.S. Government and pooled investments are excluded from this policy requirement.

Concentration of Investments

As of December 31, 2016, OCERS did not hold investments in any one organization that represented five percent (5%) or more of the plan's fiduciary net position. Investments issued or explicitly guaranteed by the U.S. Government and pooled investments are excluded from this requirement.

Derivative Instruments

As of December 31, 2016, all derivative instruments held by OCERS are considered investments and not hedges for accounting purposes. Any reference to the term hedging in these financial statements references an economic activity and not an accounting method. All gains and losses associated with these activities are recognized as incurred in the Statement of Changes in Fiduciary Net Position.

The table that follows presents the related net appreciation/(depreciation) in fair value, the fair value amounts and the notional amounts of derivative instruments outstanding at December 31, 2016.

NOTE 3 : Investments (continued)

Derivative Instruments

As of December 31, 2016
(Amounts in Thousands)

Derivative Instruments	Changes in Fair Value (4)		Fair Value at December 31, 2016		Notional (3)
	Classification	Amount (1)	Classification	Amount (2)	
Commodity Futures Long	Net Appreciation / (Depreciation) in Fair Value of Investments	$ 2,530	Cash	$ -	5,677
Commodity Futures Short	Net Appreciation / (Depreciation) in Fair Value of Investments	(86)	Cash	-	(1)
Credit Default Swaps Bought	Net Appreciation / (Depreciation) in Fair Value of Investments	(100)	Domestic Fixed Income	45	$ 800
Credit Default Swaps Written	Net Appreciation / (Depreciation) in Fair Value of Investments	780	Domestic Fixed Income	(16)	27,431
Fixed Income Futures Long	Net Appreciation / (Depreciation) in Fair Value of Investments	1,418	Cash / Domestic Fixed Income	-	$ 122,787
Fixed Income Futures Short	Net Appreciation / (Depreciation) in Fair Value of Investments	(1,094)	Domestic Fixed Income	-	(143,304)
Fixed Income Options Bought	Net Appreciation / (Depreciation) in Fair Value of Investments	109	Domestic Fixed Income	1,014	125,100
Fixed Income Options Written	Net Appreciation / (Depreciation) in Fair Value of Investments	(45)	Domestic Fixed Income	(1,215)	(162,500)
Foreign Currency Futures Short	Net Appreciation / (Depreciation) in Fair Value of Investments	7,520	International Equity Securities	-	(143,693)
Foreign Currency Options Bought	Net Appreciation / (Depreciation) in Fair Value of Investments	254	Domestic Fixed Income	496	5,342
Foreign Currency Options Written	Net Appreciation / (Depreciation) in Fair Value of Investments	809	Domestic Fixed Income	(4)	(9,102)
Futures Options Written	Net Appreciation / (Depreciation) in Fair Value of Investments	144	Domestic Fixed Income	(70)	(170)
FX Forwards	Net Appreciation / (Depreciation) in Fair Value of Investments	4,665	Domestic Fixed Income / International Equity Securites / Global Equities	(75)	264,307
Index Futures Long	Net Appreciation / (Depreciation) in Fair Value of Investments	36,535	International Equity Securities / Cash	-	1,621

Notes to the Basic Financial Statements

NOTE 3 : Investments (continued)

Derivative Instruments

(Continued)

Derivative Instruments	Changes in Fair Value [4]		Fair Value at December 31, 2016		Notional [3]
	Classification	Amount [1]	Classification	Amount [2]	
Index Futures Short	Net Appreciation / (Depreciation) in Fair Value of Investments	(1,765)	International Equity Securities	-	$ (32)
Pay Fixed Interest Rate Swaps	Net Appreciation / (Depreciation) in Fair Value of Investments	(355)	Domestic Fixed Income	2,846	289,211
Receive Fixed Interest Rate Swaps	Net Appreciation / (Depreciation) in Fair Value of Investments	2,626	Domestic Fixed Income	252	63,861
Rights	Net Appreciation / (Depreciation) in Fair Value of Investments	(213)	Domestic Fixed Income / International Equity Securities / Global Equities	-	-
Total Return Swaps Bond	Net Appreciation / (Depreciation) in Fair Value of Investments	(576)	International Equity Securities	(3)	$ 19,378
Total Return Swaps Equity	Net Appreciation / (Depreciation) in Fair Value of Investments	14	International Equity Sequrities	34	(1,949)
Grand Totals		$ 53,170		$ 3,304	

(1) Negative values (in brackets) refer to losses
(2) Negative values refer to liabilities and are reported net of investments
(3) Notional may be a dollar amount or size of underlying for futures and options, negative values refer to short positions
(4) Excludes futures margin payments

Valuation of Derivative Instruments

Non-exchange traded instruments, such as swaps, are valued using similar methods as those described for debt securities.

Futures contracts are traded on exchanges and typically derive their value from underlying indices and are marked to market daily. All gains and losses associated with changes in the value of futures contracts also settle on a daily basis and result in the contracts themselves having no fair value at the end of any trading day, including December 31, 2016. Future variation margin accounts also settle daily and are recognized in the financial statements under net appreciation/(depreciation) in the fair value of the investments as incurred.

In general, option values are dependent upon a number of different factors, including the current market price of the underlying security, the strike price of the option, costs associated with holding a position in the underlying security including interest and dividends, the length of time until the option expires and an estimate of the future price volatility of the underlying security relative to the time period of the option.

Foreign currency forward contracts are agreements to buy or sell a currency at a specified exchange rate on a specified date. The fair value of a foreign currency forward is determined by the difference between the specified exchange rate and the closing exchange rate at December 31, 2016.

Custodial Credit Risk – Derivative Instruments

As of December 31, 2016, all investments in derivative instruments are held in OCERS' name and are not exposed to custodial credit risk as described in the previous discussion of custodial credit risk.

Notes to the Basic Financial Statements

NOTE 3 : Investments (continued)

Counterparty Credit Risk – Derivative Instruments

A summary of counterparty credit ratings relating to non-exchange traded derivatives in asset positions as of December 31, 2016 is as follows:

Counterparty Credit Risk Schedule for Derivative Instruments

As of December 31, 2016
(Dollars in Thousands)

Counterparty Name	S&P Rating	Foreign Currency Forward Contracts	Swaps	Total Fair Value
Australia and New Zealand Banking Group	AA-	$ 54	$ -	$ 54
Bank of America CME	Baa1	-	207	207
Bank of America ICE	Baa1	-	262	262
Bank of America LCH	Baa1	-	67	67
Bank of America, N.A.	A+	242	-	242
Barclays Capital	A-	-	4	4
BNP Paribas SA	A	33	-	33
Citibank N.A.	A+	1,785	-	1,785
Credit Agricole CIB	A	16	-	16
Credit Suisse FOB CME	A	-	2,683	2,683
Credit Suisse FOB ICE	A	-	147	147
Credit Suisse FOB LCH	A	-	1,106	1,106
Credit Suisse International	A	5	-	5
Goldman Sachs Bank USA	BBB+	36	-	36
Goldman Sachs International	A+	-	6	6
HSBC Bank USA	AA-	45	-	45
JPMorgan Chase Bank	A+	101	-	101
JPMorgan Chase Bank N.A.	A+	64	-	64
JPMorgan Securities Inc	A-	-	3	3
Morgan Stanley	BBB+	-	53	53
Morgan Stanley and Co. International PLC	BBB+	40	-	40
Morgan Stanley Bank, N.A.	A+	45	-	45
Morgan Stanley Co Incorporated	BBB+	-	112	112
Standard Chartered Bank	A	572	-	572
Standard Chartered Bank, London	A	29	-	29
Toronto Dominion Bank	AA-	27	-	27
UBS AG	A+	14	-	14
Total Non-Exchange Traded Derivatives in Asset Position		**$ 3,108**	**$ 4,650**	**$ 7,758**

NOTE 3 : Investments (continued)

Interest Rate Risk – Derivatives

At December 31, 2016, OCERS is exposed to interest rate risk on its investments in various swap arrangements based on daily interest rates for LIBOR (London Interbank Offered Rate), UKRPI (UK Retail Price Index), Australian reference rate, Brazilian reference rate, European reference rates and Mexican swap rate. The following table illustrates the maturity periods of these investments.

Interest Rate Risk - Schedules for Derivative Instruments

As of December 31, 2016
(Dollars in Thousands)

Investment Type	Fair Value	Investment Maturities (in years)			
		Less Than 1	1-5	6-10	More than 10
Credit Default Swaps Bought	$ 45	$ -	$ 45	$ -	$ -
Credit Default Swaps Written	(16)	10	367	-	(393)
Pay Fixed Interest Rate Swaps	2,846	(381)	(320)	1,817	1,730
Receive Fixed Interest Rate Swaps	252	-	385	60	(193)
Total Return Swaps Bond	(3)	(3)	-	-	-
Total Return Swaps Equity	34	34	-	-	-
Total	$ 3,158	$ (340)	$ 477	$ 1,877	$ 1,144

Derivative Instruments Highly Sensitive to Interest Rate Changes

As of December 31, 2016
(Dollars in Thousands)

Investment Type	Receive Rate	Payable Rate	Fair Value	Notional
Pay Fixed Interest Rate Swaps	Variable 0-month HICP	Fixed 0.66%-0.99%	$ 15	$ 13,079
Pay Fixed Interest Rate Swaps	Variable 3-month LIBOR	Fixed 1.25%-2.50%	2,949	264,910
Pay Fixed Interest Rate Swaps	Variable 6-month BBSW	Fixed 3.75%	(107)	1,665
Pay Fixed Interest Rate Swaps	Variable 6-month EURIB	Fixed 0.50%	49	2,531
Pay Fixed Interest Rate Swaps	Variable 6-month LIBOR	Fixed 0.30%-2.00%	(66)	4,600
Pay Fixed Interest Rate Swaps	Variable 12-month HICP	Fixed 0.74%	6	2,426
Total Pay Fixed Interest Rate Swaps			$ 2,846	
Receive Fixed Interest Rate Swaps	Fixed 3.14%	Variable 0-month UKRPI	$ (41)	1,174
Receive Fixed Interest Rate Swaps	Fixed 6.75%	Variable 1-month TIIE	(3)	83
Receive Fixed Interest Rate Swaps	Fixed 1.75%-2.45%	Variable 3-month LIBOR	255	58,600
Receive Fixed Interest Rate Swaps	Fixed 3.25%	Variable 6-month BBSW	76	3,041
Receive Fixed Interest Rate Swaps	Fixed 3.30%-3.40%	Variable 12-month RPI	(25)	704
Receive Fixed Interest Rate Swaps	Fixed 3.30%	Variable 12-month UKRPI	(10)	259
Total Receive Fixed Interest Rate Swaps			$ 252	
Total Interest Rate Swaps			$ 3,098	

NOTE 3 : Investments (continued)

Foreign Currency Risk – Derivatives

At December 31, 2016, OCERS is exposed to foreign currency risk on investments in swaps and forward currency contracts denominated in foreign currencies that may be adversely affected by changes in the currency exchange rates.

Foreign Currency Risk Schedule for Derivative Instruments

As of December 31, 2016
(Dollars in Thousands)

Currency Name	Options	Currency Forward Contracts: Net Receivables	Currency Forward Contracts: Net Payables	Swaps	Total Exposure
Austrailian Dollar	$ -	$ (298)	$ 12	$ (30)	$ (316)
Brazilian Real	-	141	(49)	-	92
Canadian Dollar	-	(5)	-	-	(5)
Danish Krone	-	(58)	13	-	(45)
Euro Currency	-	230	528	60	818
Hong Kong Dollar	-	-	-	34	34
Japanese Yen	-	(1,565)	1,293	(37)	(309)
Mexican Peso	-	(47)	5	(3)	(45)
New Israeli Sheqel	-	(18)	-	-	(18)
New Taiwan Dollar	-	(6)	21	-	15
New Zealand Dollar	-	(116)	(8)	-	(124)
Norwegian Krone	-	(129)	52	-	(77)
Pound Sterling	(2)	(59)	140	(104)	(25)
Russian Ruble	-	-	(39)	-	(39)
Singapore Dollar	-	(76)	43	-	(33)
South Korean Won	-	(52)	53	-	1
Swedish Krona	-	-	(38)	77	39
Swiss Franc	-	-	61	(68)	(7)
Yuan Renminbi	-	(87)	(17)	-	(104)
Total Foreign Currency	$ (2)	$ (2,145)	$ 2,070	$ (71)	$ (148)
U.S. Dollar	223	-	-	3,229	3,452
Total	$ 221	$ (2,145)	$ 2,070	$ 3,158	$ 3,304

Rate of Return

For the year ended December 31, 2016, the annual money-weighted rate of return on the assets of the plan, net of investment expense, was 8.71%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the timing of cash flows and the changing amounts actually invested.

NOTE 3 : Investments (continued)

Securities Lending

OCERS is authorized by investment policy and state law to lend its investment securities including domestic and international equities, fixed income and real return to broker/dealers in exchange for collateral in the form of either cash or securities. Lent domestic and international securities are collateralized with an initial market value of not less than 102%, of fair value of the loaned securities. The lending agent receives cash and non-cash collateral for the securities on loan. There are no restrictions on the amount of securities that can be lent at one time. State Street Bank serves, in accordance with a Securities Lending Authorization Agreement, as OCERS' agent to loan domestic and international securities. State Street Bank does not have the ability to pledge or sell collateral securities delivered absent a borrower default.

Cash collateral received on loaned securities is invested together with the cash collateral of other qualified tax-exempt investors in a collective investment fund managed by State Street. The collective investment fund is not rated. In December 2010 the collective investment fund was divided into separate investment pools: 1) a liquidity pool and 2) a duration pool. As of December 31, 2016, the liquidity pool had an average life-final maturity of 91 days and a weighted average maturity (WAM) of 31 days. The duration pool had an average life-final maturity of 3,150 days and a WAM of 23 days. Because loans are terminable at will, the duration of the loans did not generally match the duration of the investments made with the cash collateral. The Securities Lending Authorization Agreement requires State Street to indemnify OCERS if the broker/dealer fails to return any borrowed securities. During 2016, there were no failures to return loaned securities or to pay distributions by the borrowers. Furthermore, there were no losses due to borrower defaults. The fair value of securities on loan and the total cash and non-cash collateral held as of December 31, 2016 was $182.5 million and $187.6 million, respectively. The following table shows fair values of securities on loan and cash collateral received by asset class:

Securities on Loan and Collateral Received

As of December 31, 2016
(Dollars in Thousands)

Security Lent for Cash Collateral	Fair Value of OCERS' Securities Lent	Cash Collateral Received	Non-Cash Collateral Received	Total Collateral Received
Domestic Fixed Income	$ 94,130	$ 89,838	$ 6,163	$ 96,001
Domestic Equities	34,130	31,746	3,306	35,052
Global Equities	12,466	12,855	-	12,855
International Equities	33,647	27,071	8,269	35,340
Real Return	8,081	7,386	952	8,338
Total	**$ 182,454**	**$ 168,896**	**$ 18,690**	**$ 187,586**

Investments – Fair Value Measurements

OCERS categorizes its fair value measurements of its investments based on the three level fair value hierarchy established by GAAP. The fair value hierarchy is based on the valuation inputs used to measure fair value of the asset or liability and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs). Unobservable inputs are developed using the best information available about the assumptions that market participants would use when pricing an investment. The three levels of the fair value hierarchy are:

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

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

The following table represents the fair value measurements as of December 31, 2016.

NOTE 3 : Investments (continued)

Investments, Derivative Instruments and Securities Lending Collateral Measured at Fair Value

As of December 31, 2016
(Dollars in Thousands)

	12/31/2016	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
Debt Securities:				
U.S. Fixed Income	$ 1,645,286	$ -	$ 1,645,286	$ -
International Fixed Income	53,693	-	53,693	-
Equity Investments:				
U.S. Equity	2,332,548	155,035	2,177,513	-
International Equity	1,238,996	550,244	688,752	-
Global Equity	419,832	289,004	130,828	-
Emerging Markets Equity	593,672	-	593,672	-
Real Estate	19,183	-	-	19,183
Other Investments:				
Absolute Return	874,405	-	874,405	-
Diversified Credit	53,354	-	-	53,354
Private Equity	56	56	-	-
Real Return	556,506	348,351	-	208,155
Total Other Investments	1,484,321	348,407	874,405	261,509
Total Investments at Fair Value Level	7,787,531	$ 1,342,690	$ 6,164,149	$ 280,692
Investments Measured at the Net Asset Value (NAV)				
Debt Investments:				
Commingled Emerging Markets Debt	389,502			
Equity Investments:				
Commingled International Equity Securities	120,349			
Commingled Emerging Markets Equity	184,375			
Total Equity Investments Measured at the NAV	304,724			
Absolute Return:				
Event Driven	235,691			
Multi-Strategy (Hedge)	138,956			
Relative Value	49,884			
Tactical Trading	141,652			
Total Absolute Return Measured at the NAV	566,183			
Diversified Credit:				
Mortgage	134,037			
Multi-Strategy (DC)	744,784			
Non-U.S. Direct Lending	481,152			
U.S. Direct Lending	268,000			
Total Diversified Credit Measured at the NAV	1,627,973			
Private Equity	724,637			
Real Estate	1,100,318			
Real Return:				
Agriculture	56,362			
Energy	330,780			
Total Real Return at the NAV	387,142			
Total Investments Measured at the NAV	5,100,479			
Investments - Derivative Instruments				
Swaps	3,158	$ -	$ 3,158	-
Options	221	(70)	291	-
Total Investments - Derivative Instruments	3,379	$ (70)	$ 3,449	$ -
Total Investments Measured at Fair Value	$ 12,891,389			
Securities Lending Collateral				
Debt Securities	$ 89,838	$ -	$ 89,838	$ -
Equity Investments	79,058	79,058	-	-
Total Securities Lending Collateral	$ 168,896	$ 79,058	$ 89,838	$ -

NOTE 3 : Investments (continued)

Debt securities include actively traded debt instruments such as those securities issued by the United States government, federal agencies, municipal obligations and corporate issuers. Debt securities are reported at fair value as of the close of the trading date. Fair values for securities not traded on a regular basis are obtained from pricing vendors who employ modeling techniques, such as matrix pricing or discounted cash flow method, in determining security values. These inputs are observable, which supports the Level 2 fair value hierarchy.

Equity investments include domestic, international and global securities. Equity securities classified in Level 1 of the fair value hierarchy are primarily common and preferred stock or real estate investment trusts. Fair value for these exchange traded securities is determined as of the close of the trading date in the primary market or agreed upon exchange. The last known price is used for listed securities that did not trade on a particular date. Fair value is obtained from third-party pricing sources for securities traded over-the-counter. Equity securities classified in Level 2 of the fair value hierarchy consist of institutional funds that are valued based on the fair value of underlying investments using pricing models or other valuation methodologies that use pricing inputs that are either directly or indirectly observable on the valuation date for the securities or assets held in the fund.

Real estate investments at fair value include real estate assets held directly. Real estate investments owned directly are appraised annually by independent third-party appraisers in accordance with the Uniform Standards of Professional Appraisal Practice. Independent appraisals use professional judgment, which is an unobservable input, to determine the fair value of the asset; therefore these real estate investments are classified as Level 3.

Other investments includes a variety of alternative investment strategies including absolute return, diversified credit, private equity and real return. These investments are included in the fair value hierarchy since OCERS is separately invested in the underlying investment. Other investments classified in Level 1 of the fair value hierarchy are valued using quoted prices in active markets for those securities. Level 2 classified other investments include primarily institutional funds that are valued based on the fair value of underlying investments using pricing models or other valuation methodologies that use pricing inputs that are either directly or indirectly observable on the valuation date for the securities or assets held in the fund. Other investments classified as Level 3 include diversified credit and real return investments in energy and timber resources. These investments are not actively traded, are less liquid and subject to redemption restrictions. Determining the fair value requires valuation techniques, such as expert judgment, which are unobservable. The general partner of funds in diversified credit and energy estimate the fair value of these investments in good faith using the best information available which may incorporate the general partner's own assumptions. Timber resources are based on independent appraisals and/or the good faith estimates of management.

Derivative instruments included in Level 1 of the fair value hierarchy are valued using a market approach for prices quoted in active markets for securities. Derivative instruments classified as Level 2 are valued using a market approach with observable inputs from major indices as well as benchmark interest rates and foreign exchange rates.

Securities Lending represents cash collateral received for securities lent. The equity securities lent include domestic equities, international and global equities, and other alternative investments in Level 1 of the fair value hierarchy, valued using a market approach for prices quoted in active markets for securities. Level 2 securities lent are domestic fixed income securities which include U.S. government, federal agencies, and municipal obligations along with corporate issuers.

NOTE 3 : Investments (continued)

Investments Measured at NAV, Unfunded Commitments and Redemption Terms

As of December 31, 2016
(Dollars in Thousands)

The System used the Net Asset Value (NAV) to determine the fair value of the underlying investments when an investment does not have a readily determinable fair value, provided that the NAV is calculated and used as a practical expedient to estimate fair value in accordance with GAAP requirements.

	Fair Value Measured at NAV	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Investments Measured at the Net Asset Value (NAV)				
Debt Investments:				
Commingled Emerging Markets Debt	$ 389,502	$ 68,424	Monthly, N/A	3 Days Prior to Month-end
Equity Investments:				
Commingled International Equity Securities	120,349	-	Monthly	15 Days
Commingled Emerging Markets Equity	184,375	-	Monthly	30 Days
Total Equity Investments Measured at the NAV	304,724	-		
Absolute Return:				
Event Driven	235,691	-	Monthly, Quarterly	15-90 Days
Multi-Strategy (Hedge)	138,956	-	Quarterly, Semi-Annually	60-75 Days
Relative Value	49,884	-	Quarterly	60-180 Days
Tactical Trading	141,652	-	Monthly, Quarterly	30-180 Days
Total Absolute Return Measured at the NAV	566,183	-		
Diversified Credit:				
Mortgage	134,037	-	Quarterly	60 Days
Multi-Strategy (DC)	744,784	72,457	Monthly, Quarterly	60-95 Days
Non-U.S. Direct Lending	481,152	342,155	Annually, N/A	90 Days, N/A
U.S. Direct Lending	268,000	165,335	N/A	N/A
Total Diversified Credit Measured at the NAV	1,627,973	579,947		
Private Equity	724,637	571,938	N/A	N/A
Real Estate	1,100,318	326,080	Quarterly	5-90 Days
Real Return:				
Agriculture	56,362	33,151	Quarterly	60 Days
Energy	330,780	284,059	N/A	N/A
Total Real Return at the NAV	387,142	317,210		
Total Investments Measured at the NAV	**$ 5,100,479**	**$ 1,863,599**		

The investment types listed in the above table were measured at the Net Asset Value (NAV) as explained below:

Emerging market debt includes investments in three alternative funds that invest primarily in debt in emerging markets both domestic and foreign. The fair value of these investments has been determined using NAV per share of the investments. Investments representing approximately 71% of the value of the investments cannot be redeemed due to restrictions that do not allow for redemption.

Notes to the Basic Financial Statements

NOTE 3 : Investments (continued)

International equities consist of one institutional fund that invests primarily in equity securities of non-U.S. small capitalization companies. The fair value of this fund has been determined using NAV per share of the investments.

Emerging market equities includes one fund that invests in global emerging markets. The fund is divided into units, all without par value. The fair value of each unit is based on NAV per share.

Absolute return: Event driven consists of investments in six funds whose investments focus on identifying and analyzing securities that can benefit from the occurrence of an extraordinary corporate transaction or event, such as mergers and restructurings. The fair value of these investments has been determined using NAV per share of the investments. Less than 3% of the value of these investments cannot be redeemed due to restrictions related to the winding down of the fund.

Absolute return: Multi-strategy includes investments in three funds, one fund representing approximately 2% of the value is in the process of liquidating. These investment funds represent a variety of other absolute return strategies. The fair value of these investments has been determined using NAV per share.

Absolute return: Relative value consists of two funds; these funds seek returns by capitalizing on the mispricing of related securities or financial instruments. The fair value of these investments has been determined using NAV per share.

Absolute return: Tactical trading includes two funds. The investing strategy involves taking long or short positions in a range of markets, from equities and fixed income to commodities and currencies. The fair value of these investments has been determined using NAV per share.

Diversified Credit: Mortgage represents one fund that invests in distressed senior credit opportunities that is expected to produce attractive levels of current income and future appreciation. The fair value of this investment has been determined using NAV per share.

Diversified Credit: Multi-strategy includes investments in five funds, one fund representing approximately 16% of the value has redemption restrictions at the sole discretion of the general partner. These investment funds seek to minimize risk and volatility by constructing a portfolio of investments across a range of strategies.

Diversified Credit: Non-U.S. direct lending includes seven investment funds. Only one fund, approximately 35% of the value, allows redemption. The other funds are closed-end funds with structured investment periods, plus extension options. These funds invest opportunistically in Non-U.S. credit investments which offer downside protection, such as senior secured loans to non-investment grade companies.

Diversified Credit: U.S. direct lending consists of six funds. These funds seek to generate current income while preserving capital by investing in senior secured loans and other debt and equity securities of primarily U.S. companies. These investments are considered illiquid. Redemption restrictions are in place over the life of the partnerships. During the life of the partnerships, distributions are received as underlying partnership investments are realized.

Private equity includes primarily investments in limited partnerships. Generally, the partnership strategies are to maximize the return by participating in private equity and equity-related investments through a diversified portfolio of venture capital, growth equity, buyouts, special situation partnerships and other limited liability vehicles. Investments in these partnerships are typically for 10-12 years and are considered illiquid. Redemptions are restricted over the life of the partnership. During the life of the partnerships, distributions are received as underlying partnership investments are realized. The fair values of this investment type have been determined using NAV per share of the System's ownership interest in partners' capital.

Real estate investments include 15 funds consisting of primarily trust funds and limited partnerships. The purpose of these funds is to acquire, own, invest in real estate and real estate related assets with the intention of achieving current income, capital appreciation or both. These investments are valued through independent appraisals and other unobservable methods. Approximately 15% of the investments are closed-end funds with structured investment periods, and are considered illiquid investments. All other funds have no redemption restrictions other than the restrictions noted above.

Real return: Agriculture includes one fund that invests in a diversified portfolio of row, vegetable and permanent crop farmland in select major agricultural states. The fund is an open-end, infinite life, private REIT (real estate investment trust) subject to the redemption terms in the above schedule.

Real return: Energy consists of eight limited partnerships that invest primarily in oil and gas related investments including energy-related infrastructure. There are no redemption terms for any of these partnerships. These investments are considered illiquid. During the life of the partnerships, distributions are received as underlying partnership investments are realized. The fair values of this investment type have been determined using estimates provided by the underlying partnerships and are at NAV. Two of the partnerships, representing 16% of the total, are considered going concerns. If these partnerships fail, the fair value may be different from the NAV per share of the System's ownership interest in partners' capital.

Notes to the Basic Financial Statements

NOTE 4 : Funding Policy - Pension Plan

Employer and employee/member pension plan contribution requirements are determined as a percentage of plan sponsor payrolls. In determining contributions, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. The projected total pensionable compensation for all OCERS' plan sponsors for the year ended December 31, 2016 was $1.6 billion. Employer contribution rates are determined using the entry age normal actuarial cost method based upon a level percentage of payroll. The employer contributions provide for both normal cost and an amount to amortize any unfunded or overfunded actuarial accrued liabilities. By definition, the normal cost is the annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement benefit if all underlying assumptions are met. The actuarial report as of December 31, 2013 established the contribution rates for the first six months of calendar year 2016 (second half of fiscal year 2015-2016), and the actuarial valuation report as of December 31, 2014 established the contribution rates for the last six months of calendar year 2016 (first half of fiscal year 2016-2017). For the year ended December 31, 2016, employer contribution rates ranged from 11.79% of payroll to 62.66% depending upon the benefit plan type. Employer pension contributions were $567.2 million for the year ended December 31, 2016 of which approximately $386 million and $68.4 million, net of prepayment discounts, were made by the County of Orange and the Orange County Fire Authority, respectively. Participating employers are required by Government Code sections 31453.5 and 31454 to contribute a percentage of covered salary to the Plan. The contribution requirements of participating active members and employers are established and may be amended by the OCERS' Board of Retirement. Participating employers may pay a portion of the participating active employees' contributions through negotiations and bargaining agreements. Employer contributions paid for by the employee through negotiated reverse pick-up arrangements are treated and reported as employee contributions. Employee contributions elected to be paid for by the employer under Section 31581.1 are treated and reported as employer contributions as these payments do not become part of the accumulated contributions of the employee and are immaterial. Employee contributions elected to be paid for by the employer under Section 31581.2 are treated and reported as employee contributions as these payments are credited to the employee account and become a part of their accumulated contributions.

Employee contributions are established by the OCERS' Board of Retirement and guided by state statute (Government Code sections 31621, 31621.5, 31621.8, 31639.25 and 31639.5) and vary based upon employee age at the time of entering OCERS membership. OCERS received $258.3 million in employee pension contributions for the year ended December 31, 2016. Average employee contribution rates for the year ended December 31, 2016 ranged between 8.73% and 16.50%.

NOTE 5 : Funding Policy - Health Care Plans

County of Orange Plan: Information pertaining to the funding policy of the County of Orange Retiree Medical Plan is included in the County's publicly available financial report and can be obtained from the County of Orange at 12 Civic Center Plaza, Santa Ana, California, 92702 or their website at **http://ac.ocgov.com/**.

Orange County Fire Authority Plan: Current, active employees received pay increases pursuant to collective bargaining agreements in order to contribute 4% of pay to the OCFA for post-employment (retirement) coverage. OCERS classifies plan contributions as being employer made due to the collective bargaining arrangement. The OCFA periodically remits plan contributions to the OCERS' administered trust in amounts authorized by the OCFA Board of Directors. Contributions totaled $2.4 million for the year ended December 31, 2016.

Notes to the Basic Financial Statements

NOTE 6 : Plan Reserves

Employer and employee contributions are deposited into various legally-required reserve accounts established on a book value basis. Set forth below are the descriptions of OCERS' various reserve accounts:

Pension Reserve
Pension reserve represents funding set aside for retirement payments derived from employer contributions. Additions include transfers from the employer contribution reserve and interest credited. Deductions include benefit payments made to retired members.

Employee Contribution Reserve
Employee contribution reserve represents the balance of member contributions. Additions include member contributions and interest credited. Deductions include member refunds and transfers to the annuity reserve fund retirement benefits.

Employer Contribution Reserve
Employer contribution reserve represents the balance of employer contributions for active member future retirement benefits. Additions include employer contributions. Deductions include transfers to the pension reserves in order to fund retirement benefits, disability benefits and death benefits.

Annuity Reserve
Annuity reserve represents funding set aside for retirement payments derived from contributions made by members. Additions include transfers from the employee contribution reserve and interest credited. Deductions include benefit payments made to retired members.

Contra Account
A positive balance in this account represents excess earnings. A credit balance in this account represents the amount of interest credited to the reserve accounts that has not been paid for out of current or excess earnings. Additions include net increases to the fiduciary net position, which are decreased by interest credited to the reserves account.

County Investment Account (POB Proceeds) Reserve
County investment account (POB Proceeds) reserve represents the remaining proceeds from the County of Orange's 1994 Pension Obligation Bond issuance. The remaining proceeds are utilized, in accordance with a long standing agreement between OCERS and the County of Orange, to offset a portion of the annual actuarially-determined contribution rates for the County of Orange. In 2016, none of the remaining proceeds were utilized to offset the actuarially determined contributions for the County of Orange.

OCSD UAAL Deferred Reserve
The Orange County Sanitation District (OCSD) UAAL Reserve represents the payment by OCSD of its deferred UAAL. OCERS shall make annual transfers from the OCSD reserve account into the OCERS' employer contribution reserve account in the amount necessary to satisfy the actual UAAL attributed to OCSD. The intent of this transfer is to provide that the OCSD's future annual employer contribution obligation to OCERS shall consist of either the normal cost portion only, or the normal cost and amortizing installments of only such amount of future actual UAAL that exceeds the amount of funds remaining in the OCSD reserve account.

Actuarial Deferred Return
The actuarial deferred return represents the balance of deferred earnings created by a five-year smoothing of actual gains and losses compared to the assumed investment rate of return.

Health Care Plan Reserves
Health care plan reserves represent assets held to pay medical benefits for eligible retirees of the 401(h) health care plans. Additions include employer contributions and investment earnings. Deductions include medical payments.

Notes to the Basic Financial Statements

NOTE 6 : Plan Reserves (continued)

Total Fund Reserves

As of December 31, 2016
(Dollars in Thousands)

Valuation Reserves		
Pension Reserve	$	8,121,613
Employee Contribution Reserve		2,893,408
Employer Contribution Reserve		2,085,832
Annuity Reserve		1,263,105
Contra Account		(1,260,994)
Non-Valuation Reserves		
County Investment Reserve		117,723
OCSD UAAL Deferred Reserve		34,067
Total Pension Fund Reserves (smoothed market actuarial value)		**13,254,754**
Actuarial Deferred Return		(445,546)
Net Position Restricted for Pensions including Non-Valuation Reserves		**12,809,208**
Health Care Reserve		268,643
Net Position-Total Fund	**$**	**13,077,851**

NOTE 7 : Administrative Expenses - Pension

As permitted by Government Code (Code) Section 31580.2, the Board of Retirement adopts an annual budget, financed from the System's assets, covering the entire expenses for the administration of OCERS. The Code provides that administrative expenses incurred in any year are to be charged against the earnings of the pension trust fund and are not to exceed twenty-one hundredths of one percent (0.21%) of OCERS' actuarial accrued liabilities, excluding investment related costs and expenditures for computer software, hardware and related technology consulting services. Administrative expenses incurred in calendar year 2016 were within the limits established by the Code. The following schedule represents the excess of the maximum allowed over actual administrative expenses for the year ended December 31, 2016.

Administrative Expense Compared to Projected Actuarial Accrued Liability

For the Year Ended December 31, 2016
(Dollars in Thousands)

Projected Actuarial Accrued Liability (AAL) as of 12/31/16	$	17,967,005
Maximum Allowed for Administrative Expense (AAL * 0.21%)		37,731
Actual Administrative Expense[1]		16,038
Excess of Allowed Over Actual Expense	**$**	**21,693**
Actual Administrative Expense as a Percentage of Projected Actuarial Accrued Liability as of 12/31/16		0.09%

[1] Administrative Expense Reconciliation

Administrative Expense per Statement of Changes in Fiduciary Net Position	$	16,870
Less Administrative Expense Not Considered per CERL Section 31596.1		(832)
Administrative Expense Allowable Under CERL Section 31580.2	**$**	**16,038**

Notes to the Basic Financial Statements

NOTE 8 : Contingencies

At December 31, 2016, OCERS was involved in various litigation matters. In management's opinion, and after consultation with legal counsel, the outcome of these matters is not expected to have a material adverse effect on OCERS' financial position.

NOTE 9 : Pension Disclosures

The net pension liability was measured as of December 31, 2016. The plan fiduciary net position 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 December 31, 2015. The components of the net pension liability as of December 31, 2016 are as follows:

Net Pension Liability

For the Year Ended December 31, 2016
(Dollars in Thousands)

Total Pension Liability	$ 18,000,425
Less: Plan Fiduciary Net Position	(12,809,208)
Net Pension Liability	**$ 5,191,217**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	**71.16%**

Actuarial Assumptions

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Examples include future salary increases and investment earnings, expected retirement age, life expectancy and other relevant factors. Actuarially determined amounts are subject to continual revision as results are compared to past expectations and new estimates are made about the future. OCERS' actuary and Board of Retirement review the economic and demographic assumptions every three years and the actuarially determined contributions annually.

In preparing the actuarial valuation, the actuary has complied with the parameters set forth in GASB Statement No. 67 and employed generally accepted actuarial methods and assumptions to measure the total pension liability of plan sponsors. The actuary's calculations are based upon member data and financial information provided by the System. Projection of benefits for financial reporting purposes is based on all benefits estimated to be payable through the System to current active, retired and inactive employees as a result of their past service and their expected future service.

The total pension liability at December 31, 2016 was determined by rolling forward the total pension liability from the actuarial valuation as of December 31, 2015. The actuarial assumptions used were based on the results of an experience study for the period from January 1, 2011 through December 31, 2013. Following are the key methods and assumptions used for the total pension liability as of December 31, 2016:

Actuarial Information	
Valuation Date	December 31, 2015
Actuarial Experience Study	Three-Year Period Ending December 31, 2013
Actuarial Cost Method	Entry age normal
Actuarial Assumptions	
Investment Rate of Return	7.25% net of pension plan investment expense, including inflation
Inflation Rate	3.00%
Projected Salary Increases	General: 4.25% to 13.50% and Safety: 5.00% to 17.50% Vary by service, including inflation
Cost of Living Adjustments	3.00% of retirement income

NOTE 9 : Pension Disclosures (continued)

The actuarial assumptions used in the December 31, 2015 actuarial valuation were based on the triennial experience study and economic assumptions study completed in 2014 for the three-year experience period ending December 31, 2013.

Mortality Assumptions

The mortality assumptions used in the total pension liability at December 31, 2016 were based on the results of the actuarial experience study for the period January 1, 2011 through December 31, 2013 using the Society of Actuaries RP-2000 Combined Healthy Mortality Table projected with the Scale BB to 2020. The mortality assumption for all groups is then customized to account for OCERS' plan membership experience. For healthy general members, no adjustments are made. For healthy safety members, the ages are set back two years. For general members that are disabled, the ages are set forward six years for males and three years for females. For safety members that are disabled, no adjustments are made. Beneficiaries are assumed to have the same mortality as a general member of the opposite sex who is receiving a service (non-disability) retirement.

Long-Term Expected Real Rate of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rate 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 rate of return by the target asset allocation percentage and by adding expected inflation and deducting expected investment expenses. The target allocation and projected arithmetic real rate 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:

Long-Term Expected Real Rate of Return

For the Year Ended December 31, 2016

Asset Class	Investment Classification	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Large Cap U.S. Equity	Domestic Equity Securities	14.90%	5.92%
Small/Mid Cap U.S. Equity	Domestic Equity Securities	2.73%	6.49%
Developed International Equity	International Equity Securities	10.88%	6.90%
Emerging International Equity	Global Equity Securities	6.49%	8.34%
Core Bonds	Domestic Fixed Income	10.00%	0.73%
Global Bonds	International Fixed Income	2.00%	0.30%
Emerging Markets Debt	Emerging Markets Debt	3.00%	4.00%
Real Estate	Real Estate	10.00%	4.96%
Diversified Credit (U.S. Credit)	Diversified Credit	8.00%	4.97%
Diversified Credit (Non-U.S. Credit)	Diversified Credit	2.00%	6.76%
Hedge Funds	Absolute Return	7.00%	4.13%
GTAA	Absolute Return	7.00%	4.22%
Real Return	Real Return	10.00%	5.86%
Private Equity	Private Equity	6.00%	9.60%
Total		**100.00%**	

Notes to the Basic Financial Statements

NOTE 9 : Pension Disclosures (continued)

Discount Rate

The discount rate used to measure the total pension liability was 7.25% for the year ended December 31, 2016. 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 pension plan's fiduciary net position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of December 31, 2016.

The following table represents the net pension liability of participating employers calculated using the discount rate of 7.25%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1.00% lower or 1.00% higher than the current rate:

Sensitivity of Net Pension Liability to Changes in the Discount Rate

(Dollars in Thousands)

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of December 31, 2016	$ 7,669,195	$ 5,191,217	$ 3,151,809

Notes to the Basic Financial Statements

NOTE 10 : Health Care Plan Disclosures

The Schedule of Funding Progress presented in the Required Supplementary Information shows the trend information regarding the OCFA Health Care Plan's actuarial value of assets, liabilities and funding status on a multi-year basis.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as results are compared to past expectations and new estimates are made about the future. Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of each valuation on the pattern of sharing of costs between the employer and plan members to that point. Actuarial calculations reflect a long-term perspective.

Orange County Fire Authority Health Care Plan

(Dollars in Thousands)

Actuarial Valuation Date July 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
2016	$ 35,858	$ 263,303	$ 227,445	13.62%	$ 61,161	371.88%

The following summarizes the actuarial assumptions and methods used in the most recent actuarial valuation of July 1, 2016 and the July 1, 2014 valuation which was used to determine 2016 contributions.

Actuarial Information		
	2014	2016
Valuation Date	July 1, 2014	July 1, 2016
Actuarial Cost Method	Entry age normal	Entry age normal
Amortization Method	Level-dollar basis	Level-dollar basis
Remaining Amortization Period	22 years closed (declining)	20 years closed (declining)
Asset Valuation Method	Market value	Market value
Actuarial Assumptions		
	2014	2016
Investment Rate of Return	7.25%, net of pension plan investment expense, including inflation	7.25%, net of pension plan investment expense, including inflation
Inflation Rate	3.25%	3.25%
Projected Salary Increases	N/A, amortization method is based on level-dollar payment	N/A, amortization method is based on level-dollar payment
Medical Cost Trend Rate	7.75% trending down to 5% over 7 years	7.00% trending down to 5% over 5 years

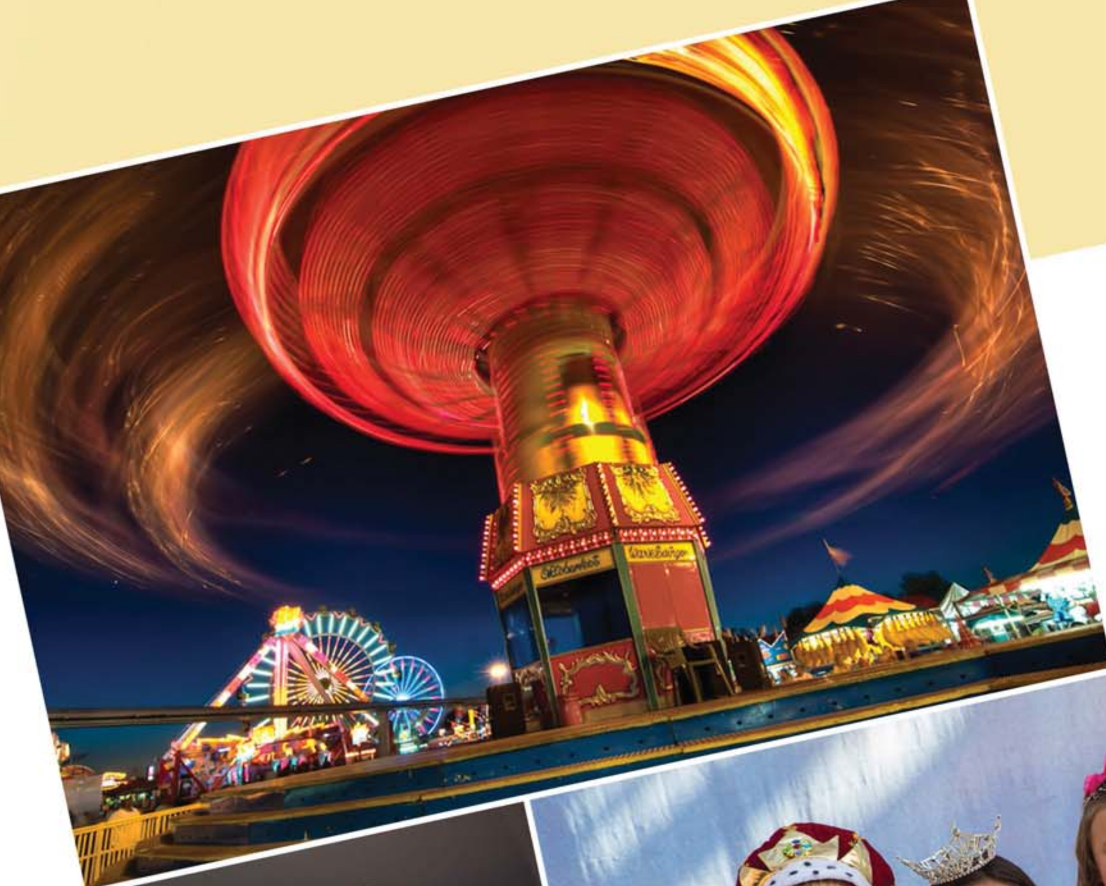
ORANGE COUNTY

OCERS

EMPLOYEES RETIREMENT SYSTEM

Garden Grove STRAWBERRY Festival

The Garden Grove Strawberry Festival was started in 1958. It is a charitable event which benefits local organizations. The festival has grown over the years to include a parade, carnival rides, sporting events, Miss Garden Grove and celebrities along with all the strawberries and treats. Some of the more recent celebrity participants include Hilary Duff, Shirley Jones, Jerry Mathers and Mickey Rooney.



GARDEN GROVE STRAWBERRY FESTIVAL
2017
HONORING OUR COMMUNITY SUPERHERO VOLUNTEERS

Section II

Financial

Required Supplementary Information

Schedule of Changes in Net Pension Liability of Participating Employers

For the Years Ended December 31, 2013 through 2016[1]
(Amounts in Thousands)

	2016	2015	2014	2013
Total Pension Liability				
Service Cost	$ 427,473	$ 439,454	$ 438,600	$ 444,838
Interest	1,241,080	1,197,308	1,153,352	1,109,002
Change of Benefit Terms	-	-	-	-
Differences Between Expected and Actual Experience	(323,566)	(205,463)	(327,402)	(295,483)
Changes of Assumptions	-	-	(127,729)	-
Benefit Payments, Including Refunds of Employee Contributions	(717,976)	(675,963)	(630,678)	(586,284)
Other	(509)[3]	-	-	-
Net Change in Total Pension Liability	**$ 626,502**	**$ 755,336**	**$ 506,143**	**$ 672,073**
Total Pension Liability - Beginning	**17,373,923**	**16,618,587**	**16,112,444**	**15,440,371**
Total Pension Liability - Ending (a)	**$ 18,000,425**	**$ 17,373,923**	**$ 16,618,587**	**$ 16,112,444**
Plan Fiduciary Net Position				
Contributions - Employer [2]	$ 567,196	$ 571,298	$ 625,520	$ 427,095
Contributions - Employee	258,297	249,271	232,656	209,301
Net Investment Income/(Loss)	1,061,243	(10,873)	499,195	1,152,647
Benefit Payments, Including Refunds of Employee Contributions	(717,976)	(675,963)	(630,678)	(586,284)
Administrative Expense	(16,870)	(12,521)	(11,905)	(11,705)
Net Change in Plan Fiduciary Net Position	**$ 1,151,890**	**$ 121,212**	**$ 714,788**	**$ 1,191,054**
Plan Fiduciary Net Position - Beginning	**11,657,318**	**11,536,106**	**10,821,318**	**9,630,264**
Plan Fiduciary Net Position - Ending (b)	**$ 12,809,208**	**$ 11,657,318**	**$ 11,536,106**	**$ 10,821,318**
Net Pension Liability (a) - (b) = (c)	**$ 5,191,217**	**$ 5,716,605**	**$ 5,082,481**	**$ 5,291,126**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (b)/(a)	71.16%	67.10%	69.42%	67.16%
Covered Payroll (d)	$ 1,602,675	$ 1,521,036	$ 1,513,206	$ 1,494,745
Plan Net Pension Liability as a Percentage of Covered Payroll (c)/(d)	323.91%	375.84%	335.88%	353.98%

1 Data for years prior to 2013 is not available. Information will be presented over ten years as it becomes available prospectively.

2 Reduced by discount for prepaid contributions and transfers from County Investment Account.

3 Orange County Public Law Library was separated out from the Orange County Sanitation District in Rate Group #3 and put into their own Rate Group (Rate Group #12) after the last valuation as of December 31, 2015. There was an adjustment to the UAAL for Rate Group #3 that was originally included in the December 31, 2015 valuation. There was a credit of $509,000 given to the Orange County Public Law Library to reflect that their future service enhancement did not increase the UAAL.

Schedule of Investment Returns

For the Years Ended December 31, 2014 Through 2016[1]

Years Ended December 31	Annual Money Weighted Rate of Return, Net of Investment Expense
2014	4.64%
2015	- 0.51%
2016	8.71%

[1] Data for years prior to 2014 is not available. Information will be presented over ten years as it becomes available prospectively.

Schedule of Employer Contributions

For the Years Ended December 31, 2007 through 2016
(Dollars in Thousands)

Years Ended December 31	Actuarially Determined Contributions[1,2]	Actual Contributions[1,2]	Contribution Deficiency / (Excess)[3]	Covered Payroll	Contributions as a % of Covered Payroll
2007	$ 326,736	$ 326,736	$ -	$ 1,410,559	23.16%
2008	359,673	360,365[3]	(692)	1,526,113	23.61%
2009	337,496	338,387[3]	(891)	1,598,888	21.16%
2010	372,437	372,437	-	1,511,569	24.64%
2011	387,585	387,585	-	1,498,914	25.86%
2012	406,521	406,521	-	1,497,475	27.15%
2013	426,020	427,095[3]	(1,075)	1,494,745	28.57%
2014	476,320	625,520[3]	(149,200)	1,513,206	41.34%
2015	502,886	571,298[3]	(68,412)	1,521,036	37.56%
2016	521,447	567,196[3]	(45,749)	1,602,675	35.40%

[1] Excludes employer pickup of member contributions and transfers from County Investment Account (funded by pension obligation proceeds held by OCERS). Those transfers are as follows:

2009	$ 34,900
2010	11,000
2011	11,000
2012	5,500
2013	5,000
2014	5,000

[2] Reduced by discount for prepaid contributions

[3] Includes additional contributions made by Plan Sponsors towards the reduction of their UAAL.

Actuarial Valuation Methods and Assumptions

The actuarially determined contribution rates in the schedule of employer contributions are calculated as of December 31. Rates are effective eighteen months after the valuation date for the fiscal year that begins July 1. The following actuarial methods and assumptions were used to calculate the actuarially determined contributions for the year ended December 31, 2016:

Valuation Date	Actuarially determined contribution rates for the first six months of calendar year 2016 or the second half of fiscal year 2015-2016 are calculated based on the December 31, 2013 valuation. Actuarially determined contribution rates for the last six months of calendar year 2016 or the first half of fiscal year 2016-2017 are calculated based on the December 31, 2014 valuation.
Actuarial Cost Method	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll for total unfunded actuarial accrued liability
Remaining Amortization Period	
December 31, 2013 Valuation	Effective December 31, 2013, the outstanding balance of the UAAL from the December 31, 2012 valuation was combined and re-amortized over a declining 20-year period. Any changes in UAAL due to actuarial gains or losses or due to changes in assumptions or methods will be amortized over separate 20-year periods. Any changes in UAAL due to plan amendments will be amortized over separate 15-year periods and any change in UAAL due to early retirement incentive programs will be amortized over a separate period of up to 5 years.
Asset Valuation Method	The Actuarial Value of Assets is determined by recognizing any difference between the actual and the expected market return over a five-year period. The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.
Actuarial Assumptions:	
December 31, 2013 Valuation	
Investment Rate of Return	7.25% net of pension plan investment expense, including inflation
Inflation Rate	3.25%
Real Across-the-Board Salary Increase	0.50%
Projected Salary Increases	General: 4.75% to 13.75% and Safety: 4.75% to 17.75%, vary by service, including inflation
Cost of Living Adjustments	3.00% of retirement income
Other Assumptions	Same as those used in the December 31, 2013 funding actuarial valuation
December 31, 2014 Valuation	
Investment Rate of Return	7.25% net of pension plan investment expense, including inflation
Inflation Rate	3.00%
Real Across-the-Board Salary Increase	0.50%
Projected Salary Increases	General: 4.25% to 13.55% and Safety: 5.00% to 17.50%, vary by service, including inflation
Cost of Living Adjustments	3.00% of retirement income
Other Assumptions	Same as those used in the December 31, 2014 funding actuarial valuation

Significant Factors Affecting Trends in Actuarial Information – Pension Plan

Changes in Benefit Terms

2016

- New employees hired by the City of San Juan Capistrano on and after July 1, 2016 will be offered a choice in retirement plan formulas: the PEPRA Plan U (2.5% at 67 PEPRA – General) or the alternate plan formula, Plan W (1.62% at 65 PEPRA – General).
- Orange County Public Law Library was moved from Rate Group #3 into its own rate group, Rate Group #12.

2015

- Effective January 1, 2015, new OCTA employees will be enrolled in Plan U (2.5% at 67 PEPRA - General).

2012

- With the exception of OCTA, members with membership date on or after January 1, 2013 will be placed in PEPRA tiers: Plan T (1.62% at 65 PEPRA – General); Plan U (2.5% at 67 PEPRA – General); or Plan V (2.7% at 57 PEPRA – Safety).

2011

- Effective April 20, 2012, certain employees previously employed at the City of Santa Ana became employees of OCFA General and OCFA Safety and are eligible for benefits under Plan N (2% at 55) and Plan F (3% at 50), respectively.
- Effective July 1, 2012, new General employees hired by the City of San Juan Capistrano will be covered under General Plan S (2% at 57).

2010

- LAFCO adopted an optional 1.62% of final average salary at age 65 for members hired on or after July 1, 2010.
- County Managers unit adopted an optional 1.62% of final average salary at age 65 for members hired on or after August 17, 2010.
- Sanitation District adopted a 1.64% of final average salary at age 57 for members within Supervisors and Professional unit hired on or after October 1, 2010.
- OCFA adopted a 3.00% of final average salary at age 55 for Safety members within the Executive Management unit hired on or after July 1, 2011 and for all Safety members hired on or after July 1, 2012.
- OCFA adopted a 2.00% of final average salary at age 55 for General members hired on or after July 1, 2011.

2009

- County and the Courts adopted optional 1.62% at 65 formula for General Member Employees entering OCERS after May 7, 2010.
- County Law Enforcement Members adopted 3% at 55 formula for Safety Members entering OCERS on or after April 9, 2010.

2007

- OC Mosquito and Vector Control District terminated their participation in OCERS effective January 4, 2007.
- Retirement formula for the Orange County Cemetery District changed to 2% at 55 effective December 7, 2007.

Significant Factors Affecting Trends in Actuarial Information – Pension Plan

(continued)

Changes in Assumptions and Methods

2014

- The inflation rate was reduced from 3.25% to 3.00%
- Total wage inflation and payroll growth was reduced from 3.75% to 3.50%.
- Inclusion of additional cash-out assumptions in developing basic member contribution rates in the legacy plans.
- Mortality rates for after service retirement were changed to reflect longer life expectancies for Safety members and shorter life expectancies for General members and longer life expectancies for both General and Safety members for after disability retirement.

2013

- The outstanding balance of the December 31, 2012 UAAL was combined and re-amortized over a 20-year period.

2012

- The investment rate of return was decreased from 7.75% to 7.25%.
- The inflation rate was decreased from 3.50% to 3.25%.
- Projected salary increases for general members of 4.50% to 11.50% changed to 4.75% to 13.75% and safety members changed from 4.50% to 13.50% to 4.75% to 17.75%.

2011

- Changes in mortality, disability, termination, retirement, salary scale, and annual pay-off assumptions in the December 31, 2010 triennial experience study increased the pension plan UAAL by $364 million.

2009

- Adjustments to correct the under-reporting of certain premium pay items in prior years' pensionable salary data resulted in a $228 million increase in UAAL.

2008

- Individual salary increase assumptions are changed from age based to service based.
- Annual leave payoff assumptions were increased for General members.

Schedule of Funding Progress - OPEB Plan Orange County Fire Authority

(Dollars in Thousands)

Actuarial Valuation Date July 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
2012	$ 28,910	$ 156,623	$ 127,713	18.46%	$ 75,432	169.31%
2014	36,945	179,056	142,111	20.63%	66,021	215.25%
2016	35,858	263,303	227,445	13.62%	61,161	371.88%

Schedule of Employer Contributions - OPEB Plan Orange County Fire Authority

(Dollars in Thousands)

Fiscal Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2012	$ 13,520	$ 4,558	33.71%
2014	14,560	4,693	32.23%
2016	13,550	4,460	32.92%

Significant Factors Affecting Trends in Actuarial Information – OPEB Plan Orange County Fire Authority

2016 Changes in OPEB Plan Provisions and Actuarial Assumptions

- The July 1, 2016 OPEB Valuation: OCFA highlights include the following:
  - The valuation reflects a lower discount rate of 4.10% which is a blended discount rate as OCFA is currently partially funding the annual required contribution. The blended rate reflects a short-term rate of approximately 4% and a long-term expected rate of return of invested assets of 7.25%.
  - The inflation rate is 3.25% based on recommendations from the actuary.
  - The valuation reflects several assumption changes including an update to the retirement and mortality tables to reflect more recent experience studies, updates to the initial medical trends and the inclusion of a liability for implicit rate subsidy for general employees.

2014 Changes in OPEB Plan Provisions and Actuarial Assumptions

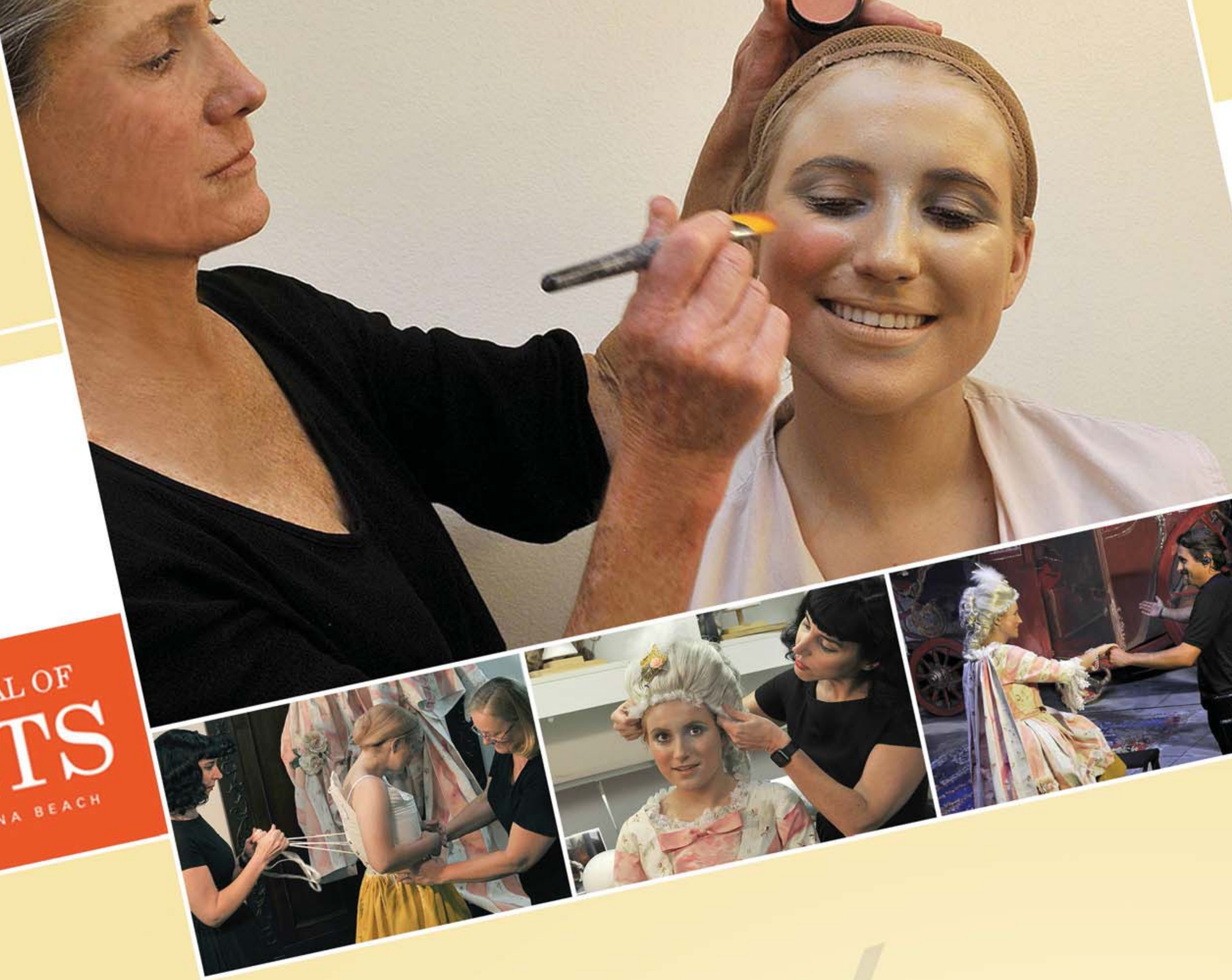
- The July 1, 2014 OPEB Valuation: OCFA highlights include the following:
  - The 5.00% discount rate reflects a blended discount rate as OCFA is currently partially funding the annual required contribution (ARC). The blended rate reflects a short-term rate of approximately 4.25% and a long-term expected rate of return of invested assets of 7.25%.
  - The inflation rate is 3.25% based on recommendations from the actuary.
  - The valuation reflects several assumption changes including an update to the mortality and turnover tables, as well as changes to the spouse participation assumption to reflect actual experience.

2012 Changes in OPEB Plan Provisions and Actuarial Assumptions

- The July 1, 2012 OPEB Valuation: OCFA highlights include the following:
  - The 5.50% discount rate reflects a blended discount rate as OCFA is currently partially funding the ARC. The blended rate reflects a short-term rate of approximately 4.00% and a long-term expected rate of return of invested assets of 7.75%.
  - The inflation rate is 3.50% based on recommendations from the actuary.
  - The valuation reflects several assumption changes including an update to the mortality and turnover tables, as well as changes to the spouse participation assumption to reflect actual experience.

Festival of ARTS Pageant of the Masters

The first Festival of Arts was held in downtown Laguna Beach for seven days in August 1932. The renowned Festival of Arts Pageant of the Masters found a permanent home in Laguna Canyon in 1942. In 2017, the festival celebrates its 85th year of bringing the arts to Orange County. The festival runs during the summer months of July and August with many events for participants to enjoy.



Section II

Financial

Other Supplementary Information

Schedule of Contributions

For the Year Ended December 31, 2016
(Dollars in Thousands)

Pension Trust Fund Contributions	Employee	Employer
County of Orange	$ 204,697	$ 406,442
Orange County Fire Authority	18,309	70,161[1]
Orange County Sanitation District	7,328	48,880[1]
Orange County Superior Court of California	15,933	31,521
Orange County Transportation Authority	9,069	24,584
City of San Juan Capistrano	809	2,264
OCERS	896	1,975
Orange County Public Law Library	168	1,816[1]
Transportation Corridor Agencies	724	1,799
UCI Medical Center and Campus	2	1,315[2]
Orange County Children & Families Commission	102	310
Orange County In-Home Supportive Services Public Authority	99	190
Orange County Cemetery District	122	160
Orange County LAFCO	39	132
Contributions Before Prepaid Discount	258,297	591,549
Prepaid Employer Contribution Discount	-	(24,353)
Total Pension Trust Fund Contributions	**258,297**	**567,196**
Health Care Fund - County Contributions	-	**42,411**
Health Care Fund - OCFA Contributions	-	**2,414**
Total Contributions	**$ 258,297**	**$ 612,021**

[1] Unfunded actuarial accrued liability payments were made in 2016 of $5.1 million, $39.1 million and $1.5 million for the Orange County Fire Authority, the Sanitation District and the Public Law Library, respectively.

[2] Unfunded actuarial accrued liability payments have been made in accordance with a separate 20-year level dollar payment schedule to include liabilities for employee benefits related to past service credit.

Schedule of Administrative Expenses

For the Year Ended December 31, 2016
(Dollars in Thousands)

Pension Fund Administrative Expenses	
Expenses Subject to the Statutory Limit	
Personnel Services	
Employee Salaries and Benefits	$ 9,408
Board Members' Allowance	15
Total Personnel Services	9,423
Office Operating Expenses	
Professional Services	2,314
Depreciation/Amortization	2,314
Operating Expenses	1,327
Rent/Leased Real Property	660
Total Office Operating Expenses	6,615
Total Expenses Subject to the Statutory Limit	16,038
Expenses Not Subject to the Statutory Limit	
Actuarial Fees	394
Information Technology Consulting	357
Equipment/Software	81
Total Expenses Not Subject to the Statutory Limit	832
Total Pension Fund Administrative Expenses	**16,870**
Health Care Fund - County Administrative Expenses	22
Health Care Fund - OCFA Administrative Expenses	22
Total Administrative Expenses	**$ 16,914**

Schedule of Investment Expenses

For the Year Ended December 31, 2016
(Dollars in Thousands)

Investment Management Fees *	
Absolute Return	$ 13,126
Diversified Credit	11,074
Real Estate	10,885
Real Return	7,269
Emerging Markets Equity	5,451
International Equity Securities	4,705
Private Equity	3,935
Domestic Fixed Income	3,817
Global Equity Securities	1,046
Domestic Equity Securities	829
Emerging Markets Debt	660
Total Investment Management Fees	**62,797**
Foreign Income Tax/Other	**15,891**
Other Investment Expenses	
Consulting/Research Fees	1,517
Investment Department Expenses	1,465
Legal Services	493
Custodian Services	300
Investment Service Providers	30
Total Other Investment Expenses	**3,805**
Security Lending Activity	
Security Lending Fees	366
Rebate Fees	302
Total Security Lending Activity	**668**
Total Investment Expenses	**$ 83,161**

* Does not include undisclosed fees deducted at source.

Schedule of Payments for Professional Services

For the Year Ended December 31, 2016
(Dollars in Thousands)

Type of Services *

Professional Expenses Subject to the Statutory Limit	
Legal Counsel	$ 678
Information Technology Services	514
Other Consulting/Services	467
Medical/Disability Services	295
Other Legal Services	124
Audit Services	120
Administrative Services	60
Finance Services	56
Total Professional Expenses Subject to the Statutory Limit	**2,314**
Professional Expenses Not Subject to the Statutory Limit	
Investment Consulting/Research Fees	1,517
Investment Legal Services	493
Actuarial Services	394
Information Technology Consultants	357
Custodian Services	300
Investment Service Providers	30
Total Professional Expenses Not Subject to the Statutory Limit	**3,091**
Total Payments for Professional Expenses	**$ 5,405**

* Detail for fees paid to investment professionals is presented in the Investment Section.

Statement of Changes in Assets and Liabilities - OPEB Agency Fund

For the Year Ended December 31, 2016
(Dollars in Thousands)

	Beginning Balance December 31, 2015	Additions	Deductions	Ending Balance December 31, 2016
Assets				
Cash and Cash Equivalents	$ 192	$ 925	$ (829)	$ 288
Domestic Equity Securities	6,990	1,005	(1,516)	6,479
International Equity Securities	2,469	450	(424)	2,495
Domestic Fixed Income	4,342	1,268	(178)	5,432
Total Assets	**$ 13,993**	**$ 3,648**	**$ (2,947)**	**$ 14,694**
Liabilities				
Due to Employers	$ 13,993	$ 3,648	$ (2,947)	$ 14,694
Total Liabilities	**$ 13,993**	**$ 3,648**	**$ (2,947)**	**$ 14,694**

ORANGE COUNTY

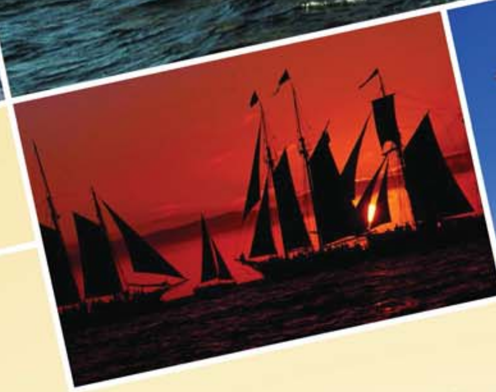
OCERS

EMPLOYEES RETIREMENT SYSTEM

Dana Point TALL SHIPS Festival

The Dana Point Tall Ships Festival celebrates California's rich maritime history. The event takes place each year the second weekend in September in the Dana Point Harbor. Event participants may tour ships, listen and watch historical reenactments, enjoy pirate adventures and mermaid encounters. The festival also includes the parade of sails, unique vendors and a craft beer garden.





Photos courtesy of the Ocean Institute / Cliff Wassmann

OCEAN INSTITUTE
EXPERIENCE IS THE TEACHER

Section III

Investments

Investment Consultant's Statement

M E K E T A   I N V E S T M E N T   G R O U P

BOSTON MA
CHICAGO IL
MIAMI FL
PORTLAND OR
SAN DIEGO CA
LONDON UK

To: Board Members, Orange County Employees Retirement System

From: Stephen McCourt, Laura Wirick, Holly Heiserman
Meketa Investment Group

Date: April 6, 2017

Re: Investment Consultant's Statement for CAFR

This letter reviews the investment performance of the Orange County Employees Retirement System (OCERS) for the year ending December 31, 2016.

OCERS' stated mission is to provide secure retirement and disability benefits with the highest standards of excellence. To this end, OCERS strives to align the portfolio's asset allocation, investments, and other related decision with the goals of the overall system. This alignment is a fundamental part of the Investment Committee's monthly meetings, where performance is examined (both on an overall portfolio basis and at the manager level), asset allocation is reviewed and modified to fit changes in expected return, strategic and tactical decisions are discussed, and the System's liabilities are reviewed. Meketa Investment Group, OCERS' general consultant, works in concert with PCA, OCERS' risk consultant, to provide guidance to the Board (the System's fiduciary), and assist the Board with performance evaluation, asset allocation, manager selection, and other industry best practices.

State Street Bank and Trust Company, OCERS' custodian, independently prepared the performance data used in this report.

2016 YEAR IN REVIEW

Emerging markets were strong in the first quarter of 2016, with the JPM Emerging Markets Bond Index Global Diversified (debt) and the MSCI Emerging Markets Index (equity) returning 11.0% and 5.7%, respectively. Domestic fixed income also showed strength, while domestic equity markets had more muted returns. The International Monetary Fund reduced their 2016 global growth forecast by 0.2%, to 3.2%, and lowered its 2017 forecast by 0.1%, to 3.5%. In the U.S., weak manufacturing and the impact of the dollar's strength on exports was expected to be balanced by the improving labor and housing markets. In Europe and Japan, growth was forecasted to be lower than in the U.S., as unemployment remained high in Europe and consumption remained weak in Japan.

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Investment Consultant's Statement

(continued)

In the second quarter, commodities made a strong rebound, with the Bloomberg Commodity Index returning 12.8%. Equity sectors exposed to energy prices, such as utilities, materials, and energy posted strong returns as well. Developed markets languished for the second quarter in a row, with the MSCI EAFE Index returning -1.5%, after a first quarter return of -3.0%. Increased uncertainty related to the "Brexit" vote, where the United Kingdom voted via referendum to break away from the European Union, led to another reduction in projections for global growth; the IMF reduced their 2016 global growth forecast by 0.1%, to 3.1%, and lowered its 2017 forecast by the same amount, to 3.4%.

Expectations for continued low interest rates helped emerging markets, resulting in a third quarter of strength; the MSCI Emerging Markets returned 9.0%, bringing year to date performance for the index to 16.0%. Commodity prices corrected after the second quarter run up, with the Bloomberg Commodity Index losing 3.9%. Growth projections for emerging economies increased slightly for 2016 (4.2% versus 4.1%) and remained the same for 2017 (4.6%). Low commodity prices, a slowdown in China, and low demand from developed economies remained as headwinds.

In the fourth quarter, domestic equity markets outperformed, particularly after the U.S. presidential election in November; the Russell 2000 Index (small cap) and S&P 500 Index (large cap) returned 8.8% and 3.8%, respectively. In a move that was largely anticipated by the markets, the U.S. Federal Reserve made their only rate increase in 2016 (0.50% to 0.75%) in December. After the presidential election, expectations for the pace of tightening increased, given the pro-growth policies of the new administration. Emerging markets corrected, with the MSCI Emerging Market losing 4.2% in the fourth quarter, though year to date, the index was still up 11.2%.

2017 Outlook

Looking forward to 2017, fiscal stimulus in the U.S. is likely, and should have a global impact. The balance of fiscal and monetary policy is expected to be a key issue. For global investors, several issues are of primary concern. First, there is increased populist and antitrade sentiment globally; recent votes in the U.S. and U.K. demonstrate growing frustrations with government officials, the widening gap between the rich and the poor, and the perception that jobs are being lost abroad. In 2017, several key elections loom on the horizon in Europe, with the potential for more populist candidates to be elected.

Second, there is uncertainty related to the U.S. economy and policies. During campaigning, Donald Trump proposed a variety of policies with varied potential impacts on economic growth. Since the election, investors have focused on the pro-growth policies including lower taxes, more infrastructure spending, and less regulation, and have focused less on policies that could potentially hurt growth, like a protectionist trade stance and tougher immigration policies. This has led to a stronger U.S. dollar and higher inflation expectations. Looking ahead, the distinction between campaign rhetoric and policy will be a key consideration. Timing is also important, as the impact of fiscal policy will likely not be felt until 2018, or later, with the Fed needing to make policy decisions in the interim.

Memorandum
April 6, 2017
Page 3 of 3

Third, global investors could be impacted by declining growth in China, along with uncertain fiscal and monetary policies. As growth in China continues to slow and rates in the U.S. are expected to increase, China has experienced capital outflows. These outflows have led to downward pressure on the currency and a negative feedback loop as investors anticipate further declines. China has used some of its currency reserves to support the yuan, but cannot do this indefinitely. They recently tightened regulations on outward flows in an effort to support the currency.

Fourth, there is continued economic sluggishness in Europe, and risks related to the U.K.'s exit from the European Union. The decision of the U.K. to leave the EU further weighs on the fragile recovery in Europe. The U.K.'s negotiation of trade deals will be a key issue with a wide range of potential outcomes. Uncertainty related to the outcome of negotiations should weigh on foreign investment and consumption. Any additional moves to leave the EU, or the Eurozone, could be disruptive to markets and growth.

Finally, global investors should continue to be impacted by divergent growth in emerging economies. Growth in emerging market economies will likely remain uneven, with some economies particularly feeling the impact of continued dollar strength and potential U.S. protectionist policies. Higher rates and renewed economic strength in the U.S. due to new policies could also attract capital away from emerging markets.

OCERS 2016 PERFORMANCE

OCERS' portfolio returned 8.5% in 2016, slightly underperforming the Policy Index of 8.9%, but outperforming the System's 7.25% required actuarial rate of return. Domestic Equity had the strongest absolute performance of all asset classes, returning 13.1%, and outperforming the Russell 3000 benchmark return of 12.7%, while the GTAA asset class had the weakest 2016 performance of 1.2%, underperforming the GTAA Custom Index[1], which returned 2.6% over the same period. OCERS' 2016 annual performance of 8.5% compared favorably to peers[2], which had a median return of 7.9% over the same period, placing OCERS in the 30th percentile.

Over the trailing three- and five-year periods, the OCERS portfolio returned 4.3% and 7.1% on average annually, underperforming the Policy Index returns of 5.2% and 7.7%, respectively. For the trailing three years, OCERS was in the 59th percentile compared to peers, and over the trailing five years, OCERS was in the 84th percentile compared to peers.

A new asset allocation was adopted by the Investment Committee at the beginning of 2017. The goals of the new asset allocation include simplifying the portfolio, lowering investment management fees, and focusing on material drivers of risk and return going forward.

If you have any questions, please contact us at (760) 795-3450.

SM/LW/HH/km

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[1] GTAA Custom Index consists of equal parts HFRI Global Macro Index, MSCI All Country World Index, and the Barclays Multiverse Index.

[2] InvestorForce Public Defined Benefit Plans with over $1 billion in assets under management.

Investment Returns

The table below details the annualized rates of return for the different asset categories over various time periods ended December 31, 2016. The returns for each asset class represent the composite returns of all the manager portfolios within the asset class. All returns are net of fees, which is a change from the reporting in prior years when only indirect or at source fees were deducted from the returns being presented. The method of computation of investment returns is time-weighted approximation.

	1 Year	3 Year	5 Year
Domestic Equity (%)	**13.08**	**8.21**	**14.33**
Russell 3000 Index (%)	12.74	8.43	14.67
Global Equity (%)	**6.90**	**1.44**	**9.57**
MSCI World Index (%)	7.51	3.80	10.41
International Equity (%)	**2.17**	**-0.04**	**7.99**
MSCI EAFE Index (%)	1.00	-1.60	6.53
Emerging Markets Equity (%)	**7.81**	**-1.53**	**1.71**
MSCI EME Index (%)	11.19	-2.55	1.28
Domestic Fixed (%)	**8.75**	**3.43**	**3.84**
Bloomberg Barclays Capital Universal Index (%)	3.91	3.28	2.78
Emerging Markets Debt (%)	**7.99**	**-2.10**	**N/A**
Emerging Markets Debt Target Index (1) (%)	10.12	-0.54	N/A
Diversified Credit (%)	**11.35**	**6.01**	**12.44**
Diversified Credit Target Index (2) (%)	13.64	4.27	6.36
Absolute Return (%)	**1.81**	**1.72**	**2.75**
Absolute Return Target Index (3) (%)	6.09	5.56	5.51
Real Return (%)	**12.14**	**0.34**	**0.99**
Real Return Target Index (4) (%)	10.33	6.25	6.41
Short-Term Investments (%)	**0.49**	**0.34**	**0.40**
Cash Overlay (%)	**7.40**	**3.11**	**6.63**
91-day Treasury Bill (%)	0.33	0.14	0.12
Real Estate (%)	**9.72**	**13.73**	**12.97**
Real Estate Target Index (5) (%)	8.08	10.90	11.76
Private Equity (%)	**8.42**	**13.59**	**11.29**
Cambridge Private Equity Lagged	8.66	10.76	13.14
Total Fund (%)	**8.52**	**4.32**	**7.10**
Composite Policy Benchmark (6) (%)	8.94	5.23	7.70

(1) Emerging Market Debt Target Index = 65% JPMorgan GBI-EM Global Diversified Un-hedged + 35% JPMorgan EM Bond Index

(2) Diversified Credit Target Index = 50% Merrill Lynch HY Constrained + 50% CS Levered Loan

(3) Absolute Return Target Index = 3-month Treasury Bill + 5% through 6/30/12; LIBOR + 5% through 6/30/16; and 16 2/3% HFRI Macro Index + 16 2/3% MSCI ACWI Index + 16 2/3% Bloomberg Barclays Multiverse Index + 50% HFRI Fund of Fund Index thereafter

(4) Real Return Target Index =60% Bloomberg Barclays US TIPS Index + 40% (CPI + 5%) through 6/30/12, CPI + 5% through 6/30/14, CPI + 3% through 6/30/16; and 10% NCREIF Farmland Index + 25% S&P GSCI Index + 15% NCREIF Timberland Index + 50% Cambridge Private Equity Energy Lagged thereafter

(5) Real Estate Target Index = 90% NCREIF Total Index + 10% FTSE EPRA/NAREIT Global Real Estate Index through 6/30/12 and 90% NCREF ODCE Index + 10% FTSE EPRA/NAREIT Developed Real Estate Ex-US Index thereafter

(6) Policy Benchmark = 13.0% Russell 1000 Index + 2% Russell 2000 Index + 7.0% MSCI EAFE Index + 5.0% MSCI World Index + 6.0% MSCI Emerging Markets Equity Index + 2% MSCI EAFE Small Cap Equity Index + 10.0% Bloomberg Barclays US Universal Index + 7.0% ML HY Constrained + 7.0% CS Leveraged Loan + 7% HFRI Fund of Fund Index + 2 1/3% HFRI Macro Index + 2 1/3% MSCI ACWI Index + 2 1/3% Bloomberg Barclays Multiverse Index + 4% Cambridge Private Equity Energy Lagged + 2% S&P GSCI Index + 1.2% NCREIF Timberland Index + 0.8% NCREIF Farmland Index + 9.0% NCREIF ODCE Index + 1.0% FTSE EPRA/NAREIT Developed Ex-US REITs Index + 6% Cambridge Private Equity Lagged + 1.95% JPMorgan GBI-EM Global Diversified Un-hedged + 1.05% JPMorgan EM Bond Index

Statement of Investment Objectives and Policies

General

The primary goal of the Orange County Employees Retirement System's investment program is to provide Plan participants with retirement benefits as required by the County Employees Retirement Law of 1937. This goal is accomplished through Plan Sponsors' and Plan participants' contributions and the implementation of a carefully planned and monitored long-term investment program. The Board of Retirement (with the participation of the Investment Committee, staff and advisors) has exclusive control of all investments of the Plan and is responsible for the establishment of investment objectives, strategies and policies.

The Board of Retirement is authorized to invest in any form or type of investment deemed prudent in the informed opinion of the Board. The Board has adopted an Investment Policy Statement that provides a frame work for the management of OCERS' investments. This purpose of the Investment Policy Statement is to assist the Investment Committee in effectively supervising, monitoring, and evaluating the investment of the system's assets.

Investment Objectives

The overall objective is to invest the assets of the system solely for the benefit of plan participants and beneficiaries while attempting to minimize employer contributions and investment and administration costs. The long-term performance objective for the portfolio is to exceed the actuarially assumed rate of return net of fees and expenses, with a secondary objective of exceeding the return on an appropriate designated balanced index mutual fund over a complete economic cycle and relevant longer periods, also net of fees and expenses.

Strategic Asset Allocation Policy and Maintenance

A pension fund's strategic asset allocation policy, implemented in a consistent and timely manner, is generally recognized to have the most impact on a fund's investment performance. The asset allocation policy determines a fund's optimal long-term asset class mix (target allocation). This policy is expected to achieve a specific set of investment goals, such as risk and return objectives. The policy also establishes ranges around the targeted levels which assets levels are permitted to fluctuate. Fluctuations outside the permitted range act as triggers for reallocating assets to ensure adherence to targeted weights.

Program Administration and Manager Structure

For each major asset class, the System shall diversify assets by employing managers with demonstrated skill in their particular areas of expertise. The System will retain managers who utilize varied investment approaches and allocate assets in a manner that is consistent with the overall strategic plan. For example, the sum of all domestic equity managers should exhibit characteristics that are similar, but not necessarily identical, to the overall equity market. When asset fluctuation causes the asset class to exhibit characteristics that are dissimilar from the plan, staff shall direct cash flows to or from the various managers so that actual characteristics are consistent with the plan.

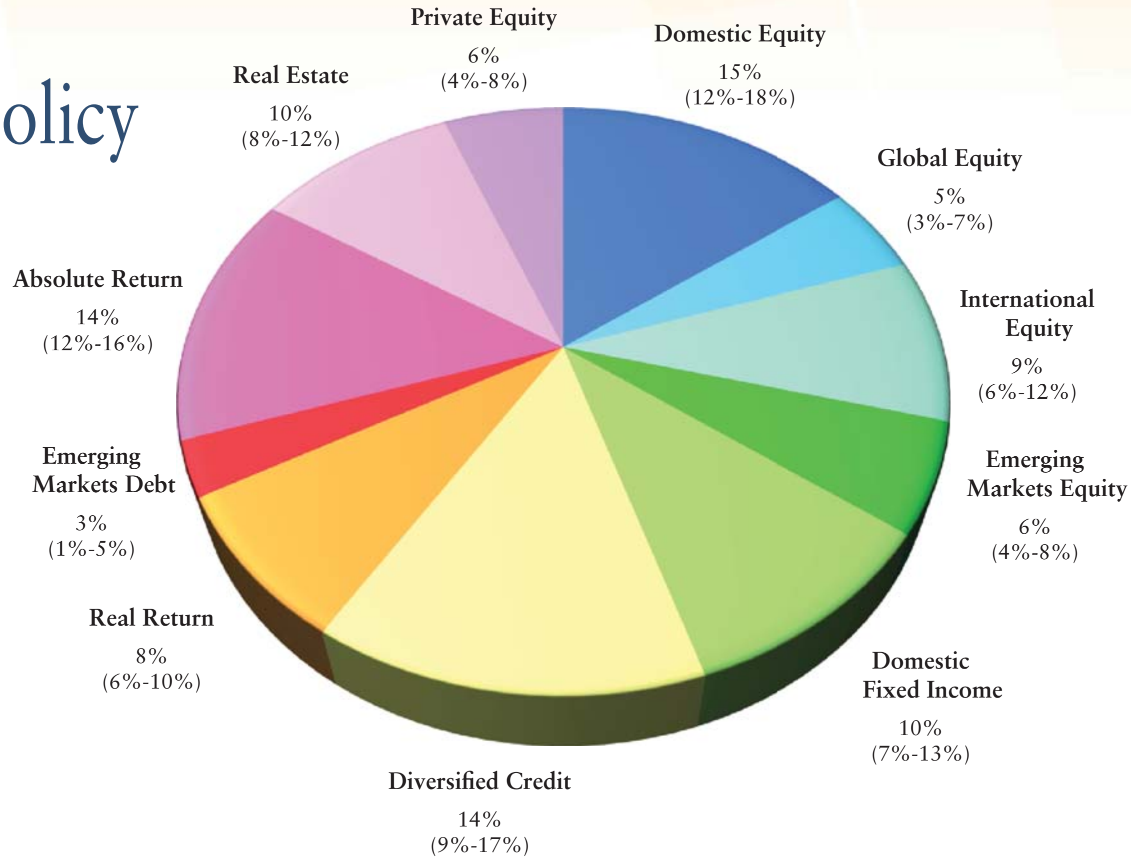
Use of Proxies

OCERS utilizes the services of Institutional Shareholder Services (ISS) to vote public equity proxies on OCERS' behalf. ISS is solely responsible for voting all proxies for securities, consistent with the ISS Benchmark Policy, as approved by the Board of Retirement. If the ISS Benchmark Policy does not contain recommended voting guidelines for the subject of the proxy vote, ISS will contact OCERS for guidance prior to casting the vote to ensure proxy votes are in accordance with OCERS' guidelines to protect and enhance returns on behalf of plan participants.

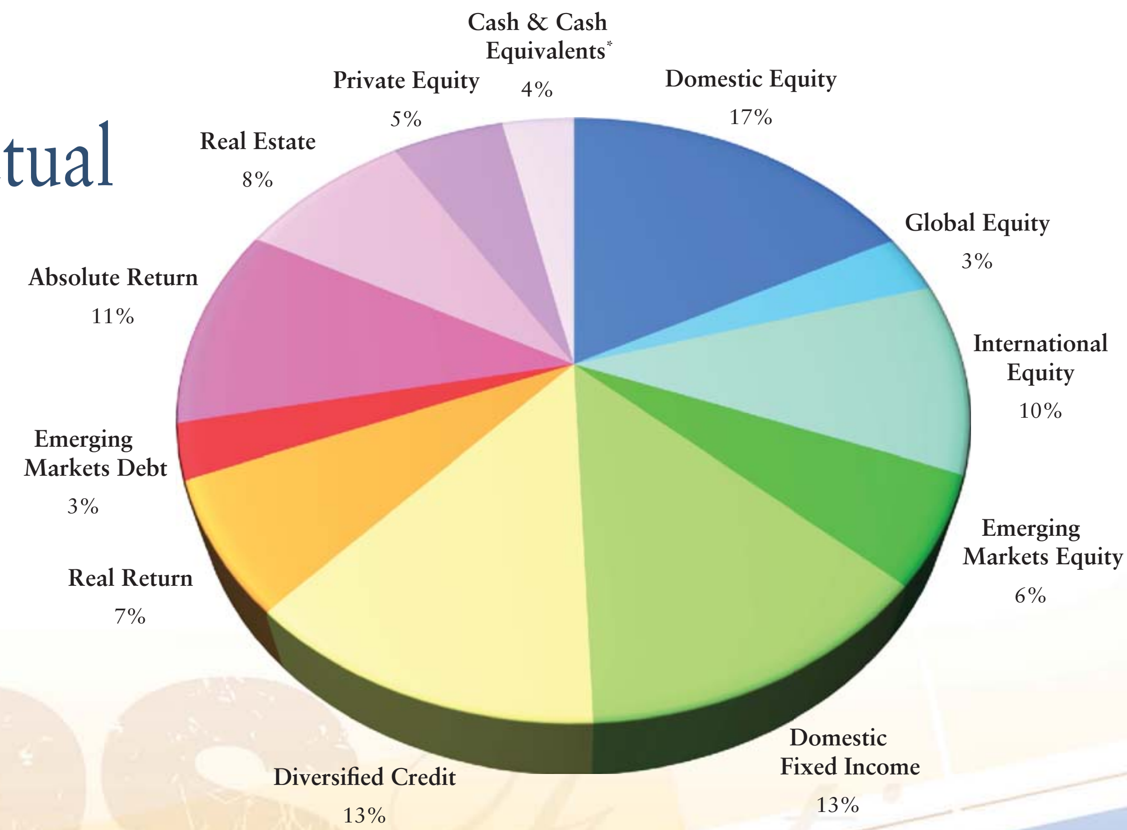
Asset Diversification

December 31, 2016

Policy



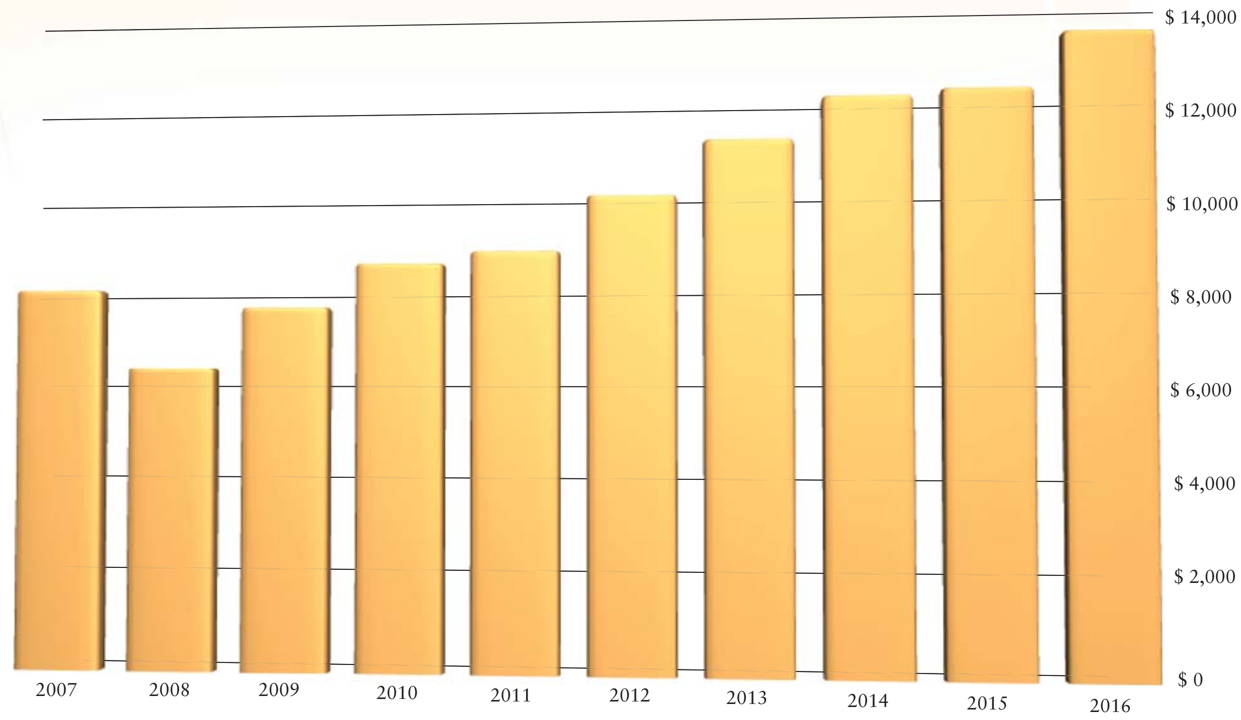
Actual



* Fund level cash is invested in an overlay strategy.

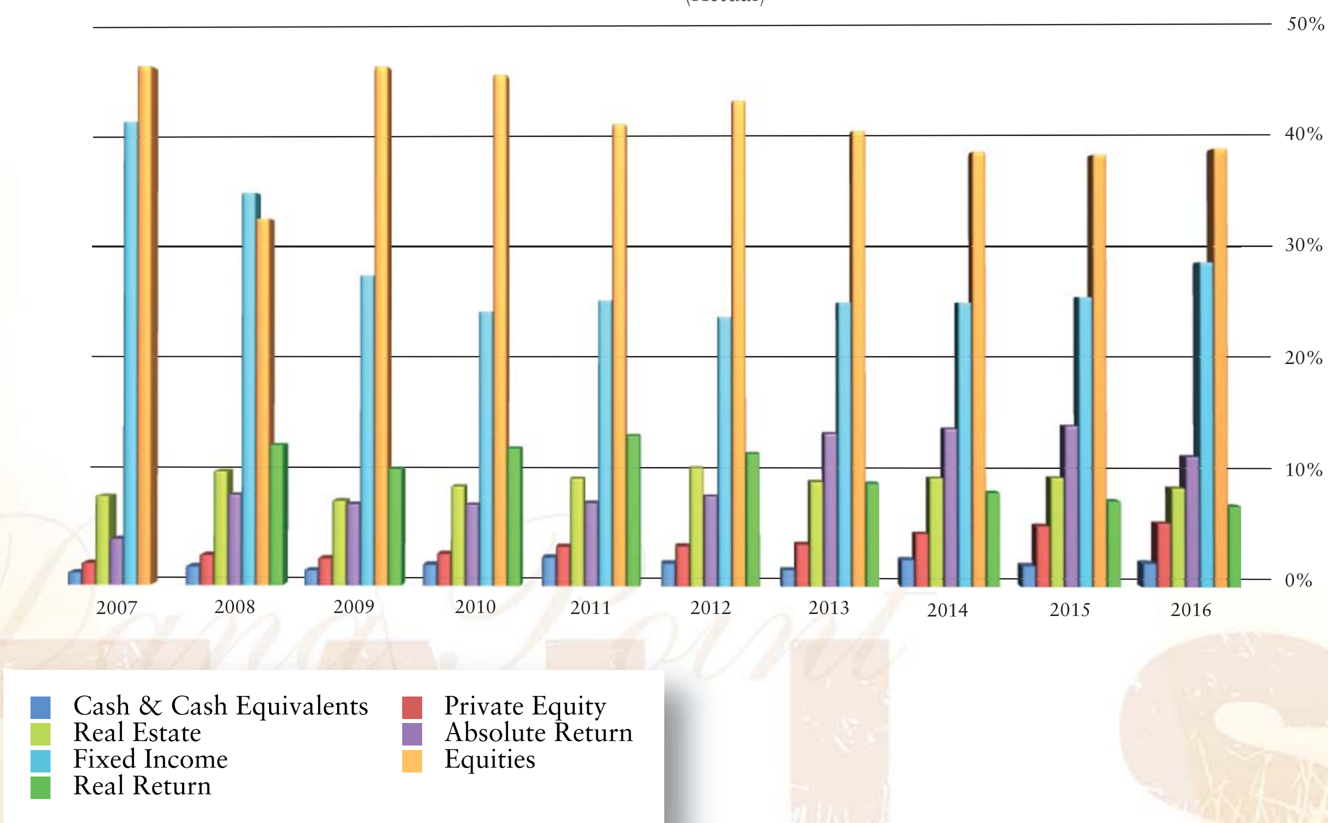
Growth of System Net Investments at Fair Value

for Ten Years Ended December 31, 2016
(in Millions of Dollars)



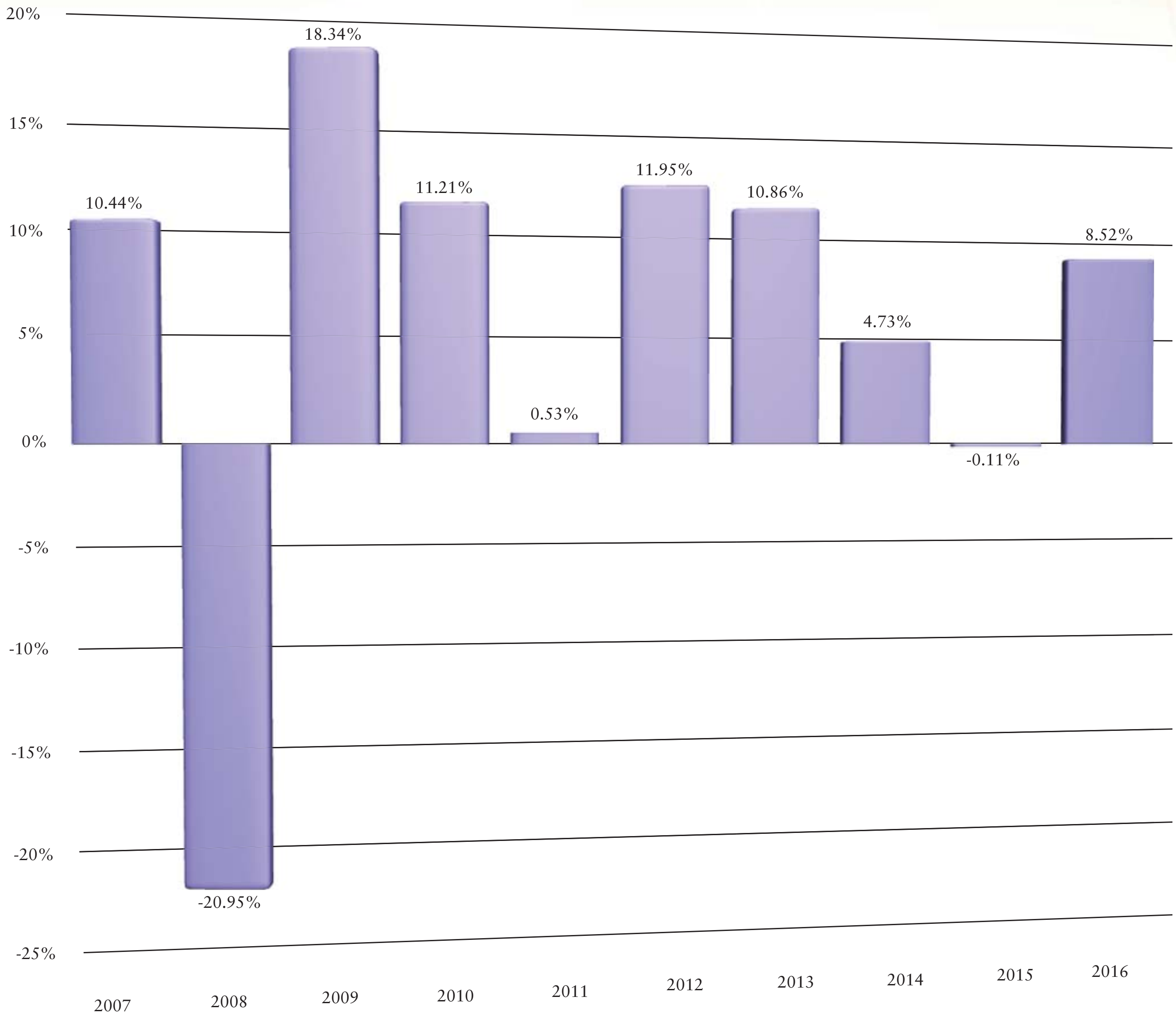
Historical Asset Allocation

December 2007 - December 2016
(Actual)



History of Performance

December 2007 - December 2016
(Actual)



All History of Performance rates of returns have been recalculated from the prior years reporting to report net of all fees. In prior years, the rates of returns in the above schedule included indirect or at source fees, but excluded other direct fees.

Schedule of Commissions

As of December 31, 2016
(Amounts in Thousands)

Broker Name	Number of Shares Traded	Commission per Share (in cents)	Total Commission
Bloomberg Tradebook, LLC	739	1.99	$ 15
Citigroup Global Markets, Inc.	4,528	0.68	31
Credit Lyonnais Securities (Asia)	606	0.15	1
Credit Suisse Securities	3,219	0.85	27
Deutsche Bank	6,994	0.29	20
Goldman Sachs	13,827	0.36	49
Hong Kong and Shanghai Banking Corp	1,284	0.52	7
Instinet	7,922	0.22	17
Investment Technology Group	2,468	0.81	20
J.P. Morgan Securities	2,086	0.95	20
Jefferies	1,047	1.15	12
Liquidnet	949	0.23	2
MacQuarie	1,822	0.35	6
Merrill Lynch & Company, Inc.	16,762	0.39	65
Morgan Stanley & Company, Inc.	10,966	0.31	34
National Financial Services Corp	831	1.77	15
Pershing	1,222	0.60	7
RBC	701	1.50	10
Sanford C. Bernstein And Co., LLC	4,409	0.52	23
Societe Generale	1,078	0.53	6
UBS	2,872	0.99	28
Other*	5,094	1.57	80
Total	**91,426**	**0.54**	**$ 495**

* Other includes 72 additional firms that comprise approximately 16% of total commissions and approximately 6% of the total number of shares traded. The average commission per share is 1.57 cents.

Commission Recapture Program

OCERS implemented a direct brokerage program where investment managers are encouraged to trade with specific brokerage firms for the purpose of reducing trading commissions. The brokerage firms utilized for these services are Abel Noser, Capital Institutional Services, Convergex Execution Solutions LLC, and State Street Bank.

Schedule of Investment Expenses and Investment Summary

For the Year Ended December 31, 2016
(Dollars in Thousands)

Type of Investment Expenses	Assets Under Management at Fair Value	Percentage	Fees
Investment Management Fees *			
Absolute Return	$ 1,440,588	11%	$ 13,126
Diversified Credit	1,681,327	13%	11,074
Real Estate	1,119,501	9%	10,885
Real Return	943,648	7%	7,269
Emerging Markets Equity	778,047	6%	5,451
International Equity Securities	1,356,869	11%	4,705
Private Equity	724,693	6%	3,935
Domestic Fixed Income	1,704,433	13%	3,817
Global Equity Securities	419,832	3%	1,046
Domestic Equity Securities	2,318,543	18%	829
Emerging Markets Debt	389,502	3%	660
Total Investment Management Fees	**$ 12,876,983**	**100%**	**62,797**
Foreign Income Tax/Other			**15,891**
Other Investment Expenses			
Consulting/Research Fees			1,517
Investment Department Expenses			1,465
Legal Services			493
Custodian Services			300
Investment Service Providers			30
Total Other Investment Expenses			**3,805**
Securities Lending Activity			
Securities Lending Fees			366
Rebate Fees			302
Total Securities Lending Activity			**668**
Total Investment Expenses			**$ 83,161**

* The table above does not include undisclosed fees deducted at source or the fair value of OPEB 115 Agency Funds held by OCERS in an investment capacity.

Schedule of Largest Equity Holdings

(by Fair Value) [1, 2]

As of December 31, 2016
(Amounts in Thousands)

Common Stock	Shares	Fair Value
Roche Holding AG	42	$ 9,548
BNP Paribas	138	8,836
Bayer AG	67	7,024
ASML Holding NV	60	6,805
Alphabet Inc. CL A	9	6,748
Royal Dutch Shell PLC	224	6,510
Nestle SA Reg	83	5,959
Keyence Corp.	8	5,412
Citigroup Inc.	91	5,404
Softbank Group Corp.	81	5,386

Schedule of Largest Fixed Income Holdings

(by Fair Value) [1]

As of December 31, 2016
(Amounts in Thousands)

Asset	CPN/ Maturity	Fair Value
BWU00D7M4 IRS USD R V 03MLIBOR	1.0% / 12-16-2017	$ 57,000
BWU00DB23 IRS USD R V 03MLIBOR	1.0% / 12-16-2020	54,700
SWU00D7N2 IRS USD R F 2.00000	2.0% / 12-16-2020	51,612
BWU00DRI1 IRS USD R V 03MLIBOR	1.0% / 09-28-2017	38,100
BWU00INA1 IRS USD R V 03MLIBOR	1.0% / 12-21-2026	23,790
BWU00CSO9 IRS USD R V 03MLIBOR	0.0% / 12-14-2017	22,900
FNMA TBA 30 YR 3.5	3.5% / 01-18-2047	21,011
FNMA TBA 30 YR 3.5	3.5% / 02-13-2047	20,672
FNMA TBA 30 YR 3	3.0% / 02-13-2047	20,235
BWU00IN86 IRS USD R V 03MLIBOR	1.0% / 12-21-2023	13,100

[1] A complete list of portfolio holdings is available for review at the OCERS' office.
[2] The holding schedules pertain to holdings of individual securities; they do not reflect OCERS' investments in commingled funds.

List of Investment Managers

As of December 31, 2016

Absolute Return

Alphadyne Asset Management
Archer Capital Management
Blue Mountain Capital Management
Bridgewater Associates, Inc.
Caspian Capital Advisors
D.E Shaw Group
Fore Research & Management
Gotham Asset Management
Grantham, Mayo, Van Otterloo & Co., LLC
Highfields Capital
Ionic Capital Management
Och-Ziff Capital Management Group
Perry Capital
Pharo Global Advisors
Pacific Investment Management Company
Standard Life Investments
Venor Capital Management

Cash Overlay

Parametric

Diversified Credit

Alcentra Ltd.
Beach Point Capital Management
BlackRock Institutional Trust Company
BlueBay Asset Management
Brigade Capital Management
Cross Ocean Partners
CQS Capital Management
Crescent Capital Group
Hayfin Capital Management
Monroe Capital
NXT Capital
OCP Asia
Park Square Capital
Pacific Investment Management Company
Tennenbaum Capital Partners, LLC
Tricadia Capital Management

Domestic Equity

BlackRock Institutional Trust Company
Eagle Asset Management

Domestic Fixed Income

BlackRock Institutional Trust Company
Dodge & Cox
Loomis, Sayles & Company
Pacific Investment Management Company

Emerging Markets Debt

OCP Asia
BlueBay Asset Management
Pictet Asset Management

Emerging Markets Equity

Acadian Asset Management
City of London Investment Management
William Blair & Co.

Global Equity

Franklin Templeton Investments
Grantham, Mayo, Van Otterloo & Co., LLC
J.P. Morgan Asset Management

International Equity

AQR Capital Management, LLC
BlackRock Institutional Trust Company
Capital Group
Fidelity Institutional Asset Management
Mondrian Investment Partners, Ltd.
Parametric

Private Equity

Abbott Capital
Adams Street Partners
HarbourVest Partners, LLC
Mesirow Financial Private Equity
Pantheon Ventures

Real Estate

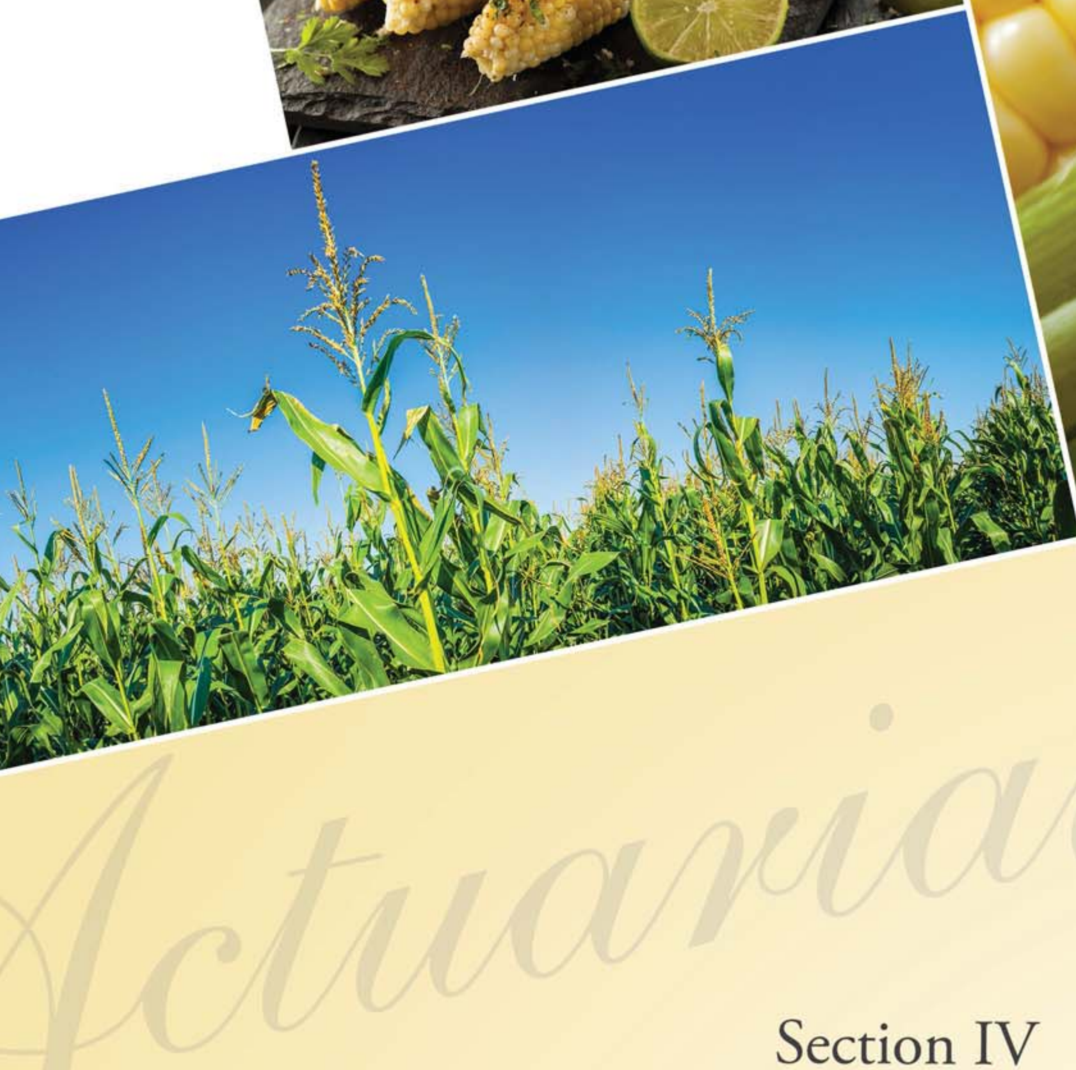
AEW Capital Management
Angelo Gordon & Co.
ASB Capital Management
CB Richard Ellis Investors
Fidelity Investments
J.P. Morgan Asset Management
Jamestown
Kayne Anderson Capital Advisors
Morgan Stanley
Oaktree Capital Management
True North Management Group
Waterton Associates
Westbrook Partners

Real Return

AQR Capital Management, LLC
BlackRock Institutional Trust Company
BTG Pactual
EIG Global Energy Partners
EnerVest, Ltd
Hancock Agricultural Investment Group
Hancock Timber Resource Group
Kayne Anderson Capital Advisors
Pacific Investment Management Company
UBS Farmland Investors LLC

La Habra CORN Festival

The Corn Festival has been a signature event in the city of La Habra for almost 70 years. The festival is held in August and is located at El Centro/Lions Park, the festival covers an entire weekend and includes a parade, numerous rides and attractions, food, game and craft booths, a market place, live music, and a car opportunity draw contest. Miss La Habra and her court preside over the festival too!



Section IV

Actuarial

Actuary's Certification Letter

Segal Consulting

100 Montgomery Street Suite 500 San Francisco, CA 94104-4308
T 415.263.8200 www.segalco.com

May 12, 2017

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701-3101

Re: Certification for Pension Plan

Dear Members of the Board:

Segal Consulting (Segal) prepared the December 31, 2015 annual actuarial valuation of the Orange County Employees Retirement System (OCERS). We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices and OCERS' funding policy that was last reviewed with the Board in 2013. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice (ASOPs). A discussion of the assumptions and methods used in the separate December 31, 2016 actuarial valuation for financial reporting purposes under Governmental Accounting Standards Board (GASB) Statement No. 67 is presented at the end of this letter.

DECEMBER 31, 2015 ACTUARIAL VALUATION FOR FUNDING PURPOSES

Actuarial valuations are performed on an annual basis with the last valuation completed as of December 31, 2015. The actuarial calculations presented in the valuation report have been made on a basis consistent with our understanding of the historical funding methods used in determination of the liability for statutory retirement benefits.

The December 31, 2015 actuarial valuation is based on the plan of benefits verified by OCERS and on participant and financial data provided by OCERS. Segal conducted an examination of all participant data for reasonableness and we concluded that it was reasonable and consistent with the prior year's data. Summaries of the employee data used in performing the actuarial valuations over the past several years are provided in our valuation report.

Actuary's Certification Letter

(Continued)

Board of Retirement
Orange County Employees Retirement System
May 12, 2017
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We did not audit the System's financial statements. For actuarial valuation purposes, Plan assets are valued at actuarial value. Under this method, the assets used to determine employer contribution rates take into account market value by recognizing the differences between the actual and expected return on market value over a five-year period. The development of the actuarial value as of December 31, 2015 is provided in the Development of Actuarial and Valuation Value of Assets.

One funding objective of the Plan is to establish rates, which, over time, will remain level as a percentage of payroll unless Plan benefit provisions are changed. Actuarial funding is based on the Entry Age Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize any unfunded actuarial accrued liability (UAAL). One of the funding objectives of the System is to reduce that UAAL to zero over a declining period. Effective December 31, 2013, the outstanding balance of the UAAL from the December 31, 2012 valuation was combined and reamortized over a declining 20-year period. Any changes in UAAL due to actuarial gains or losses or due to changes in assumptions or methods will be amortized over separate 20-year periods. Any changes in UAAL due to plan amendments will be amortized over separate 15-year periods and any change in UAAL due to early retirement incentive programs will be amortized over a separate period of up to 5 years. The progress being made toward the realization of the financing objectives through December 31, 2015 is illustrated in the History of Unfunded Actuarial Accrued Liability and the Schedule of Funding Progress.

Segal prepared all of the supporting schedules in the actuarial section of the System's Comprehensive Annual Financial Report (CAFR) based on the results of the December 31, 2015 actuarial valuation for funding purposes. A listing of the supporting schedules related to the statutory retirement plan benefits that Segal prepared for inclusion in the actuarial section of the System's CAFR is provided below. OCERS' staff prepared the remaining trend data schedules in the statistical section.

<u>Actuarial Section (Based on December 31, 2015 Funding Valuation)</u>

1. History of Unfunded Actuarial Accrued Liability
2. History of Employer Contribution Rates
3. Summary of Active Membership
4. Summary of Retired Membership
5. Development of Actuarial and Valuation Value of Assets
6. Short-Term Solvency Test

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Orange County Employees Retirement System
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Page 3

7. Actuarial Methods and Assumptions

8. Summary of Major Plan Provisions

9. Experience Analysis

10. Schedule of Funding Progress

The valuation assumptions used in this valuation were included in the Actuarial Section. The results of this valuation were prepared using the actuarial assumptions and methods developed in the triennial experience study and the economic assumptions study as of December 31, 2013. All of the assumptions recommended in those studies, including the alternative 3.00% inflation assumption discussed during subsequent presentations, were adopted by the Board. Actuarial valuations are performed on an annual basis and the experience analysis is performed every three years. The next experience analysis is due to be performed as of December 31, 2016 and any changes in assumptions that result will be reflected in the December 31, 2017 valuation.

In the December 31, 2015 valuation, the ratio of the valuation value of assets to actuarial accrued liabilities increased from 69.8% to 71.7%. The aggregate employer rate (average of the County and all special districts rates combined) has changed from 36.14% of payroll to 37.25% of payroll. The 36.14% rate was calculated after adjusting for the additional UAAL contributions made by O.C. Sanitation District (OCSD) during 2015 and the phase-in adjustment for Safety Rate Groups. The aggregate employee's rate has remained unchanged at 12.21% of payroll.

In the December 31, 2015 valuation, the actuarial value of assets excluded $680 million in unrecognized investment losses, which represented 5.9% of the market value of assets. If these deferred investment losses were recognized immediately in the actuarial value of assets, the funded percentage would decrease from 71.7% to 67.7% and the aggregate employer contribution rate, expressed as a percent of payroll would increase from 37.25% to about 40.2%. Both of the 37.25% and 40.2% rates are before reflecting the last one-third of the phase-in adjustment for Safety Rate Groups.

To the best of our knowledge, the December 31, 2015 funding valuation report is complete and accurate and in our opinion presents the Plan's current funding information.

DECEMBER 31, 2016 GASB STATEMENT 67 ACTUARIAL VALUATION FOR FINANCIAL REPORTING PURPOSES

Segal prepared the December 31, 2016 GASB Statement 67 actuarial valuation for financial reporting purposes. The valuation was performed in order to comply with GASB Statement 67 and we certify that the assumptions and methods used for financial reporting purposes meet the

Actuary's Certification Letter

(Continued)

Board of Retirement
Orange County Employees Retirement System
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parameters set by ASOPs and our understanding of generally accepted accounting principles (GAAP) applicable in the United States of America as promulgated by the GASB. The GASB rules only redefine pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes.

When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as OCERS uses for funding. The Net Pension Liabilities (NPLs) measured as of December 31, 2016 and 2015 have been determined by rolling forward the Total Pension Liabilities (TPLs) for the statutory Retirement Plan benefits as of December 31, 2015 and December 31, 2014, respectively.

Note number 9 to the Basic Financial Statements and the Required Supplementary Information included in the Financial Section of the CAFR were prepared by the System based on the results of the GASB Statement No. 67 actuarial valuation as of December 31, 2016 prepared by Segal.

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

Sincerely,

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

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

AW/bqb
Enclosures

History of Unfunded Actuarial Accrued Liability

(Dollars in Thousands)

Valuation Date	Actuarial Accrued Liability	Valuation Value of Assets	Unfunded Actuarial Accrued Liability	Ratio of Assets to Actuarial Accrued Liability	Annual Active Member Compensation	Ratio of Unfunded Actuarial Accrued Liability to Active Compensation
12/31/06	$ 8,765,045	$ 6,466,085	$ 2,298,960	73.77%	$ 1,322,952	173.78%
12/31/07	9,838,686 [(1)]	7,288,900	2,549,786 [(1)]	74.08% [(1)]	1,457,159	174.98% [(1)]
12/31/08	10,860,715	7,748,380	3,112,335	71.34%	1,569,764	198.27%
12/31/09	11,858,578	8,154,687	3,703,891	68.77%	1,618,491	228.85%
12/31/10	12,425,873	8,672,592	3,753,281	69.79%	1,579,239	237.66%
12/31/11	13,522,978	9,064,355	4,458,623	67.03%	1,619,474	275.31%
12/31/12	15,144,888	9,469,208	5,675,680	62.52%	1,609,600	352.55%
12/31/13	15,785,042	10,417,125	5,367,917	65.99%	1,604,496	334.55%
12/31/14	16,413,124	11,449,911	4,963,213	69.76%	1,648,160	301.14%
12/31/15	17,050,357	12,228,009	4,822,348	71.72%	1,633,112	295.29%

[1] Revised due to the Board's adoption of revised retirement rates for General plans with improved benefit formulas.

Notes:

- The 12/31/15 valuation included the following benefit change:

  City of San Juan Capistrano adopted an optional 1.62% of final average salary at age 65 for members hired on or after July 1, 2016.

- The 12/31/14 valuation included the following changes:

  Assumption Changes:
  Changes in inflation, mortality, disability, termination, retirement, salary scale, and additional cashout assumptions in the December 31, 2013 triennial experience study decreased the UAAL by $122 million.

  Method Change:
  The cashout assumptions are now used in developing basic member contribution rates for employees in the legacy plans (impact is only on Normal Cost).

- The 12/31/13 valuation included the following method change:

  The outstanding balance of the December 31, 2012 UAAL was combined and re-amortized over a 20-year period.

- The 12/31/12 valuation included the following changes:

  Assumption Changes:
  Changes in investment return, inflation, and across the board salary increase assumptions in the December 31, 2012 review of economic assumptions report increased the UAAL by $935 million.

  Benefit Changes:
  Members with membership date on or after January 1, 2013 will be placed in CalPEPRA tiers (1.62% of final average salary at age 65, 2.50% of final average salary at age 67 and 2.70% of final average salary at age 57).

History of Unfunded Actuarial Accrued Liability

(continued)

- The 12/31/11 valuation included the following changes:

  Assumption Changes:
  Changes in mortality, disability, termination, retirement, salary scale, and additional cashout assumptions in the December 31, 2010 triennial experience study increased the UAAL by $364 million.

  Benefit Changes:
  City of San Juan Capistrano adopted a 2.0% of final average salary at age 57 for members hired on or after July 1, 2012.

  Certain employees previously employed at the City of Santa Ana became employees of OCFA General and OCFA Safety eligible for benefits under 2.0% of final average salary at age 55 and 3.0% of final average salary at age 50, respectively.

- The 12/31/10 valuation included the following benefit changes:

  LAFCO adopted an optional 1.62% of final average salary at age 65 for members hired on or after July 1, 2010.

  County Managers unit adopted an optional 1.62% of final average salary at age 65 for members hired on or after August 17, 2010.

  Sanitation District adopted a 1.64% of final average salary at age 57 for members within Supervisors and Professional unit hired on or after October 1, 2010.

  OCFA adopted a 3.00% of final average salary at age 55 for Safety members within the Executive Management unit hired on or after July 1, 2011 and for all Safety members hired on or after July 1, 2012.

  OCFA adopted a 2.00% of final average salary at age 55 for General members hired on or after July 1, 2011.

- The 12/31/09 valuation included the following benefit changes:

  General County OCEA and Superior Court adopted an optional 1.62% of final average salary at age 65 for members hired on or after May 7, 2010.

  Law Enforcement adopted a 3.0% of final average salary at age 55 for members hired on or after April 9, 2010.

- The 12/31/08 valuation included the following assumption changes:

  Changes in service retirement rates for General members with improved benefit formulas increased the UAAL by $116 million.

- The 12/31/07 valuation included the following changes:

  Assumption Changes:
  Changes in mortality, disability, termination, retirement, salary scale, and annual payoff assumptions in the December 31, 2007 triennial experience study increased the UAAL by $237 million.

  Benefit Changes:
  There is a new Rate Group #11, for Cemetery District, that adopted a 2% of final average salary at age 55 for future service only effective December 7, 2007. Vector Control District terminated its participation at OCERS as of January 4, 2007.

- The 12/31/06 valuation included the following benefit changes:

  There is a new Rate Group #10, for General members of Orange County Fire Authority (OCFA) (previously with members in Rate Group #2). City of Rancho Santa Margarita (RSM), Rate Group #4, withdrew from OCERS effective November 26, 2006.

History of Unfunded Actuarial Accrued Liability

(continued)

- Each year's assets exclude an amount as shown in the following table of the County's unamortized 1994 funding of its portion of the Unfunded Actuarial Accrued Liability, which funding for 1995 was being amortized over a 14 year period beginning July 1, 1994 and for 1996 and later was being amortized over a 28-year period beginning July 1, 1996. Beginning July 1, 2003, the County can utilize this amount at its discretion to fund any portion of the employer contribution.
- Each year since December 31, 2006 the assets also exclude prepaid employer contributions.

	Amount Excluded from Assets	
Valuation Date	County Investment Account	Prepaid Employer Contributions
12/31/06	$ 168,224,000	$ 70,941,000
12/31/07	174,348,000	108,301,000
12/31/08	126,683,000	24,345,000
12/31/09	108,324,000	20,027,000
12/31/10	108,531,000	29,545,000
12/31/11	97,767,000	162,873,000
12/31/12	103,261,000	177,632,000
12/31/13	109,254,000	172,348,000
12/31/14	109,103,000	207,829,000
12/31/15	108,789,000	227,166,000

History of Employer Contribution Rates

Employer Contribution Rate (% of pay)

Valuation Date	General (Non-OCTA, Non-OCSD)	General (1.62% @ 65, Non-OCTA)	General (2.7% @ 55)	General (2.0% @ 57)	General (OCTA)	General (2.5% @ 55)	General (1.64% @ 57, OCSD)	General (2.0% @ 55, TCA)
12/31/06[1],[2]	NC 9.19% UAAL 5.31 Total 14.50%	N/A	NC 11.36% UAAL 10.84 Total 22.20%	N/A	NC 11.25% UAAL 4.77 Total 16.02%	NC 10.55% UAAL 10.79 Total 21.34%	N/A	NC 12.03% UAAL 6.01 Total 18.04%
12/31/07	NC 8.92% UAAL 5.25 Total 14.17%	N/A	NC 11.24% UAAL 10.59 Total 21.83%	N/A	NC 11.26% UAAL 3.76 Total 15.02%	NC 10.54% UAAL 11.41 Total 21.95%	N/A	NC 12.60% UAAL 6.13 Total 18.73%
12/31/08	NC 8.99% UAAL 7.06 Total 16.05%	N/A	NC 11.79% UAAL 13.00 Total 24.79%	N/A	NC 11.32% UAAL 5.94 Total 17.26%	NC 11.19% UAAL 13.01 Total 24.20%	N/A	NC 13.02% UAAL 5.72 Total 18.74%
12/31/09[3]	NC 8.69% UAAL 10.43 Total 19.12%	NC 3.69% UAAL 15.50 Total 19.19%	NC 11.61% UAAL 15.50 Total 27.11%	N/A	NC 11.11% UAAL 9.28 Total 20.39%	NC 10.93% UAAL 14.75 Total 25.68%	NC 10.14% UAAL 14.75 Total 24.89%	NC 12.59% UAAL 7.05 Total 19.64%
12/31/10[4]	NC 8.59% UAAL 8.26 Total 16.85%	NC 5.10% UAAL 16.84 Total 21.94%	NC 11.55% UAAL 16.84 Total 28.39%	N/A	NC 10.96% UAAL 10.00 Total 20.96%	NC 10.92% UAAL 16.55 Total 27.47%	NC 10.14% UAAL 16.55 Total 26.69%	NC 12.56% UAAL 8.41 Total 20.97%
12/31/11	NC 8.55% UAAL 10.39 Total 18.94%	NC 4.91% UAAL 20.98 Total 25.89%	NC 12.03% UAAL 20.98 Total 33.01%	NC 10.99% UAAL 20.98 Total 31.97%	NC 10.57% UAAL 13.08 Total 23.65%	NC 11.29% UAAL 20.66 Total 31.95%	NC 10.11% UAAL 20.66 Total 30.77%	NC 13.11% UAAL 9.11 Total 22.22%
12/31/12	NC 9.68% UAAL 12.91 Total 22.59%	NC 5.56% UAAL 25.85 Total 31.41%	NC 13.69% UAAL 25.85 Total 39.54%	NC 12.10% UAAL 25.85 Total 37.95%	NC 11.83% UAAL 16.48 Total 28.31%	NC 12.88% UAAL 25.60 Total 38.48%	NC 11.02% UAAL 25.60 Total 36.62%	NC 14.20% UAAL 12.97 Total 27.17%
With 2-Year Phase-In	21.04%	29.84%	37.45%	35.96%	26.62%	36.57%	34.87%	25.71%
12/31/13[5]	NC 9.82% UAAL 11.34 Total 21.16%	NC 5.61% UAAL 23.72 Total 29.33%	NC 13.66% UAAL 23.72 Total 37.38%	NC 12.46% UAAL 23.72 Total 36.18%	NC 11.81% UAAL 15.22 Total 27.03%	NC 12.89% UAAL[6] 21.87 Total 34.76%	NC 10.53% UAAL[6] 21.87 Total 32.40%	NC 14.13% UAAL 12.28 Total 26.41%
12/31/14	NC 9.67% UAAL[7] 8.62 Total 18.29%	NC 5.49% UAAL 21.72 Total 27.21%	NC 13.22% UAAL 21.72 Total 34.94%	NC 10.54% UAAL 21.72 Total 32.26%	NC 10.78% UAAL 14.40 Total 25.18%	NC 12.40% UAAL[8] 6.26 Total 18.66%	NC 10.30% UAAL[8] 6.26 Total 16.56%	NC 13.59% UAAL 12.78 Total 26.37%
With 3-Year Phase-In	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/15	NC 9.58% UAAL[9] 9.22 Total 18.80%	NC 5.46% UAAL 22.45 Total 27.91%	NC 13.19% UAAL 22.45 Total 35.64%	NC 11.40% UAAL 22.45 Total 33.85%	NC 10.70% UAAL 15.52 Total 26.22%	NC 12.33% UAAL[10] 1.42 Total 13.75%	NC 10.30% UAAL[10] 1.42 Total 11.72%	NC 13.44% UAAL 13.79 Total 27.23%
With 3-Year Phase-In	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

History of Employer Contribution Rates

(continued)

Employer Contribution Rate (% of pay)

Valuation Date	General (2.0% @ 55, Cemetery, future service)	General (2.7% @ 55, OCFA)	General (2.0% @ 55, OCFA)	Safety Law Enforcement (3% @ 50)	Safety Law Enforcement (3% @ 55)	Safety Fire Authority (3% @ 50)	Safety Fire Authority (3% @ 55)	Safety Probation
12/31/06[(1),(2)]	NC 10.31% UAAL 5.00 **Total 15.31%**	NC 11.43% UAAL 12.81 **Total 24.24%**	N/A	NC 20.19% UAAL 15.86 **Total 36.05%**	N/A	NC 19.93% UAAL 13.50 **Total 33.43%**	N/A	NC 20.61% UAAL 11.64 **Total 32.25%**
12/31/07	NC 10.79% UAAL 4.36 **Total 15.15%**	NC 11.48% UAAL 11.53 **Total 23.01%**	N/A	NC 21.27% UAAL 18.25 **Total 39.52%**	N/A	NC 21.02% UAAL 17.22 **Total 38.24%**	N/A	NC 20.49% UAAL 10.90 **Total 31.39%**
12/31/08	NC 10.85% UAAL 7.05 **Total 17.90%**	NC 12.03% UAAL 12.59 **Total 24.62%**	N/A	NC 21.39% UAAL 21.95 **Total 43.34%**	N/A	NC 21.16% UAAL 21.94 **Total 43.10%**	N/A	NC 20.15% UAAL 12.03 **Total 32.18%**
12/31/09[(3)]	NC 11.24% UAAL 6.92 **Total 18.16%**	NC 11.98% UAAL 14.55 **Total 26.53%**	NC 11.11% UAAL 14.55 **Total 25.66%**	NC 21.13% UAAL 25.26 **Total 46.39%**	NC 20.38% UAAL 25.26 **Total 45.64%**	NC 21.31% UAAL 27.22 **Total 48.53%**	NC 18.30% UAAL 27.22 **Total 45.52%**	NC 20.17% UAAL 13.90 **Total 34.07%**
12/31/10[(4)]	NC 10.90% UAAL 6.86 **Total 17.76%**	NC 11.85% UAAL 16.14 **Total 27.99%**	NC 11.11% UAAL 16.14 **Total 27.25%**	NC 21.05% UAAL 26.40 **Total 47.45%**	NC 20.38% UAAL 26.40 **Total 46.78%**	NC 21.54% UAAL 23.92 **Total 45.46%**	NC 18.30% UAAL 23.92 **Total 42.22%**	NC 20.07% UAAL 16.22 **Total 36.29%**
12/31/11	NC 10.80% UAAL 8.23 **Total 19.03%**	NC 12.18% UAAL 20.43 **Total 32.61%**	NC 14.35% UAAL 20.43 **Total 34.78%**	NC 21.48% UAAL 29.38 **Total 50.86%**	NC 21.47% UAAL 29.38 **Total 50.85%**	NC 23.49% UAAL 19.66 **Total 43.15%**	NC 18.58% UAAL 19.66 **Total 38.24%**	NC 19.31% UAAL 17.26 **Total 36.57%**
12/31/12	NC 12.34% UAAL 12.28 **Total 24.62%**	NC 13.92% UAAL 24.76 **Total 38.68%**	NC 14.01% UAAL 24.76 **Total 38.77%**	NC 24.24% UAAL 36.71 **Total 60.95%**	NC 24.20% UAAL 36.71 **Total 60.91%**	NC 26.16% UAAL 26.84 **Total 53.00%**	NC 21.12% UAAL 26.84 **Total 47.96%**	NC 21.26% UAAL 21.91 **Total 43.17%**
With 2-Year Phase-In	**22.99%**	**36.70%**	**36.99%**	**57.27%**	**57.37%**	**49.83%**	**44.85%**	**40.52%**
12/31/13[(5)]	NC 12.33% UAAL[(7)] 9.87 **Total 22.20%**	NC 14.06% UAAL 23.34 **Total 37.40%**	NC 14.15% UAAL 23.34 **Total 37.49%**	NC 24.23% UAAL 32.47 **Total 56.70%**	NC 22.58% UAAL 32.47 **Total 55.05%**	NC 25.86% UAAL 24.14 **Total 50.00%**	NC 21.70% UAAL 24.14 **Total 45.84%**	NC 21.00% UAAL 19.72 **Total 40.72%**
12/31/14	NC 11.79% UAAL 0.00 **Total 11.79%**	NC 13.53% UAAL 20.28 **Total 33.81%**	NC 12.47% UAAL 20.28 **Total 32.75%**	NC 25.79% UAAL 37.46 **Total 63.25%**	NC 23.55% UAAL 37.46 **Total 61.01%**	NC 27.05% UAAL 24.42 **Total 51.47%**	NC 22.38% UAAL 24.42 **Total 46.80%**	NC 22.17% UAAL 25.01 **Total 47.18%**
With 3-Year Phase-In	**N/A**	**N/A**	**N/A**	**58.92%**	**56.88%**	**48.60%**	**43.93%**	**42.84%**
12/31/15	NC 11.33% UAAL 0.00 **Total 11.33%**	NC 13.44% UAAL 20.53 **Total 33.97%**	NC 12.72% UAAL 20.53 **Total 33.25%**	NC 25.56% UAAL 39.16 **Total 64.72%**	NC 23.24% UAAL 39.16 **Total 62.40%**	NC 26.87% UAAL 23.81 **Total 50.68%**	NC 22.10% UAAL 23.81 **Total 45.91%**	NC 21.92% UAAL 25.32 **Total 47.24%**
With 3-Year Phase-In	**N/A**	**N/A**	**N/A**	**62.55%**	**60.34%**	**49.24%**	**44.47%**	**45.07%**

History of Employer Contribution Rates

(continued)

Employer Contribution Rate (% of pay)

Valuation Date	CalPEPRA Rate Group #1 2.5% @ 67	CalPEPRA Rate Group #2 1.62% @ 65 (Plan T)	CalPEPRA Rate Group #2 2.5% @ 67	CalPEPRA Rate Group #2 1.62% @ 67 (Plan W)	CalPEPRA Rate Group #3 2.5% @ 67	CalPEPRA Rate Group #5 2.5% @ 67	CalPEPRA Rate Group #9 2.5% @ 67	CalPEPRA Rate Group #10 2.5% @ 67
12/31/10	NC 7.24% UAAL 8.26 Total 15.50%	NC 5.78% UAAL 16.84 Total 22.62%	NC 7.64% UAAL 16.84 Total 24.48%		NC 8.34% UAAL 16.55 Total 24.89%		NC 9.78% UAAL 8.41 Total 18.19%	NC 7.36% UAAL 16.14 Total 23.50%
12/31/11	NC 8.06% UAAL 10.39 Total 18.45%	NC 6.20% UAAL 20.98 Total 27.18%	NC 8.26% UAAL 20.98 Total 29.24%		NC 8.70% UAAL 20.66 Total 29.36%		NC 10.36% UAAL 9.11 Total 19.47%	NC 7.84% UAAL 20.43 Total 28.27%
12/31/12	NC 8.68% UAAL 12.91 Total 21.59%	NC 6.78% UAAL 25.85 Total 32.63%	NC 7.44% UAAL 25.85 Total 33.29%		NC 9.38% UAAL 25.60 Total 34.98%		NC 10.97% UAAL 12.97 Total 23.94%	NC 8.50% UAAL 24.76 Total 33.26%
With 2-Year Phase-In	20.33%	31.10%	32.05%		33.52%		22.87%	31.81%
12/31/13[5]	NC 9.39% UAAL 11.34 Total 20.73%	NC 6.70% UAAL 23.72 Total 30.42%	NC 8.56% UAAL 23.72 Total 32.28%		NC 9.66% UAAL[6] 21.87 Total 31.53%		NC 11.40% UAAL 12.28 Total 23.68%	NC 9.71% UAAL 23.34 Total 33.05%
12/31/14	NC 8.87% UAAL[7] 8.62 Total 17.49%	NC 6.61% UAAL 21.72 Total 28.33%	NC 8.33% UAAL 21.72 Total 30.05%		NC 9.00% UAAL[8] 6.26 Total 15.26%	NC 10.04% UAAL 14.40 Total 24.44%	NC 9.85% UAAL 12.78 Total 22.63%	NC 9.63% UAAL 20.28 Total 29.91%
With 3-Year Phase-In	N/A	N/A	N/A		N/A	N/A	N/A	N/A
12/31/15	NC 8.92% UAAL[9] 9.22 Total 18.14%	NC 6.56% UAAL 22.45 Total 29.01%	NC 8.35% UAAL 22.45 Total 30.80%	NC 6.68% UAAL 22.45 Total 29.13%	NC 9.25% UAAL[10] 1.42 Total 10.67%	NC 10.12% UAAL 15.52 Total 25.64%	NC 10.57% UAAL 13.79 Total 24.36%	NC 8.81% UAAL 20.53 Total 29.34%
With 3-Year Phase-In	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

History of Employer Contribution Rates

(continued)

Employer Contribution Rate (% of pay)

Valuation Date	CalPEPRA Rate Group #11 2.5% @ 67	CalPEPRA Rate Group #6 2.7% @ 57	CalPEPRA Rate Group #7 2.7% @ 57	CalPEPRA Rate Group #8 2.7% @ 57
12/31/10	NC 7.31% UAAL 6.86 Total 14.17%	NC 11.37% UAAL 16.22 Total 27.59%	NC 15.03% UAAL 26.40 Total 41.43%	NC 14.53% UAAL 23.92 Total 38.45%
12/31/11	NC 7.95% UAAL 8.23 Total 16.18%	NC 12.23% UAAL 17.26 Total 29.49%	NC 15.55% UAAL 29.38 Total 44.93%	NC 15.23% UAAL 19.66 Total 34.89%
12/31/12	NC 8.66% UAAL 12.28 Total 20.94%	NC 13.91% UAAL 21.91 Total 35.82%	NC 17.05% UAAL 36.71 Total 53.76%	NC 16.41% UAAL 26.84 Total 43.25%
With 2-Year Phase-In	19.63%	33.40%	50.61%	40.96%
12/31/13[5]	NC 8.66% UAAL[6] 9.87 Total 18.53%	NC 13.95% UAAL 19.72 Total 33.67%	NC 19.17% UAAL 32.47 Total 51.64%	NC 16.85% UAAL 24.14 Total 40.99%
12/31/14	NC 11.81% UAAL 0.00 Total 11.81%	NC 15.25% UAAL 25.01 Total 40.26%	NC 20.10% UAAL 37.46 Total 57.56%	NC 15.71% UAAL 24.42 Total 40.13%
With 3-Year Phase-In	N/A	36.02%	54.01%	38.08%
12/31/15	NC 12.23% UAAL 0.00 Total 12.23%	NC 15.00% UAAL 25.32 Total 40.32%	NC 20.04% UAAL 39.16 Total 59.20%	NC 15.30% UAAL 23.81 Total 39.11%
With 3-Year Phase-In	N/A	38.20%	57.42%	38.09%

[1] Excludes contributions to RMBR/ABRA, if applicable.
[2] Starting 12/31/2006, General (2.7% @ 55) excludes OCFA.
[3] The UAAL established as a result of including additional premium pay items is amortized over a 25-year period.
[4] The UAAL established as a result of reallocating contributions and benefit payments among Rate Groups is amortized over a 24-year period.
[5] The outstanding balance of the December 31, 2012 UAAL has been combined and re-amortized over a period of 20 years.
[6] This rate has not been adjusted to reflect additional UAAL contributions paid subsequent to the December 31, 2013 valuation.
[7] The net UAAL contribution rates for County and O.C. IHSS Public Authority (i.e., excluding U.C.I and Department of Education) to about 5.67% as of December 31, 2014.
[8] This is the UAAL rate for O.C. Sanitation District for FY 16-17 before reflecting the additional UAAL contributions made during calendar year 2015. The UAAL rate for Law Library is 20.21% before reflecting a credit for Law Library's future service only benefit improvement.
[9] The net UAAL contribution rates for County and O.C. IHSS Public Authority (i.e., excluding U.C.I and Department of Education) to about 5.57% as of December 31, 2015.
[10] This is the UAAL rate for O.C. Sanitation District for FY 17-18 before reflecting the additional UAAL contributions made during calendar year 2016. The UAAL rate for Law Library is 22.08% before reflecting the additional UAAL contributions made during calendar year 2016 and a credit for Law Library's future service only benefit improvement.

Summary of Active Membership

Valuation Date	Number	Annual Salary	Annual Average Salary	Increase in Average Salary (%)
12/31/06				
General	19,129	$ 1,049,095,000	$ 54,843	2.05
Safety	3,662	273,857,000	74,783	2.82
Total	**22,791**	**$ 1,322,952,000**	**$ 58,047**	**2.15**
12/31/07				
General	19,803	$ 1,156,684,000	$ 58,410	6.50
Safety	3,815	300,475,000	78,761	5.32
Total	**23,618**	**$ 1,457,159,000**	**$ 61,697**	**6.29**
12/31/08				
General	19,795	$ 1,238,077,000	$ 62,545	7.08
Safety	3,925	331,687,000	84,506	7.29
Total	**23,720**	**$ 1,569,764,000**	**$ 66,179**	**7.26**
12/31/09				
General	18,873	$ 1,258,558,000	$ 66,686	6.62
Safety	3,760	359,933,000	95,727	13.28
Total	**22,633**	**$ 1,618,491,000**	**$ 71,510**	**8.06**
12/31/10				
General	18,155	$ 1,232,657,000	$ 67,896	1.81
Safety	3,587	346,582,000	96,622	0.93
Total	**21,742**	**$ 1,579,239,000**	**$ 72,635**	**1.57**
12/31/11				
General	17,717	$ 1,249,064,000	$ 70,501	3.84
Safety	3,704	370,410,000	100,003	3.50
Total	**21,421**	**$ 1,619,474,000**	**$ 75,602**	**4.08**
12/31/12				
General	17,529	$ 1,238,958,000	$ 70,680	0.25
Safety	3,727	370,643,000	99,448	-0.55
Total	**21,256**	**$ 1,609,601,000**	**$ 75,725**	**0.16**
12/31/13				
General	17,547	$ 1,227,153,000	$ 69,935	-1.05
Safety	3,821	377,343,000	98,755	-0.70
Total	**21,368**	**$ 1,604,496,000**	**$ 75,089**	**-0.84**
12/31/14				
General	17,705	$ 1,267,582,000	$ 71,595	2.37
Safety	3,754	380,578,000	101,379	2.66
Total	**21,459**	**$ 1,648,160,000**	**$ 76,805**	**2.29**
12/31/15				
General	17,839	$ 1,254,521,000	$ 70,325	-1.77
Safety	3,686	378,590,000	102,710	1.31
Total	**21,525**	**$ 1,633,111,000**	**$ 75,870**	**-1.22**

Excludes Deferred and Pending members.

Summary of Retired Membership

Plan Year Ending	At Beginning of Year	Added to Rolls		Removed from Rolls		At End of Year	Annual Allowance (in 000's)	% Increase in Annual Allowance	Average Monthly Allowance
		Number	Annual Allowance (in 000's)*	Number	Annual Allowance (in 000's)				
2006	10,218	965	$ 46,950	(268)	$ (5,580)	10,915	$ 326,819	14.49	$ 2,495
2007	10,915	817	41,552	(311)	(6,596)	11,421	361,775	10.70	2,640
2008	11,421	658	38,298	(301)	(6,426)	11,778	393,647	8.81	2,785
2009	11,778	744	32,435	(279)	(6,829)	12,243	419,253	6.50	2,854
2010	12,243	851	46,736	(332)	(8,334)	12,762	457,655	9.16	2,988
2011	12,762	888	45,913	(361)	(9,371)	13,289	494,197	7.98	3,099
2012	13,289	1,026	58,344	(368)	(9,036)	13,947	543,505	9.98	3,247
2013	13,947	911	52,319	(353)	(9,958)	14,505	585,866	7.79	3,366
2014	14,505	995	52,838	(331)	(9,812)	15,169	628,892	7.34	3,455
2015	15,169	1,053	58,679	(412)	(12,077)	15,810	675,494	7.41	3,560

* Includes COLA granted during the plan year.

Note: Annual allowances exclude RMBR and STAR COLA.

Development of Actuarial and Valuation Value of Assets

As of December 31, 2015

Plan Year Ending	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain/ (Loss)	Deferred Factor	Deferred Return
2012	$ 1,014,471,000	$ 659,447,000	$ 355,024,000	0.2	$ 71,005,000
2013	1,031,118,000	696,553,000	334,565,000	0.4	133,826,000
2014	487,104,000	780,627,000	(293,523,000)	0.6	(176,114,000)
2015	(51,601,000)	833,757,000	(885,358,000)	0.8	(708,286,000)

(1)	Total Deferred Return	$ (679,569,000)	
(2)	Net Market Value of Assets (Excludes $108,789,000 in County Investment Account and $227,166,000 in Prepaid Employer Contributions)	$ 11,548,529,000	*
(3)	Actuarial Value of Assets (2) – (1)	$ 12,228,098,000	**
(4)	Non-valuation Reserves		
	(a) Unclaimed member deposit	$ -	
	(b) Medicare medical insurance reserve	89,000	
	(c) Subtotal	$ 89,000	
(5)	Valuation Value of Assets (3) – (4)(c)	$ 12,228,009,000	
(6)	Deferred Return Recognized in Each of the Next 4 Years		
	(a) Amount recognized on 12/31/2016	$ (97,858,000)	
	(b) Amount recognized on 12/31/2017	(168,863,000)	
	(c) Amount recognized on 12/31/2018	(235,776,000)	
	(d) Amount recognized on 12/31/2019	(177,072,000)	
	(e) Subtotal (may not total exactly due to rounding)	$ (679,569,000)	

* Based on the preliminary unaudited financial statement provided by OCERS for the December 31, 2015 valuation.

** Ratio of Actuarial Value of Assets to Net Market Value of Assets is 105.9% ((3) / (2)).

Short-Term Solvency Test

(Dollars in Thousands)

Valuation Date	(1) Active Member Contributions	(2) Liability for Inactive Participants	(3) Liability for Active Members (Employer Financed Portion)	Valuation Value of Assets	Portion of Accrued Liability Covered by Valuation Assets (%)		
					(1)	(2)	(3)
12/31/06	$ 1,087,804	$ 4,274,829	$ 3,402,412	$ 6,466,085	100	100	32.43
12/31/07	1,215,825	4,803,585	3,819,276[1]	7,288,900	100	100	33.24[1]
12/31/08	1,376,514	5,211,893	4,272,308	7,748,380	100	100	27.15
12/31/09	1,536,849	5,680,031	4,641,698	8,154,687	100	100	20.20
12/31/10	1,680,401	6,107,350	4,638,122	8,672,592	100	100	19.08
12/31/11	1,829,406	6,881,152	4,812,420	9,064,355	100	100	7.35
12/31/12	1,967,117	7,919,478	5,258,293	9,469,208	100	94.73	0.00
12/31/13	2,126,182	8,502,269	5,156,591	10,417,125	100	97.51	0.00
12/31/14	2,298,744	9,017,874	5,096,506	11,449,911	100	100	2.62
12/31/15	2,488,757	9,696,776	4,864,824	12,228,009	100	100	0.87

(1) Revised due to the Board's adoption of revised retirement rates for General plans with improved benefit formulas.

Actuarial Methods and Assumptions

Section 1 - Post – Retirement Mortality Rates:

Healthy: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years.

Disabled: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set forward six years for males and set forward three years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020.

The mortality tables shown above were determined to contain sufficient provision to reflect future mortality improvement, based on a review of the mortality experience in the January 1, 2011 through December 31, 2013 Actuarial Experience Study.

Beneficiaries: Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who is receiving a service (non-disability) retirement.

Employee Contribution Rates: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 40% male and 60% female.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years weighted 80% male and 20% female.

Section 2 - Termination Rates Before Retirement:

Mortality Rate Percentages				
	General		Safety	
Age	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.07	0.04	0.06	0.04
40	0.10	0.07	0.09	0.06
45	0.14	0.11	0.12	0.09
50	0.20	0.16	0.18	0.14
55	0.34	0.25	0.27	0.21
60	0.59	0.41	0.48	0.33
65	1.00	0.76	0.82	0.60

All General pre-retirement deaths are assumed to be non-service connected. For Safety, 90% of pre-retirement deaths are assumed to be non-service connected. The other 10% are assumed to be service connected.

Actuarial Methods and Assumptions

(continued)

Section 2 - Termination Rates Before Retirement (Continued):

Disability Incidence Rates

Disability Incidence Rate Percentages				
	General		Safety	
Age	All Other[1]	OCTA[2]	Law & Fire[3]	Probation[3]
20	0.00	0.00	0.00	0.00
25	0.00	0.00	0.01	0.03
30	0.01	0.03	0.04	0.08
35	0.03	0.20	0.14	0.10
40	0.08	0.36	0.26	0.10
45	0.11	0.43	0.42	0.16
50	0.14	0.48	0.92	0.20
55	0.18	0.74	1.98	0.23
60	0.29	1.41	5.20	0.10

(1) 55% of General All Other disabilities are assumed to be service connected disabilities. The other 45% are assumed to be non-service connected.
(2) 65% of General - OCTA disabilities are assumed to be service connected disabilities. The other 35% are assumed to be non-service connected.
(3) 100% of Safety – Law Enforcement, Fire and Probation disabilities are assumed to be service connected disabilities.

Section 2 - Termination Rates Before Retirement (Continued):

Termination Rates

Termination Rate Percentages				
	General		Safety	
Years of Service	All Other(1)	OCTA(2)	Law & Fire(3)	Probation(4)
0	11.00	17.50	4.00	16.00
1	8.00	13.50	3.00	13.00
2	7.00	10.50	2.00	10.00
3	5.00	10.00	1.00	6.00
4	4.00	9.00	1.00	4.00
5	3.75	7.00	1.00	3.50
6	3.50	5.00	0.95	3.00
7	3.00	5.00	0.90	2.50
8	2.75	4.00	0.85	2.25
9	2.50	3.50	0.80	2.00
10	2.25	3.50	0.75	1.75
11	2.00	3.50	0.65	1.75
12	2.00	3.00	0.60	1.50
13	1.75	3.00	0.50	1.25
14	1.75	3.00	0.50	1.00
15	1.75	3.00	0.50	1.00
16	1.50	3.00	0.50	1.00
17	1.50	2.75	0.50	0.50
18	1.50	2.75	0.50	0.50
19	1.50	2.75	0.50	0.50
20+	1.25	1.75	0.25	0.50

(1) 40% of all terminated members with less than 5 years of service and 25% of all terminated members with 5 or more years of service will choose a refund of contributions.

(2) 45% of all terminated members with less than 5 years of service and 35% of all terminated members with 5 or more years of service will choose a refund of contributions.

(3) 20% of all terminated members with less than 5 years of service and 20% of all terminated members with 5 or more years of service will choose a refund of contributions.

(4) 40% of all terminated members with less than 5 years of service and 30% of all terminated members with 5 or more years of service will choose a refund of contributions.

Actuarial Methods and Assumptions

(continued)

Retirement Rates

Age	General: Enhanced	General: Non-Enhanced[1]	General: SJC	Safety: Law (3% @ 50)[2]	Safety: Law (3% @ 55)[2]	Safety: Fire (3% @ 50)[2]	Safety: Fire (3% @ 55)[2]	Safety: Probation[2]
49	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
50	2.5	2.5	3.0	16.0	11.5	6.0	8.0	3.0
51	2.0	2.5	3.0	16.0	12.0	8.0	10.0	3.0
52	2.0	2.5	3.0	16.0	12.7	9.0	11.0	4.0
53	2.0	2.5	3.0	16.0	17.9	10.0	12.0	4.0
54	5.0	2.5	3.0	22.0	18.8	16.0	14.0	6.0
55	15.0	3.0	4.0	22.0	30.7	19.0	24.0	11.0
56	10.0	3.5	5.0	20.0	20.0	20.0	23.0	11.0
57	10.0	5.0	6.0	20.0	20.0	23.0	27.0	17.0
58	10.0	5.0	7.0	20.0	25.0	30.0	27.0	20.0
59	11.0	7.0	9.0	26.0	30.0	30.0	36.0	20.0
60	12.0	9.0	11.0	45.0	100.0	45.0	100.0	20.0
61	12.0	10.0	13.0	45.0	100.0	45.0	100.0	20.0
62	15.0	16.0	15.0	45.0	100.0	45.0	100.0	25.0
63	16.0	16.0	15.0	45.0	100.0	45.0	100.0	50.0
64	16.0	18.0	20.0	45.0	100.0	45.0	100.0	50.0
65	21.0	21.0	20.0	100.0	100.0	100.0	100.0	100.0
66	22.0	26.0	24.0	100.0	100.0	100.0	100.0	100.0
67	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
68	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
69	23.0	21.0	24.0	100.0	100.0	100.0	100.0	100.0
70	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
71	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
72	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
73	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
74	40.0	30.0	100.0	100.0	100.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Rate (%) Retirement

(1) These assumptions are also used for the CalPEPRA 1.62% @ 65 formula (Plan T and Plan W).

(2) Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Actuarial Methods and Assumptions

(continued)

Retirement Rates

(continued)

Age	Rate (%) Retirement			
	CalPEPRA General Formula	CalPEPRA Safety – Probation Formula(1)	CalPEPRA Safety – Law Formula(1)	CalPEPRA Safety – Fire Formula(1)
50	0.0	2.5	11.0	6.5
51	0.0	2.5	11.5	8.0
52	4.0	3.0	12.0	9.0
53	1.5	3.0	16.0	10.0
54	1.5	5.5	17.0	12.0
55	2.5	10.0	28.0	21.0
56	3.5	10.0	18.0	20.0
57	5.5	15.0	17.5	22.0
58	7.5	20.0	22.0	25.0
59	7.5	20.0	26.0	31.5
60	7.5	100.0	100.0	100.0
61	7.5	100.0	100.0	100.0
62	14.0	100.0	100.0	100.0
63	14.0	100.0	100.0	100.0
64	14.0	100.0	100.0	100.0
65	18.0	100.0	100.0	100.0
66	22.0	100.0	100.0	100.0
67	23.0	100.0	100.0	100.0
68	23.0	100.0	100.0	100.0
69	23.0	100.0	100.0	100.0
70	30.0	100.0	100.0	100.0
71	30.0	100.0	100.0	100.0
72	30.0	100.0	100.0	100.0
73	30.0	100.0	100.0	100.0
74	30.0	100.0	100.0	100.0
75	100.0	100.0	100.0	100.0

(1) Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Actuarial Methods and Assumptions

(continued)

Retirement Age and Benefit for Deferred Vested Members:	For deferred vested members, we make the following retirement age assumptions: General 58 Safety 53 We assume that 20% of future General and 30% of future Safety deferred vested members are reciprocal. For reciprocals, we assume 4.25% compensation increases for General and 5.00% for Safety per annum.
Liability Calculation for Current Deferred Vested Members:	Liability for a current deferred vested member is calculated based on salary, service, and eligibility for reciprocal benefit as provided by the Retirement System. For those members without salary information that have 3 or more years of service, we used an average salary. For those members without salary information that have less than 3 years of service or for those members without service information, we assumed a refund of account balance.
Future Benefit Accruals:	1.0 year of service per year of employment. There is no assumption to anticipate conversion of unused sick leave at retirement.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Percent Married:	75% of male members and 50% of female members are assumed to be married at retirement or time of pre-retirement death.
Age of Spouse:	Female (or male) three years younger (or older) than spouse.
Net Investment Return:	7.25%; net of investment and administrative expenses.
Employee Contribution Crediting Rate:	5.00%, compounded semi-annually.
Consumer Price Index:	Increase of 3.00% per year, retiree COLA increases due to CPI subject to a 3.00% maximum change per year.

Actuarial Methods and Assumptions

(continued)

Salary Increases

Annual Rate of Compensation Increase (%)		
Inflation: 3.00% per year, plus "across the board" salary increases of 0.50% per year, plus the following merit and promotion increases:		
Years of Service	General	Safety
Less than 1	10.00%	14.00%
1	7.25	10.00
2	6.00	8.50
3	4.75	6.75
4	4.00	5.25
5	3.25	4.50
6	2.25	3.50
7	2.00	3.25
8	1.50	2.25
9	1.25	2.25
10	1.25	1.75
11	1.25	1.75
12	1.25	1.75
13	1.25	1.75
14	1.25	1.75
15	1.25	1.75
16	0.75	1.50
17	0.75	1.50
18	0.75	1.50
19	0.75	1.50
20 & over	0.75	1.50

Actuarial Methods and Assumptions

(continued)

Additional Cashout Assumptions:

Non-CalPEPRA Formulas: Additional compensation amounts are expected to be received during a member's final average earnings period. The percentages used in this valuation are:

	Final One Year Salary	Final Three Year Salary
General Members	3.50%	2.80%
Safety - Probation	3.80%	2.80%
Safety - Law	5.20%	4.70%
Safety - Fire	2.00%	2.00%

The additional cashout assumptions are the same for service and disability retirements.

CalPEPRA Formulas: None

Increase in Section 7522.10 Compensation Limit: Increase of 3.00% per year from the valuation date.

Actuarial Value of Assets: Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual and the expected return on a market value basis, and is recognized over a five-year period.

Valuation Value of Assets: The Valuation Value of Assets is the Actuarial Value of Assets reduced by the value of the non-valuation reserves.

Actuarial Cost Method: Entry Age Actuarial Cost Method. Entry Age is the current age minus Vesting Credit. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salaries, with Normal Cost determined as a level percentage of individual salary, as if the current benefit accrual rate had always been in effect. Effective December 31, 2013, the outstanding balance of the UAAL from the December 31, 2012 valuation was combined and re-amortized over a declining 20-year period. Any changes in UAAL due to actuarial gains or losses or due to changes in assumptions or methods will be amortized over separate 20-year periods. Any changes in UAAL due to plan amendments will be amortized over separate 15-year periods and any change in UAAL due to early retirement incentive programs will be amortized over a separate period of up to 5 years.

Please note that for Probation members who have prior benefit service in another OCERS plan, the normal cost rate for the current plan is calculated assuming their Entry Age is the date they entered service with their current plan.

Summary of Major Plan Provisions

This section summarizes the major provisions of OCERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:	Membership with OCERS begins with the day of employment in an eligible position by the County or a participating employer.
Non-CalPEPRA General Plans:	
2.5% @ 55 Plans	(Orange County Sanitation District and Law Library[1])
Plan G	General members hired before September 21, 1979.
Plan H	General members hired on or after September 21, 1979. (Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010 are in Plan B)
2.7% @ 55 Plans	(City of San Juan Capistrano, Orange County Employees except bargaining unit AFSCME members, Orange County Superior Court, Orange County Local Agency Formation Commission[(1)], Orange County Employees Retirement System[(2)], Children and Family Commission[(3)] and Orange County Fire Authority)
Plan I	General members hired before September 21, 1979.
Plan J	General members hired on or after September 21, 1979. (1) Improvement is prospective only for service after June 23, 2005. (2) Improvement for management employees is prospective only for service after June 30, 2005. (3) Improvement is prospective only for service after December 22, 2005.
2.0% @ 55 Plans	(Transportation Corridor Agency, Cemetery District - future service effective December 7, 2007 and General OCFA employees effective July 1, 2011)
Plan M	General members hired before September 21, 1979.
Plan N	General members hired on or after September 21, 1979.
1.62% @ 65 Plans	(Orange County Employees, Orange County Superior Court, Orange County Local Agency Formation Commission and Orange County Managers Unit)
Plan O	County OCEA members and Superior Court members rehired on or after May 7, 2010, LAFCO members rehired on or after July 1, 2010 and County Managers unit members rehired on or after August 17, 2010 and not electing to rejoin Plan I.
Plan P	County OCEA members and Superior Court members hired on or after May 7, 2010, LAFCO members hired on or after July 1, 2010 and County Managers unit members hired on or after August 17, 2010 and not electing Plan J.
2.0% @ 57 Plan	(City of San Juan Capistrano)
Plan S	General members hired on or after July 1, 2012.
All Other General Employers:	
Plan A	General members hired before September 21, 1979.
Plan B	General members hired on or after September 21, 1979 and Sanitation District members within Supervisors and Professional unit hired on or after October 1, 2010.

Summary of Major Plan Provisions

(continued)

Membership Eligibility: (continued)

Non-CalPEPRA Safety Plans:

3% @ 50 Plans	(Law Enforcement, Fire Authority and Probation)
Plan E	Safety members hired before September 21, 1979.
Plan F	Safety members hired on or after September 21, 1979 and before April 9, 2010 for Law Enforcement, before July 1, 2011 for Safety employees of OCFA Executive Management, and before July 1, 2012 for other OCFA Safety employees.
3% @ 55 Plans	(Law Enforcement and Fire Authority)
Plan Q	Safety Law Enforcement members rehired on or after April 9, 2010, Safety employees of OCFA Executive Management rehired on or after July 1, 2011, and other OCFA Safety employees rehired on or after July 1, 2012 and previously in Plan E.
Plan R	Safety Law Enforcement members hired on or after April 9, 2010, Safety employees of OCFA Executive Management hired on or after July 1, 2011, and other OCFA Safety employees hired on or after July 1, 2012.

CalPEPRA General Plans:

1.62% @ 65 Plan	(Orange County Employees except County Attorneys, Orange County Employees Retirement System except Management Employees, Children and Family Commission, Local Agency Formation Commission, and Orange County Superior Court)
Plan T	General members with membership dates on or after January 1, 2013.
2.5% @ 67 Plan	(All Other General Employers, Orange County Attorneys, Orange County Employees Retirement System Management Employees)
Plan U	General Non-Orange County Transportation Authority members with membership dates on or after January 1, 2013 and Orange County Transportation Authority members with membership dates on or after January 1, 2015.
1.62% @ 65 Plan	(City of San Juan Capistrano)
Plan W	General members with membership dates on or after January 1, 2016 and not electing Plan U.

CalPEPRA Safety Plans:

2.7% @ 57 Plan	(Law Enforcement, Fire Authority and Probation Members)
Plan V	Safety members with membership dates on or after January 1, 2013.

Summary of Major Plan Provisions

(continued)

Final Compensation for Benefit Determination:

Plans A, E, G, I, M, O and Q	Highest consecutive twelve months of compensation earnable. (§31462.1) (FAS1)
Plans B, F, H, J, N, P, R and S	Highest consecutive thirty-six months of compensation earnable. (§31462) (FAS3)
Plan T	Highest consecutive thirty-six months of pensionable compensation. (§7522.32 and §7522.34) (FAS3)
Plans U, V and W	Highest consecutive thirty-six months of pensionable compensation. (§7522.10(c), §7522.32 and §7522.34) (FAS3)
Service:	Years of service. (Yrs)

Service Retirement Eligibility:

Plans A, B, G, H, I, J, M, N, O, P, S, T, and W	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age. (§31672) All part-time employees over age 55 with 10 years of employment may retire with 5 years of service.
Plan U	Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3)
Plans E, F, Q and R	Age 50 with 10 years of service, or after 20 years, regardless of age. (§31663.25) All part-time employees over age 55 with 10 years of employment may retire with 5 years of service.
Plan V	Age 50 with 5 years of service (§7522.20(d)) or age 70 regardless of service (§31672.3).

Summary of Major Plan Provisions

(continued)

Benefit Formula: General Plans

Plan G (§31676.18)	50	(2.00% x FAS1 x Yrs)
Tier 1	55	(2.50% x FAS1 x Yrs)
	60	(2.50% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)*
	65 or later	(2.62% x FAS1 x Yrs)*
Plan H (§31676.18)	50	(2.00% x FAS3 x Yrs)
Tier 2	55	(2.50% x FAS3 x Yrs)
	60	(2.50% x FAS3 x Yrs)
	62	(2.50% x FAS3 x Yrs)
	65 or later	(2.50% x FAS3 x Yrs)

* Reflects benefit factors from Plan A as they provide a better benefit than those under 2.5% @ 55.

Plan I (§31676.19)	50	(2.00% x FAS1 x Yrs)
Tier 1	55	(2.70% x FAS1 x Yrs)
	60	(2.70% x FAS1 x Yrs)
	62	(2.70% x FAS1 x Yrs)
	65 or later	(2.70% x FAS1 x Yrs)
Plan J (§31676.19)	50	(2.00% x FAS3 x Yrs)
Tier 2	55	(2.70% x FAS3 x Yrs)
	60	(2.70% x FAS3 x Yrs)
	62	(2.70% x FAS3 x Yrs)
	65 or later	(2.70% x FAS3 x Yrs)

Plan M (§31676.16)	50	(1.43% x FAS1 x Yrs)
Tier 1	55	(2.00% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)**
	62	(2.62% x FAS1 x Yrs)**
	65 or later	(2.62% x FAS1 x Yrs)**
Plan N (§31676.16)	50	(1.43% x FAS3 x Yrs)
Tier 2	55	(2.00% x FAS3 x Yrs)
	60	(2.26% x FAS3 x Yrs)
	62	(2.37% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)***

** Reflects benefit factors from Plan A as they provide a better benefit than those under 2.0% @ 55.
*** Reflects benefit factors from Plan B as they provide a better benefit than those under 2.0% @ 55.

Summary of Major Plan Provisions

(continued)

Benefit Formula: General Plans (continued)

Plan O (§31676.01)	50	(0.79% x FAS1 x Yrs)
Tier 1	55	(0.99% x FAS1 x Yrs)
	60	(1.28% x FAS1 x Yrs)
	62	(1.39% x FAS1 x Yrs)
	65 or later	(1.62% x FAS1 x Yrs)
Plan P, Plan T and Plan W (§31676.01)	50	(0.79% x FAS3 x Yrs)
Tier 2	55	(0.99% x FAS3 x Yrs)
	60	(1.28% x FAS3 x Yrs)
	62	(1.39% x FAS3 x Yrs)
	65 or later	(1.62% x FAS3 x Yrs)

Plan S (§31676.12)	50	(1.34% x FAS3 x Yrs)
Tier 2	55	(1.77% x FAS3 x Yrs)
	60	(2.34% x FAS3 x Yrs)
	62	(2.62% x FAS3 x Yrs)
	65 or later	(2.62% x FAS3 x Yrs)

Plan A (§31676.12)	50	(1.34% x FAS1 x Yrs)
Tier 1	55	(1.77% x FAS1 x Yrs)
	60	(2.34% x FAS1 x Yrs)
	62	(2.62% x FAS1 x Yrs)
	65 or later	(2.62% x FAS1 x Yrs)
Plan B (§31676.1)	50	(1.18% x FAS3 x Yrs)
Tier 2	55	(1.49% x FAS3 x Yrs)
	60	(1.92% x FAS3 x Yrs)
	62	(2.09% x FAS3 x Yrs)
	65 or later	(2.43% x FAS3 x Yrs)
Plan U (§7522.20(a))	52	(1.00% x FAS3 x Yrs)
	55	(1.30% x FAS3 x Yrs)
	60	(1.80% x FAS3 x Yrs)
	62	(2.00% x FAS3 x Yrs)
	65	(2.30% x FAS3 x Yrs)
	67 or later	(2.50% x FAS3 x Yrs)

Summary of Major Plan Provisions

(continued)

Benefit Formula: Safety Plans

Plan E (§31664.1)	50	(3.00% x FAS1 x Yrs)
Tier 1	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
Plan F (§31664.1)	50	(3.00% x FAS3 x Yrs)
Tier 2	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)

Plan Q (§31664.2)	50	(2.29% x FAS1 x Yrs)
Tier 1	55	(3.00% x FAS1 x Yrs)
	60 or later	(3.00% x FAS1 x Yrs)
Plan R (§31664.2)	50	(2.29% x FAS3 x Yrs)
Tier 2	55	(3.00% x FAS3 x Yrs)
	60 or later	(3.00% x FAS3 x Yrs)
Plan V (§7522.25(d))	50	(2.00% x FAS3 x Yrs)
	55	(2.50% x FAS3 x Yrs)
	57 or later	(2.70% x FAS3 x Yrs)

Summary of Major Plan Provisions

(continued)

Maximum Benefit:

Plans A, B, E, F, G, H, I, J, M, N, O, P, Q, R, S, T and W	100% of Highest Average Compensation. (§31676.01, §31676.1, §31676.12, §31676.16, §31676.18, §31676.19, §31664.1, §31664.2)
Plans U and V	None

Ordinary Disability:

General Plans:

Plans A, B, G, H, I, J, M, N, O, P, S, T, U and W

Eligibility	Five years of service. (§31720)
Benefit Formula	Plans A, G, I, M, and O: 1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 62, but the total benefit cannot be more than one-third of Final Compensation. (§31727.1) Plans B, H, J, N, P, S, T, U and W: 1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but the total benefit cannot be more than one-third of Final Compensation. (§31727)

Safety Plans:

Plans E, F, Q, R and V

Eligibility	Five years of service. (§31720)
Benefit Formula	1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but the total benefit cannot be more than one-third of Final Compensation (§31727.2) For all members, 100% of the service retirement benefit will be paid, if greater.

Line-of-Duty Disability:

All Members:

Eligibility	No age or service requirements. (§31720)
Benefit Formula	50% of the Final Compensation or 100% of Service Retirement benefit, if greater. (§31727.4)

Pre-Retirement Death

All Members:

Eligibility	None
Benefit	Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation. (§31781) A lump sum benefit in the amount of $1,000 is payable upon death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)
Death in line of duty	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor-children. (§31787)
	Or

Vested Members:

Eligibility	Five years of service.
Benefit	60% of the greater of Service or Ordinary Disability Retirement benefit payable to eligible surviving spouse (§31765.1, §31781.1), in lieu of §31781.

Summary of Major Plan Provisions

(continued)

Death After Retirement:

All Members:

Service or Ordinary Disability Retirement	60% of member's unmodified allowance continued to eligible spouse. (§31760.1) A lump sum benefit in the amount of $1,000 is payable upon death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790) An eligible spouse is a surviving spouse who was married to or registered with the member one year prior to the effective retirement date. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner has attained age 55. (§31760.1)
Line-of-Duty Disability	100% of member's allowance continued to eligible spouse. (§31786) A lump sum benefit in the amount of $1,000 is payable upon death of a member (with 10 years of service) to his/her eligible beneficiary. (§31790)

Withdrawal Benefits:

Less than Five Years of Service	Refund of accumulated employee contributions with interest or earned benefit at age 70 (§31628). Effective January 1, 2003, a member may also elect to leave their contributions on deposit in the retirement fund. (§31629.5)
Five or More Years of Service	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire. (§31700)

Post-retirement Cost-of-Living Benefits:

Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked." (§31870.1)

Supplemental Benefit:

Non-vested supplemental COLA and medical benefits are also paid by the System to eligible retirees and survivors. These benefits have been excluded from this valuation.

Member Contributions:

Non-CalPEPRA General Plans:

Plan A	
Basic	Provide for an average annuity at age 60 equal to 1/200 of FAS1. (§31621.5)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plan B	
Basic	Provide for an average annuity at age 60 equal to 1/120 of FAS3. (§31621)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plans G, H, I and J	
Basic	Provide for an average annuity at age 55 equal to 1/100 of FAS3 (FAS1 for Plans G and I). (§31621.8)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plans M, N, O and P	
Basic	Provide for an average annuity payable at age 60 equal to 1/120 of FAS3 (FAS1 for Plans M and O). (§31621)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.
Plan S	
Basic	Provide for an average annuity at age 60 equal to 1/100 of FAS3. (§31621.2)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.

Summary of Major Plan Provisions

(continued)

Member Contributions: (continued)

Non-CalPEPRA Safety Plans:

Plans E and Q

Basic	Provide for an average annuity at age 50 equal to 1/200 FAS1. (§31639.5)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.

Plans F and R

Basic	Provide for an average annuity at age 50 equal to 1/100 of FAS3. (§31639.25)
Cost-of-Living	Provide for 50% of future Cost-of-Living costs.

CalPEPRA Plans:

Plans T, U, V and W	50% of total Normal Cost rate.

Other Information:

Non-CalPEPRA Safety members with 30 or more years of service are exempt from paying members contributions. The same applies for General members hired on or before March 7, 1973

Note: The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so that both can be sure the proper provisions are valued.

Experience Analysis

(2006 - 2010)

(Dollars in Thousands)

Gains & Losses in Actuarial Accrued Liabilities During Years Ended December 31, Resulting from Differences Between Assumed Experience & Actual Experience

Type of Activity	Gains (or Losses) Per Year				
	2006	2007	2008	2009	2010
Retirements	$ -	$ -	$ (54,911)	$ -	$ -
Pay Increases	(21,679)	(136,417)	(97,561)	77,858	215,936
Investment Income	112,612	176,681	(257,752)	(322,523)	(224,044)
Other	(39,155)	(43,538)	(17,159)	(14,931)	63,174
Gain (or Loss) During Year From Experience	$ 51,778	$ (3,274)	$ (427,383)	$ (259,596)	$ 55,066
Nonrecurring Items:					
Method and Procedure Changes	-	-	-	-	-
Plan Amendments and Assumption Changes	-	(237,147)	(115,764)	-	-
Correction to Include All Premium Pay Items	-	-	-	(228,051)	-
Composite Gain (or Loss) During Year	$ 51,778	$ (240,421)	$ (543,147)	$ (487,647)	$ 55,066

(2011-2015)

(Dollars in Thousands)

Gains & Losses in Actuarial Accrued Liabilities During Years Ended December 31, Resulting from Differences Between Assumed Experience & Actual Experience

Type of Activity	Gains (or Losses) Per Year				
	2011	2012	2013	2014	2015
Retirements	$ -	$ -	$ -	$ -	$ (62,070)
Pay Increases	154,946	244,750	294,326	125,746	282,696
COLA Increases	-	-	-	153,484	119,367
Investment Income	(388,935)	(387,808)	176,930	9,570	(229,138)
Other	(38,159)	(19,979)	30,354	(4,476)	10,056
Gain (or Loss) During Year From Experience	$ (272,148)	$ (163,037)	$ 501,610	$ 284,324	$ 120,911
Nonrecurring Items:					
Plan Amendments and Assumption Changes	(363,842)	(934,619)	-	122,171	-
Correction to Include All Premium Pay Items	-	-	-	-	-
Composite Gain (or Loss) During Year	$ (635,990)	$ (1,097,656)	$ 501,610	$ 406,495	$ 120,911

Schedule of Funding Progress

Actuarial Valuation Date December 31	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
2006	$ 6,466,085,000	$ 8,765,045,000	$ 2,298,960,000	73.77%	$ 1,322,952,000	173.78%
2007	7,288,900,000	9,838,686,000	2,549,786,000	74.08%	1,457,159,000	174.98%
2008	7,748,380,000	10,860,715,000	3,112,335,000	71.34%	1,569,764,000	198.27%
2009	8,154,687,000	11,858,578,000	3,703,891,000	68.77%	1,618,491,000	228.85%
2010	8,672,592,000	12,425,873,000	3,753,281,000	69.79%	1,579,239,000	237.66%
2011	9,064,355,000	13,522,978,000	4,458,623,000	67.03%	1,619,474,000	275.31%
2012	9,469,208,000	15,144,888,000	5,675,680,000	62.52%	1,609,600,000	352.55%
2013	10,417,125,000	15,785,042,000	5,367,917,000	65.99%	1,604,496,000	334.55%
2014	11,449,911,000	16,413,124,000	4,963,213,000	69.76%	1,648,160,000	301.14%
2015	12,228,009,000	17,050,357,000	4,822,348,000	71.72%	1,633,112,000	295.29%

For informational purposes only, we have also developed the funded ratio determined using the historical market value of assets after adjustment for amounts in the County Investment Account, prepaid employer contributions, unclaimed member reserve and Medicare Medical Insurance Reserve.

Actuarial Valuation Date December 31	Funded Ratio Based on Net Market Value of Assets
2006	77.69%
2007	78.43%
2008	57.51%
2009	62.94%
2010	67.25%
2011	62.60%
2012	63.17%
2013	67.65%
2014	69.63%
2015	67.73%

Orange County Fire Authority OPEB Plan Actuarial Certification

SECTION VIII. ACTUARIAL CERTIFICATION

This report summarizes the GASB actuarial valuation for the Orange County Fire Authority (OCFA) as of July 1, 2016. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statements No. 43 (Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans) and No. 45 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions). The valuation is also based upon our understanding of the plan provisions as summarized within the report.

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information and asset information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate and other economic assumptions have been selected by the Plan Sponsor. Demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

While some sensitivity analysis was provided in the report, we did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.

Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact me.

Certified by:

Marilyn K. Jones, ASA, EA, MAAA, FCA
Consulting Actuary

Date: November 4, 2016

nyhart

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Orange County Fire Authority OPEB Plan
Summary of Retired Members and Beneficiaries

Fiscal Year Ending*	Benefit Type	Added to Rolls		Removed from Rolls		Rolls at Year End		Increase in Retiree Allowance	Average Annual Allowance (in 000's)	Change in Average Benefit
		Number	Annual Allowance (in 000's)	Number	Annual Allowance (in 000's)	Number	Annual Allowance (in 000's)**			
6/30/14	Direct Contribution	107	$ 618	5	$ 22	573	$ 3,131	26.1%	$ 5	3.6%
	Implicit Rate Subsidy	70	140	4	3	414	823	-27.5%	2	-39.0%
	Total	**107**	**$ 758**	**5**	**$ 25**	**573**	**$ 3,954**	**9.3%**	**$ 7**	**-10.2%**
6/30/16	Direct Contribution	93	$ 597	4	$ 23	662	$ 4,018	28.3%	$ 6	11.1%
	Implicit Rate Subsidy	93	390	4	4	662	1,391	69.0%	2	5.7%
	Total	**93**	**$ 987**	**4**	**$ 27**	**662**	**$ 5,409**	**36.8%**	**$ 8**	**18.4%**

* Valuations are performed biennially.
** Includes increase / decrease (subsidy) for continuing retirees.

Orange County Fire Authority OPEB Plan
Solvency Test

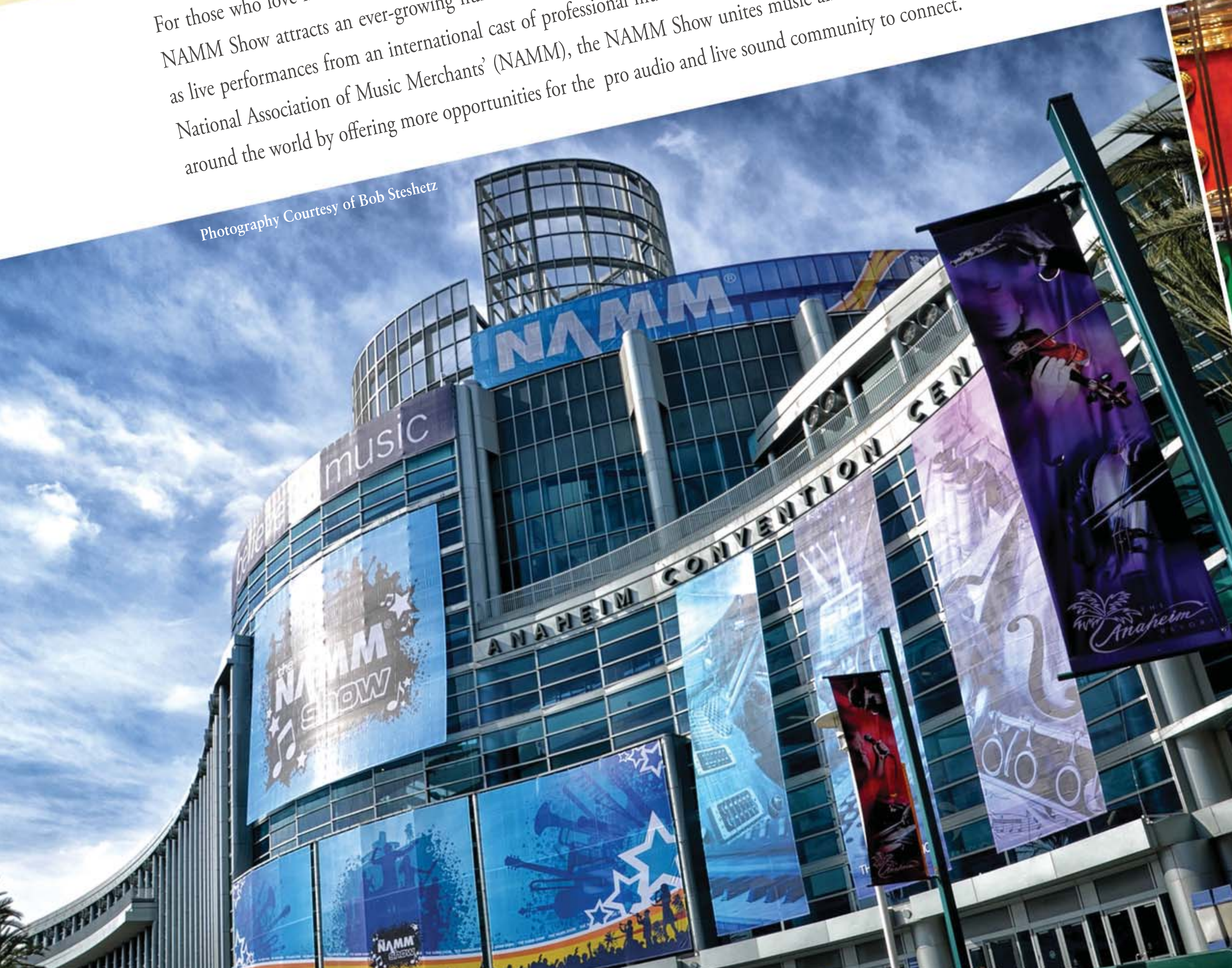
Valuation Date*	Benefit Type	Active Member Contribution	Liability for Retired Members (in 000's)	Active Members Employer Financed Portion (in 000's)	Total (in 000's)	Actuarial Value of Plan Assets (in 000's)	Active Member Contribution	Liability for Retired Members	Active Members Employer Financed Portion
6/30/14	Direct Contribution	$ -	$ 70,702	$ 87,705	$ 158,407	$ 36,945	100%	52.3%	0.0%
	Implicit Rate Subsidy	-	6,839	13,810	20,649	-	100%	0.0%	0.0%
	Total	**$ -**	**$ 77,541**	**$ 101,515**	**$ 179,056**	**$ 36,945**	**100%**	**47.6%**	**0.0%**
6/30/16	Direct Contribution	$ -	$ 116,922	$ 117,407	$ 234,329	$ 35,858	100%	30.7%	0.0%
	Implicit Rate Subsidy	-	11,620	17,354	28,974	-	100%	0.0%	0.0%
	Total	**$ -**	**$ 128,542**	**$ 134,761**	**$ 263,303**	**$ 35,858**	**100%**	**27.9%**	**0.0%**

* Valuations are performed biennially.

NAMM
Anaheim Convention Center

For those who love music – and especially the instruments and technology that are used to help create music – the annual NAMM Show attracts an ever-growing number of exhibitors and visitors to see the innovative ideas and products, as well as live performances from an international cast of professional musicians. Held every winter in Anaheim and hosted by the National Association of Music Merchants' (NAMM), the NAMM Show unites music and live sound professionals from all around the world by offering more opportunities for the pro audio and live sound community to connect.

Photography Courtesy of Bob Steshetz



Section V

Statistical

Statistical Section Review

The Statistical Section of the Comprehensive Annual Financial Report provides additional information in order to promote a more comprehensive understanding of the financial statements, note disclosures and supplemental information.

The Government Finance Officers Association (GFOA) established five categories of information to be provided in the Statistical Section: Financial Trends, Revenues, Expenses, Demographic and Economic, and Operating Information.

This section provides multi-year trend information to facilitate an understanding of how OCERS as an organization has changed over time.

Information of financial trends, revenues and expenses for the last ten years is presented in the Schedules of Changes in Fiduciary Net Position, Schedule and Graph of Fiduciary Revenue by Source, and Schedule and Graph of Expenses by Type.

Schedule of Changes in Fiduciary Net Position - Pension Trust Fund

2007 – 2016

(Dollars in Thousands)

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Additions										
Employer Contributions	$ 401,037	$ 433,911	$ 377,976	$ 372,437	$ 387,585	$ 406,805	$ 427,095	$ 625,520	$ 571,298	$ 567,196
Employee Contributions	159,476	172,291	171,928	177,929	183,820	191,215	209,301	232,656	249,271	258,297
Investment Income/ (Loss)	764,890	(1,625,928)	1,076,073	886,693	48,753	1,002,763	1,151,193	497,760	(11,903)	1,060,040
Net Securities Lending	3,452	6,145	3,989	1,849	1,703	2,007	1,454	1,435	1,030	1,203
Total Additions	$ 1,328,855	$ (1,013,581)	$ 1,629,966	$ 1,438,908	$ 621,861	$ 1,602,790	$ 1,789,043	$ 1,357,371	$ 809,696	$ 1,886,736
Deductions										
Benefits	$ 353,861	$ 419,502	$ 461,530	$ 459,383	$ 493,749	$ 541,154	$ 586,284	$ 630,678	$ 675,963	$ 717,976
Administrative Expenses	10,381	11,006	10,947	12,368	12,828	14,209	11,705	11,905	12,521	16,870
Total Deductions	$ 364,242	$ 430,508	$ 472,477	$ 471,751	$ 506,577	$ 555,363	$ 597,989	$ 642,583	$ 688,484	$ 734,846
Changes in Fiduciary Net Position	$ 964,613	$ (1,444,089)	$ 1,157,489	$ 967,157	$ 115,284	$ 1,047,427	$ 1,191,054	$ 714,788	$ 121,212	$ 1,151,890

Schedule of Changes in Fiduciary Net Position - Health Care Funds - County

2007 – 2016
(Dollars in Thousands)

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Additions										
Employer Contributions	N/A	N/A	N/A	$ 14,582	$ 39,694	$ 27,395	$ 66,057	$ 64,852	$ 36,557	$ 42,411
Investment Income/(Loss)	N/A	N/A	N/A	8,561	(641)	10,308	13,702	7,374	(698)	16,902
Net Securities Lending	N/A	N/A	N/A	18	18	21	20	25	18	21
Total Additions	$ -	$ -	$ -	$ 23,161	$ 39,071	$ 37,724	$ 79,779	$ 72,251	$ 35,877	$ 59,334
Deductions										
Benefits	N/A	N/A	N/A	$ 25,514	$ 26,250	$ 27,089	$ 28,293	$ 29,299	$ 30,107	$ 30,818
Administrative Expenses	N/A	N/A	N/A	18	18	19	20	20	22	22
Total Deductions	$ -	$ -	$ -	$ 25,532	$ 26,268	$ 27,108	$ 28,313	$ 29,319	$ 30,129	$ 30,840
Changes in Fiduciary Net Position	$ -	$ -	$ -	$ (2,371)	$ 12,803	$ 10,616	$ 51,466	$ 42,932	$ 5,748	$ 28,494

Schedule of Changes in Fiduciary Net Position - Health Care Funds - OCFA

2007 – 2016
(Dollars in Thousands)

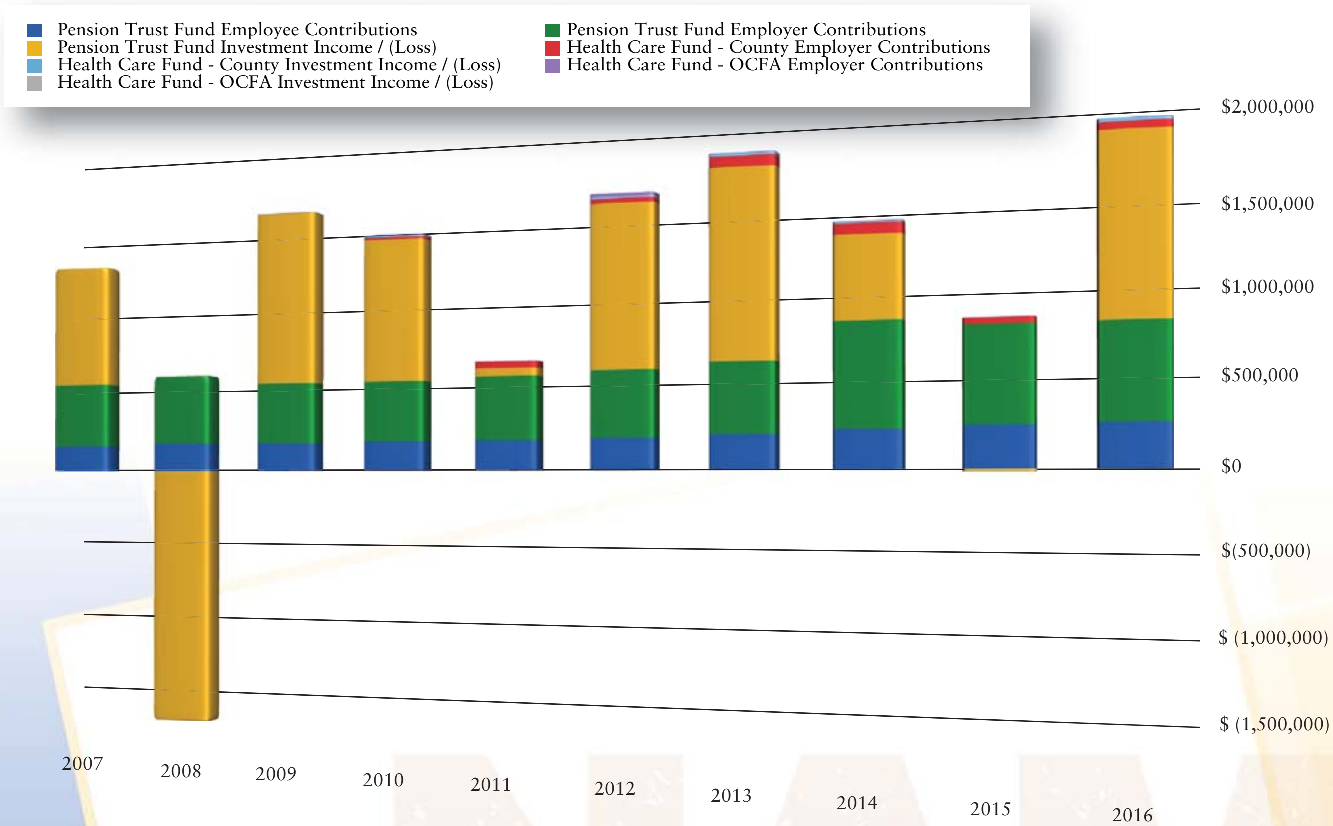
Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Additions										
Employer Contributions	N/A	N/A	N/A	$ 3,634	$ 3,660	$ 3,590	$ 18,349	$ 2,667	$ 2,624	$ 2,414
Investment Income/(Loss)	N/A	N/A	N/A	1,358	(7)	1,736	1,963	1,583	(99)	2,845
Net Securities Lending	N/A	N/A	N/A	3	3	3	4	5	3	3
Total Additions	$ -	$ -	$ -	$ 4,995	$ 3,656	$ 5,329	$ 20,316	$ 4,255	$ 2,528	$ 5,262
Deductions										
Benefits	N/A	N/A	N/A	$ 2,158	$ 2,649	$ 2,804	$ 2,550	$ 3,138	$ 3,448	$ 3,867
Administrative Expenses	N/A	N/A	N/A	9	9	9	14	22	22	22
Total Deductions	$ -	$ -	$ -	$ 2,167	$ 2,658	$ 2,813	$ 2,564	$ 3,160	$ 3,470	$ 3,889
Changes in Fiduciary Net Position	$ -	$ -	$ -	$ 2,828	$ 998	$ 2,516	$ 17,752	$ 1,095	$ (942)	$ 1,373

N/A: Detailed information not available.

Schedule and Graph of Fiduciary Revenues by Source

2007 – 2016
(Dollars in Thousands)

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pension Trust Fund										
Employee Contributions	$ 159,476	$ 172,291	$ 171,928	$ 177,929	$ 183,820	$ 191,215	$ 209,301	$ 232,656	$ 249,271	$ 258,297
Employer Contributions	401,037	433,911	377,976	372,437	387,585	406,805	427,095	625,520	571,298	567,196
Investment Income /(Loss)[1, 2]	768,342	(1,619,783)	1,080,062	888,542	50,456	1,004,770	1,152,647	499,195	(10,873)	1,061,243
Health Care Fund - County										
Employer Contributions	N/A	N/A	N/A	14,582	39,694	27,395	66,057	64,852	36,557	42,411
Investment Income /(Loss)[1]	N/A	N/A	N/A	8,579	(623)	10,329	13,722	7,399	(680)	16,923
Health Care Fund - OCFA										
Employer Contributions	N/A	N/A	N/A	3,634	3,660	3,590	18,349	2,667	2,624	2,414
Investment Income /(Loss)[1]	N/A	N/A	N/A	1,361	(4)	1,739	1,967	1,588	(96)	2,848
Total	$ 1,328,855	$ (1,013,581)	$ 1,629,966	$ 1,467,064	$ 664,588	$ 1,645,843	$ 1,889,138	$ 1,433,877	$ 848,101	$ 1,951,332



N/A: Detailed information not available.

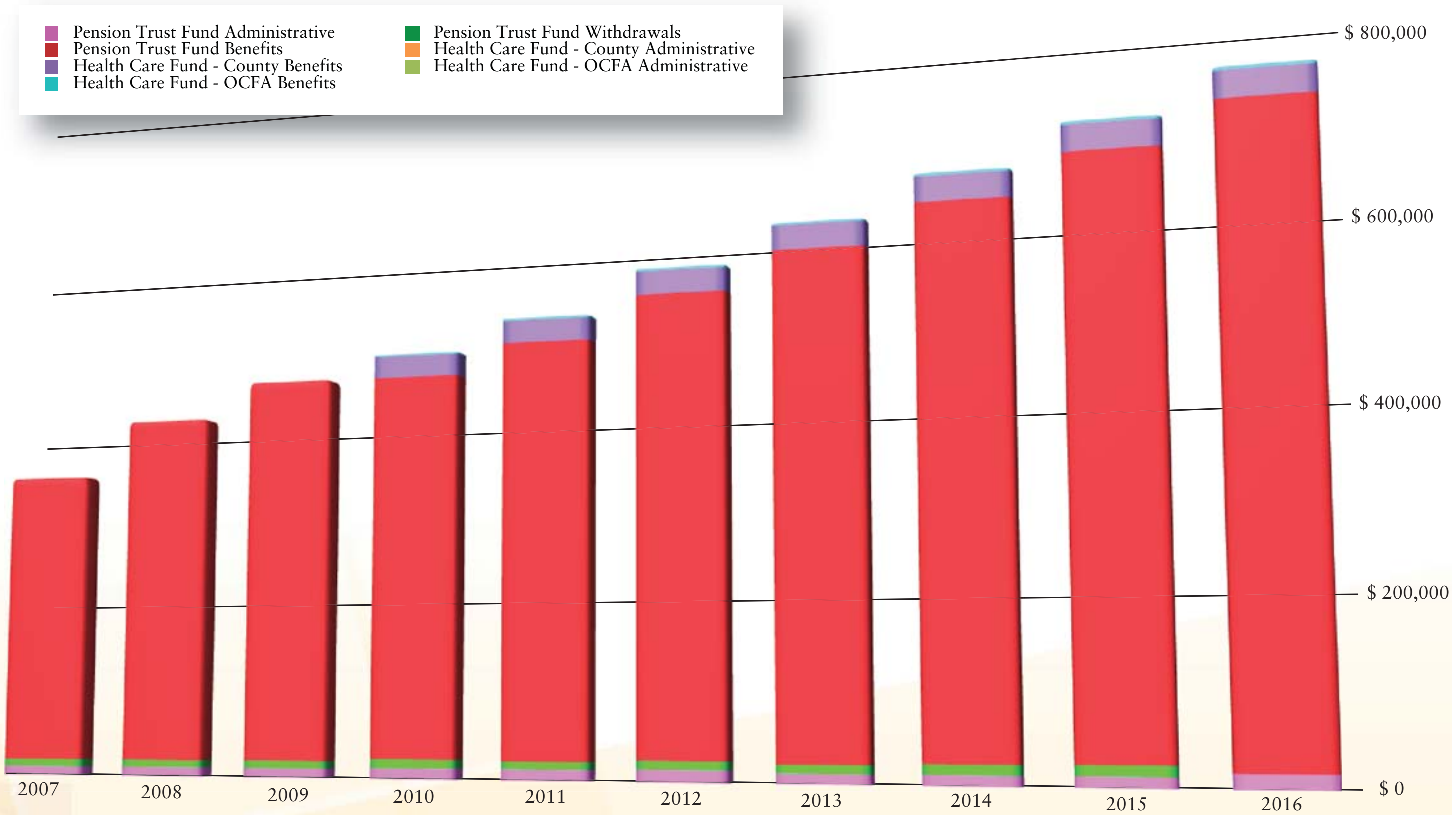
[1] Investment Income / (Loss) includes net appreciation/(depreciation) less investment manager fees, security lending fees and commission recapture.

[2] Beginning in 2013, Investment Income / (Loss) includes net appreciation/(depreciation) less investment manager fees, investment department expenses, security lending fees and commission recapture.

Schedule and Graph of Expenses by Type

2007 – 2016
(Dollars in Thousands)

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pension Trust Fund										
Administrative	$ 10,381	$ 11,006	$ 10,947	$ 12,368	$ 12,828	$ 14,209	$ 11,705	$ 11,905	$ 12,521	$ 16,870
Withdrawals										
Separation	8,007	7,022	7,604	8,566	6,833	8,078	7,516	9,843	10,764	9,411
Death	792	1,337	1,448	1,880	2,041	2,019	2,348	1,887	1,093	4,232
Benefits	345,062	411,143	452,478	448,937	484,875	531,057	576,420	618,948	664,106	704,333
Health Care Fund - County										
Administrative	N/A	N/A	N/A	18	18	19	20	20	22	22
Benefits	N/A	N/A	N/A	25,514	26,250	27,089	28,293	29,299	30,107	30,818
Health Care Fund - OCFA										
Administrative	N/A	N/A	N/A	9	9	9	14	22	22	22
Benefits	N/A	N/A	N/A	2,158	2,649	2,804	2,550	3,138	3,448	3,867
Total	$ 364,242	$ 430,508	$ 472,477	$499,450	$ 535,503	$ 585,284	$ 628,866	$ 675,062	$ 722,083	$ 769,575

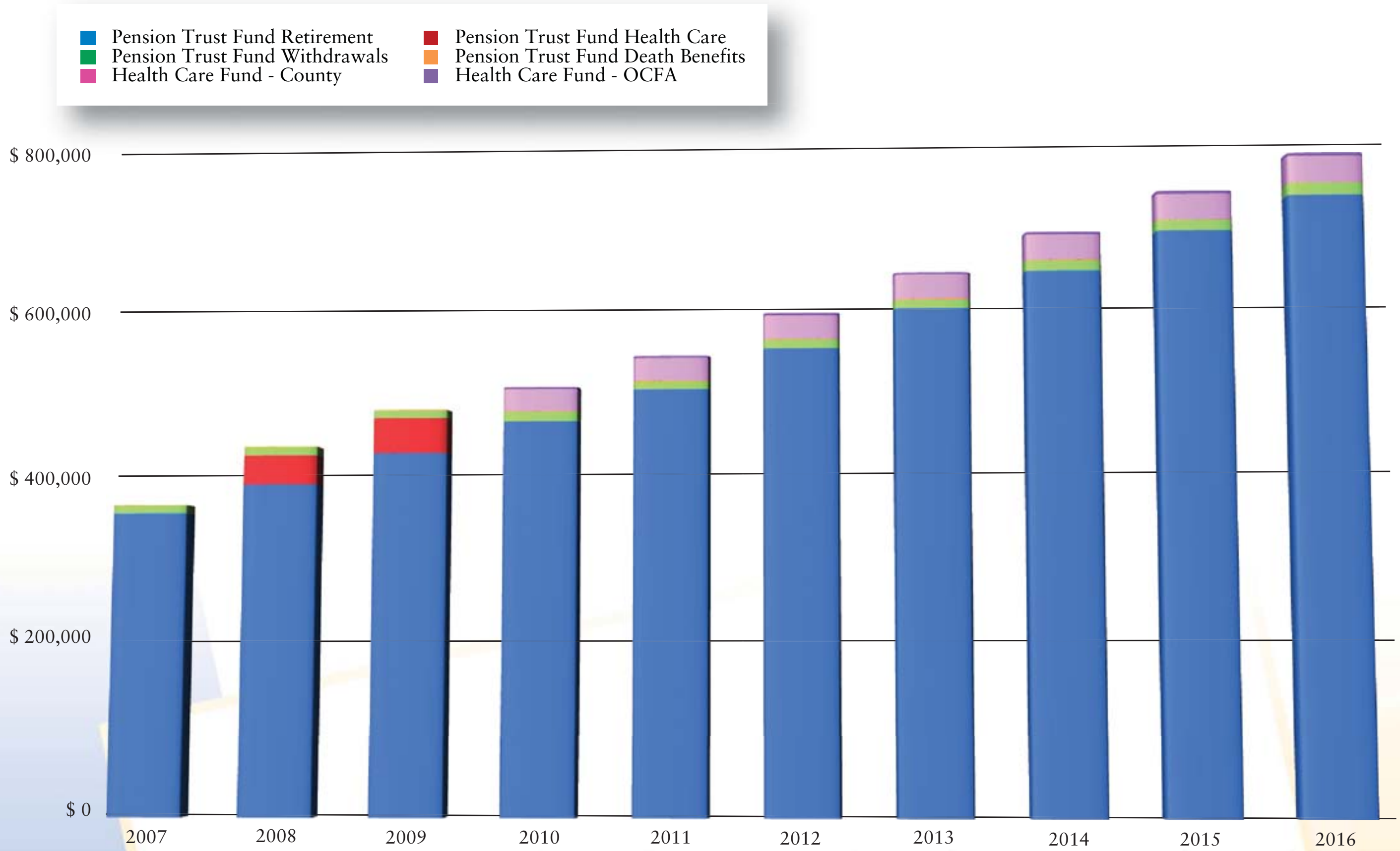


N/A: Detailed information not available.

Schedule and Graph of Benefit Expenses by Type

2007 – 2016
(Dollars in Thousands)

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pension Trust Fund										
Retirement	$ 344,321	$ 376,937	$ 411,959	$ 448,099	$ 484,012	$ 530,269	$ 575,633	$ 618,233	$ 663,582	$ 703,949
Health Care [1]	N/A	33,480	39,858	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Withdrawals	8,799	8,359	9,052	10,446	8,874	10,097	9,864	11,730	11,857	13,643
Death Benefits	741	726	661	838	863	788	787	715	524	384
Health Care Fund - County										
Health Care	N/A	N/A	N/A	25,514	26,250	27,089	28,293	29,299	30,107	30,818
Health CareFund - OCFA										
Health Care	N/A	N/A	N/A	2,158	2,649	2,804	2,550	3,138	3,448	3,867
Total	$ 353,861	$ 419,502	$ 461,530	$ 487,055	$ 522,648	$ 571,047	$ 617,127	$ 663,115	$ 709,518	$ 752,661



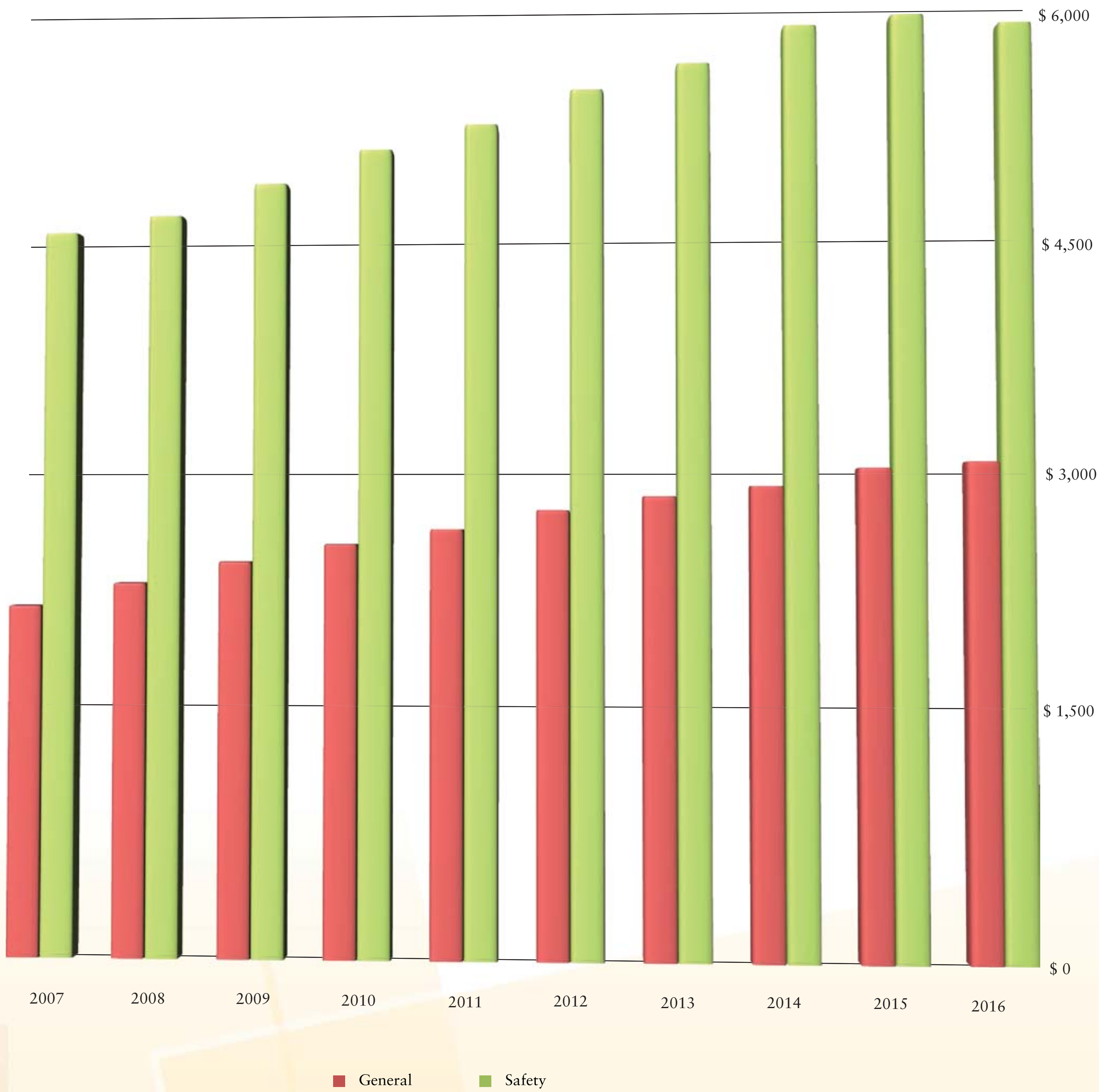
N/A: Detailed information not available.

[1] Health care benefits for 2008 and 2009 encompass all plans, including 401(h), which are reported as trust funds, and 115, which are reported as agency funds.

Schedule and Graph of Average Monthly Pension Check

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
General	$ 2,228	$ 2,373	$ 2,508	$ 2,621	$ 2,714	$ 2,836	$ 2,924	$ 2,991	$ 3,103	$ 3,142
Safety	$ 4,618	$ 4,724	$ 4,926	$ 5,141	$ 5,297	$ 5,516	$ 5,679	$ 5,914	$ 5,974	$ 5,917



* Year 2006 includes health grant

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule of Average Pension Benefit Payments by Years of Service

	Years of Service						
Service Retirement Effective Dates	0-5	5-10	10-15	15-20	20-25	25-30	30 & Over
Period 1/1/07-12/31/07							
Average Monthly Pension Benefits	$ 368	$ 817	$ 1,593	$ 2,407	$ 3,366	$ 5,626	$ 6,401
Monthly Final Average Salary	$ 2,213	$ 4,206	$ 5,065	$ 5,239	$ 5,714	$ 7,219	$ 7,223
Number of Retired Members	16	45	110	111	100	145	104
Period 1/1/08-12/31/08							
Average Monthly Pension Benefits	$ 321	$ 876	$ 1,784	$ 2,451	$ 3,793	$ 5,323	$ 7,687
Monthly Final Average Salary	$ 2,539	$ 4,166	$ 5,512	$ 5,330	$ 6,484	$ 6,864	$ 8,424
Number of Retired Members	19	31	83	90	78	91	97
Period 1/1/09-12/31/09							
Average Monthly Pension Benefits	$ 381	$ 950	$ 1,821	$ 2,716	$ 3,711	$ 5,852	$ 7,467
Monthly Final Average Salary	$ 3,766	$ 4,228	$ 5,564	$ 6,006	$ 6,417	$ 7,669	$ 8,378
Number of Retired Members	26	45	102	87	110	106	124
Period 1/1/10-12/31/10							
Average Monthly Pension Benefits	$ 587	$ 986	$ 1,855	$ 2,929	$ 4,046	$ 5,922	$ 6,856
Monthly Final Average Salary	$ 3,666	$ 4,800	$ 5,537	$ 6,291	$ 6,962	$ 7,764	$ 7,741
Number of Retired Members	23	45	108	106	130	127	129
Period 1/1/11-12/31/11							
Average Monthly Pension Benefits	$ 678	$ 1,057	$ 1,689	$ 3,054	$ 4,257	$ 5,910	$ 6,766
Monthly Final Average Salary	$ 4,843	$ 5,825	$ 5,475	$ 6,497	$ 7,314	$ 7,874	$ 7,650
Number of Retired Members	16	55	111	86	120	123	155
Period 1/1/12-12/31/12							
Average Monthly Pension Benefits	$ 647	$ 1,142	$ 1,701	$ 2,957	$ 4,058	$ 5,802	$ 7,015
Monthly Final Average Salary	$ 5,988	$ 5,398	$ 5,672	$ 6,347	$ 6,759	$ 7,702	$ 7,750
Number of Retired Members	20	71	128	88	187	145	172
Period 1/1/13-12/31/13							
Average Monthly Pension Benefits	$ 435	$ 1,166	$ 2,039	$ 2,946	$ 3,794	$ 6,409	$ 7,732
Monthly Final Average Salary	$ 8,199	$ 6,347	$ 6,458	$ 6,492	$ 6,431	$ 8,432	$ 8,482
Number of Retired Members	29	55	139	82	161	147	131
Period 1/1/14-12/31/14							
Average Monthly Pension Benefits	$ 421	$ 1,152	$ 1,925	$ 3,188	$ 4,117	$ 6,444	$ 6,719
Monthly Final Average Salary	$ 8,176	$ 6,955	$ 6,301	$ 6,961	$ 7,003	$ 8,463	$ 7,349
Number of Retired Members	23	45	146	96	143	192	138
Period 1/1/15-12/31/15							
Average Monthly Pension Benefits	$ 582	$ 1,263	$ 1,755	$ 2,850	$ 3,895	$ 5,679	$ 7,235
Monthly Final Average Salary	$ 8,802	$ 6,888	$ 5,970	$ 6,673	$ 6,800	$ 7,893	$ 8,352
Number of Retired Members	22	63	128	119	110	200	182
Period 1/1/16-12/31/16							
Average Monthly Pension Benefits	$ 427	$ 1,244	$ 2,135	$ 2,886	$ 4,272	$ 5,549	$ 6,782
Monthly Final Average Salary	$ 8,298	$ 6,907	$ 6,911	$ 6,580	$ 7,383	$ 7,651	$ 7,762
Number of Retired Members	24	56	121	120	113	195	163

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule of Pension Benefit Recipients by Type of Benefit

December 31, 2016

Monthly Benefit	1	2	3	4	5	6	7	Total
$1-500	596	126	3	5	13	71	14	828
$501-1,000	1,087	248	-	33	41	88	105	1,602
$1,001-1,500	1,336	209	13	80	27	86	88	1,839
$1,501-2,000	1,116	145	100	72	24	55	39	1,551
$2,001-2,500	1,145	113	238	21	25	44	18	1,604
$2,501-3,000	950	111	203	20	38	34	12	1,368
$3,001-3,500	815	63	115	9	12	22	6	1,042
$3,501-4,000	729	49	105	8	17	9	7	924
$4,001-4,500	618	32	119	3	11	5	6	794
$4,501-5,000	623	35	41	-	13	7	4	723
$5,001-5,500	495	18	41	3	4	3	3	567
$5,501-6,000	476	12	28	2	3	2	3	526
$6,001-6,500	405	15	18	-	1	-	-	439
$6,501-7,000	373	8	21	-	4	-	2	408
Over $7,000	2,004	19	116	1	12	-	2	2,154
Total	**12,768**	**1,203**	**1,161**	**257**	**245**	**426**	**309**	**16,369**

Definition of Terms

Eligible Spouse: A member's spouse is considered eligible if the member has been legally married for at least one year at the time of retirement and remains married throughout the member's retirement. Eligible Spouse also includes Qualified Domestic Partner registered in accordance with applicable Family Law provisions.

Eligible Child: An eligible child is an unmarried child under the age of 18, or under the age of 22 if a full-time student. This includes adopted children. Eligible Child can also include a stepchild living or domiciled with the member at the time of the member's death for purposes of an active member Nonservice-connected or Service-connected death benefit only.

Types of Retirement Benefit

1. Normal Retirement for Age and Service
2. Survivor Payment - Normal Retirement
3. Service-Connected Disability Retirement
4. Nonservice-Connected Disability Retirement
5. Survivor Payment - Disability Retirement
6. DRO (Domestic Relations Order Payees)
7. Active Deaths

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule of Pension Benefit Recipients by Option Selected

December 31, 2016

Monthly Benefit	UM	OP1	OP2	OP3	OP4	DB	UMC	O2C	O3C	O4C	SCDC	NSCDC	LSRC	AN	Total
$1-500	562	1	29	2	2	71	121	10	8	-	1	12	1	8	828
$501-1,000	1,069	1	48	1	1	88	272	14	4	-	19	69	16	-	1,602
$1,001-1,500	1,380	1	44	3	1	86	226	10	1	-	4	74	9	-	1,839
$1,501-2,000	1,246	1	34	5	2	55	158	12	2	1	3	28	4	-	1,551
$2,001-2,500	1,372	-	27	1	4	44	129	11	-	-	1	13	2	-	1,604
$2,501-3,000	1,150	-	17	4	2	34	142	7	1	-	3	8	-	-	1,368
$3,001-3,500	915	1	18	2	3	22	64	12	-	-	1	4	-	-	1,042
$3,501-4,000	820	1	11	3	7	9	65	4	-	-	1	1	2	-	924
$4,001-4,500	717	-	16	4	3	5	44	2	-	-	1	2	-	-	794
$4,501-5,000	638	-	22	-	4	7	46	5	-	-	-	1	-	-	723
$5,001-5,500	525	-	10	1	3	3	20	3	1	-	-	1	-	-	567
$5,501-6,000	493	1	7	-	5	2	14	2	-	-	1	1	-	-	526
$6,001-6,500	410	-	8	-	5	-	13	3	-	-	-	-	-	-	439
$6,501-7,000	387	1	4	-	2	-	11	2	-	-	-	1	-	-	408
Over $7,000	2,087	1	20	2	11	-	27	5	-	-	-	-	1	-	2,154
Total	13,771	9	315	28	55	426	1,352	102	17	1	35	215	35	8	16,369

Definition of Options:

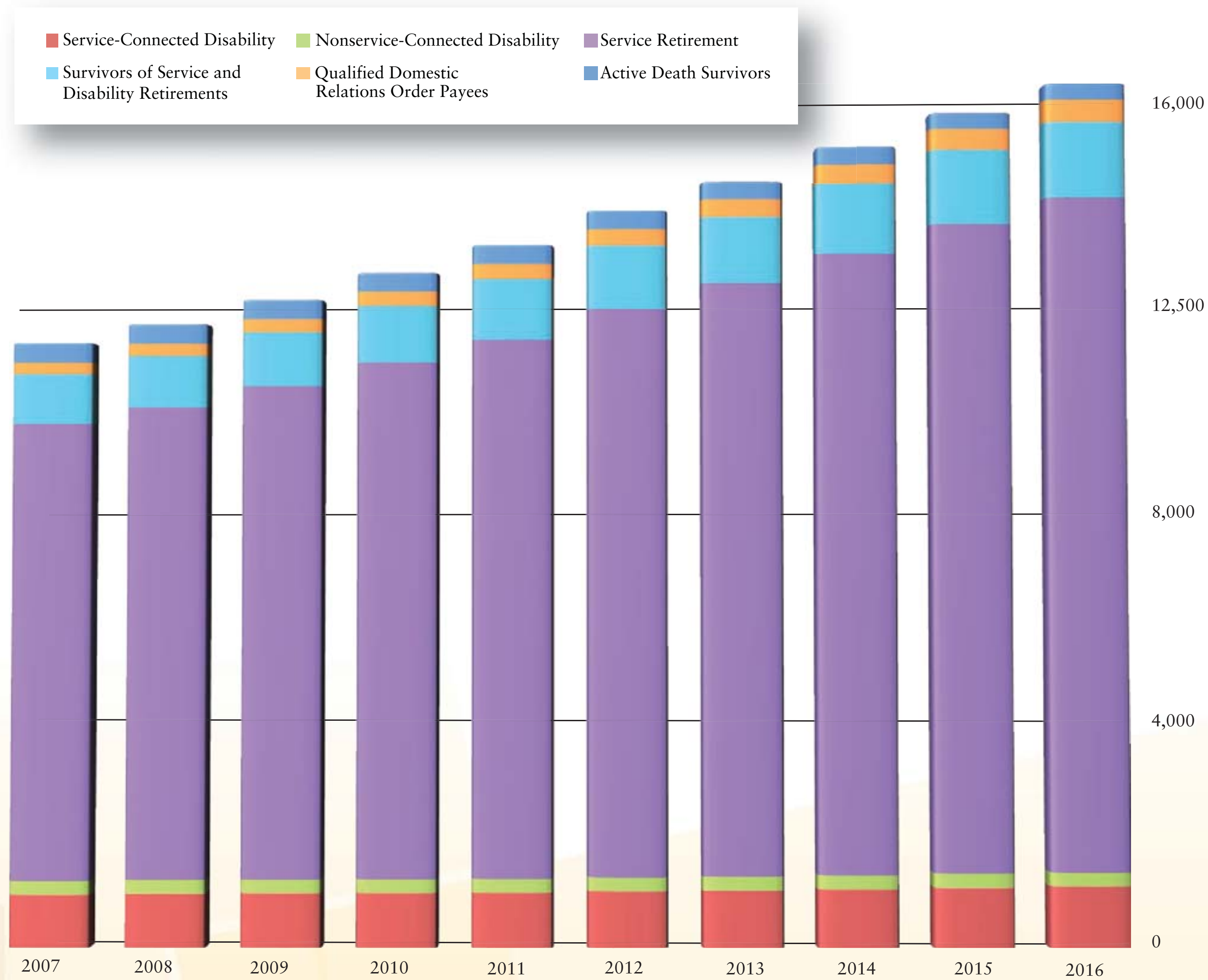
UM: Unmodified -- Maximum retirement allowance
OP1: Option 1 -- Reduced retirement allowance, at death of retiree beneficiary receives remaining balance on account
OP2: Option 2 -- Reduced retirement allowance
OP3: Option 3 -- Reduced retirement allowance
OP4: Option 4 -- Reduced retirement allowance
DB: DRO benefit -- Benefit as provided in Domestic Relations Order
UMC: Unmodified continuance -- Beneficiary receives 60% of maximum retirement allowance
O2C: Option 2 continuance -- Beneficiary receives same monthly allowance
O3C: Option 3 continuance -- Beneficiary receives 50% of monthly allowance
04C: Option 4 continuance -- Multiple beneficiaries receive allowance as previously approved
SCDC: SCD continuance -- Service Connected Disability
NSCDC: NSCD continuance -- Non Service Connected Disability
LSRC: Lump sum and reduced continuance
AN: Annuity

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule and Graph of Pension Benefit Recipients

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Service-Connected Disability	986	1,009	1,022	1,027	1,032	1,059	1,072	1,098	1,131	1,161
Nonservice-Connected Disability	257	258	252	254	259	260	263	265	271	257
Service Retirement	8,636	8,924	9,322	9,767	10,189	10,739	11,226	11,760	12,278	12,768
Survivors of Service and Disability Retirements	946	978	1,031	1,079	1,160	1,221	1,261	1,336	1,423	1,448
Qualified Domestic Relations Order Payees	221	238	248	272	289	314	340	366	399	426
Active Death Survivors	374	371	368	363	360	354	343	344	308	309
Total	**11,420**	**11,778**	**12,243**	**12,762**	**13,289**	**13,947**	**14,505**	**15,169**	**15,810**	**16,369**



Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule of Average Retirement Age

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
General	60.07	59.82	60.31	60.55	60.65	60.42	61.32	60.79	59.37	59.44
Safety	54.47	54.03	54.98	54.18	54.56	54.33	54.80	54.06	53.51	53.58

Schedule of Average Years of Service at Retirement

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
General	20.04	20.44	20.79	20.53	20.82	20.88	20.00	21.13	18.22	19.56
Safety	24.66	23.77	22.63	23.91	25.27	24.41	24.25	24.47	24.18	22.81

Schedule of Beneficiaries Receiving a Pension

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
General	1,190	1,214	1,253	1,286	1,352	1,398	1,503	1,457	1,498	1,514
Safety	130	135	146	156	168	177	187	223	233	243
Total	1,320	1,349	1,399	1,442	1,520	1,575	1,690	1,680	1,731	1,757

Schedule of Active and Deferred Members

2007 – 2016

Years Ended December 31	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
General										
Active	19,803	19,795	18,873	18,155	17,717	17,559	17,637	17,873	17,838	18,072
Deferred	3,353	3,560	3,707	3,905	3,998	3,980	4,205	4,380	4,668	4,940
Safety										
Active	3,815	3,925	3,760	3,587	3,704	3,730	3,731	3,587	3,687	3,674
Deferred	293	321	387	403	408	402	408	409	424	430
Total	27,264	27,601	26,727	26,050	25,827	25,671	25,981	26,249	26,617	27,116

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

Schedule of Participating Employers
Pension Plan

2007 – 2016

Years Ended December 31		Total	Orange County	OCTA	Superior Court	Fire Authority	OC Sanitation District	City of San Juan Capistrano	TCA	All Other Sponsors
2007	Number of Covered Employees	23,618	17,702	2,012	1,845	1,116	598	93	86	166
	Percentage to Total System	100%	74.95%	8.52%	7.81%	4.73%	2.53%	0.39%	0.36%	0.70%
2008	Number of Covered Employees	23,720	17,798	2,022	1,812	1,121	615	93	93	166
	Percentage to Total System	100%	75.03%	8.52%	7.64%	4.73%	2.59%	0.39%	0.39%	0.70%
2009	Number of Covered Employees	22,633	17,021	1,836	1,711	1,114	611	88	92	160
	Percentage to Total System	100%	75.20%	8.11%	7.56%	4.92%	2.70%	0.39%	0.41%	0.71%
2010	Number of Covered Employees	21,742	16,486	1,639	1,635	1,064	594	87	79	158
	Percentage to Total System	100%	75.83%	7.54%	7.52%	4.89%	2.73%	0.40%	0.36%	0.73%
2011	Number of Covered Employees	21,421	16,084	1,549	1,638	1,244	596	80	80	150
	Percentage to Total System	100%	75.09%	7.23%	7.65%	5.81%	2.78%	0.37%	0.37%	0.70%
2012	Number of Covered Employees	21,289	16,118	1,509	1,569	1,195	596	80	74	148
	Percentage to Total System	100%	75.70%	7.09%	7.37%	5.61%	2.80%	0.38%	0.35%	0.70%
2013	Number of Covered Employees	21,368	16,281	1,519	1,492	1,185	587	81	77	146
	Percentage to Total System	100%	76.19%	7.11%	6.98%	5.55%	2.75%	0.38%	0.36%	0.68%
2014	Number of Covered Employees	21,460	16,453	1,454	1,460	1,213	594	80	65	141
	Percentage to Total System	100%	76.67%	6.78%	6.80%	5.65%	2.77%	0.37%	0.30%	0.66%
2015	Number of Covered Employees	21,525	16,574	1,409	1,462	1,224	572	75	63	146
	Percentage to Total System	100%	77.00%	6.55%	6.79%	5.69%	2.66%	0.35%	0.29%	0.68%
2016	Number of Covered Employees	21,746	16,756	1,372	1,486	1,263	578	80	68	143
	Percentage to Total System	100%	77.05%	6.31%	6.83%	5.81%	2.66%	0.37%	0.31%	0.66%

Source: OCERS' Pension Gold Information System and V3 Pension Administration System Solution

History of Actuarial Assumption Rates

For the Period January 1945 - December 2016

The table shown below is a comprehensive history of the change in interest rate assumption and the salary assumption rates corresponding to the Orange County Employees Retirement System since the inception of the System. These rates are adopted by the Retirement Board and used by the consulting actuary in the creation of the actuarial valuation of the System.

Specifically, the interest rate assumption estimates the rate at which the funds of the System's investment portfolio will realize earnings over many years into the future. The salary assumption rate estimates the relative increases in the salary of a member from the date of the valuation to the estimated date of separation of the member from active service.

Effective Date	Interest Rate	Salary Assumption Rate
1/1/1945	2.50%	0.00%
7/1/1962	3.50%	0.00%
12/31/1965	4.00%	0.00%
7/1/1969	4.50%	0.00%
6/30/1970	5.00%	0.00%
8/31/1973	5.75%	0.00%
7/1/1975	6.00%	0.00%
7/1/1981	7.25%	5.00%
7/1/1989	7.50%	5.50%
7/1/1991	8.00%	6.00%
7/1/1996	8.00%	3.50%
7/1/2000	8.00%	5.50%
7/1/2003	7.50%	4.50%
12/31/2004	7.75%	3.50%[1]
12/31/2007	7.75%	3.50%[2]
12/31/2011	7.75%	3.50%[3]
12/31/2012	7.25%	3.00%[4]

[1] Inflation per year plus merit and promotion increases ranging from 0.6% to 0.7%
[2] Inflation per year plus merit and promotion increases ranging from 1% to 10%
[3] Inflation per year plus 0.25% across-the-board real salary increases plus merit and promotion increases ranging from 1% to 14%
[4] Inflation per year plus 0.50% across-the-board real salary increase

Source: The Segal Company

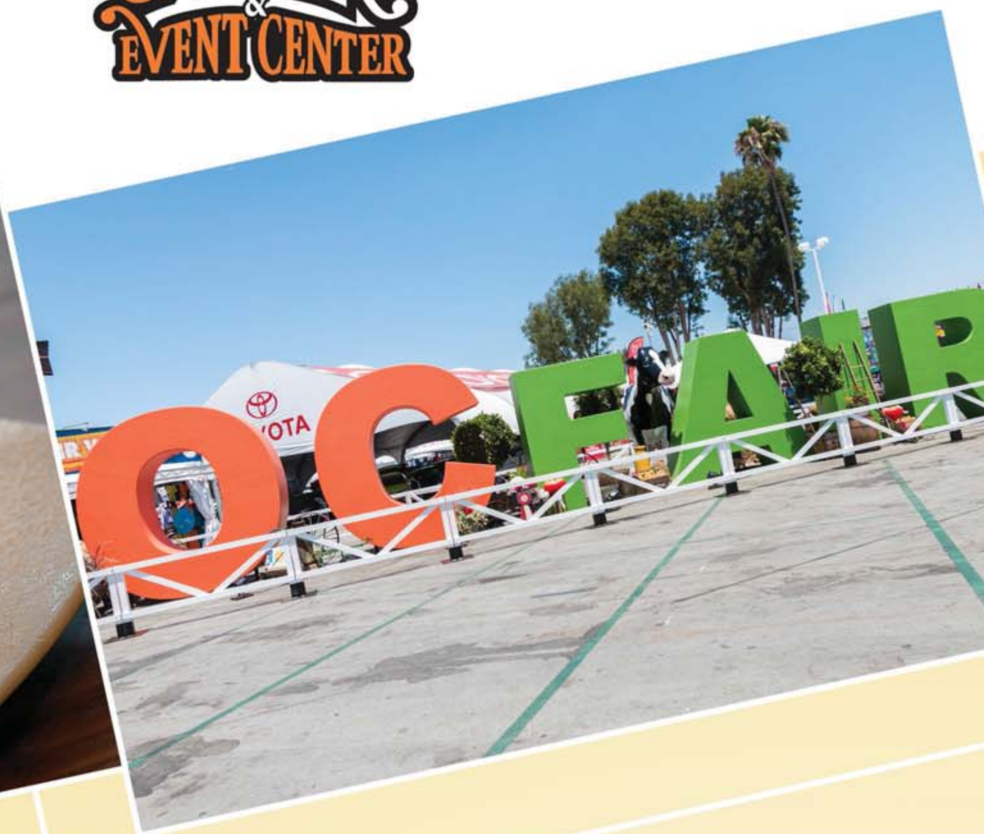
ORANGE COUNTY

OCERS

EMPLOYEES RETIREMENT SYSTEM

Orange County FAIR

The first Orange County Fairs were primarily livestock exhibitions and horse races. The Fair became an annual event and the "carnival of products" was added around the turn of the century. Over the years the Fair grew and was held at various locations until 1949 when the current site, the former Santa Ana Army Air Base, was purchased and made its permanent location. The OC Fair has grown from a small community celebration to a 23-day festival with livestock, carnival rides, product displays, music concerts, fried foods of every variety, and more.



Section VI

Glossary

Glossary of Terms

Accrual Basis
The recording of the financial effects on a government of transactions and other events and circumstances that have financial consequences for the government in the periods in which those transactions, events and circumstances occur, rather than only in the periods in which cash is received or paid by the government.

Accumulated Plan Benefits
Benefits attributable under the provisions of a pension plan to employees for services rendered to the benefit information date.

Actuarial Accrued Liability
The actuarial accrued liability, as determined by a particular cost method, equals the total present value of benefits that is attributable to past service credit.

Actuarial Assumptions
Assumptions used in the actuarial valuation process as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement; changes in compensation and national pension benefits; rates of investments earnings and asset appreciation or depreciation: procedures used to determine the actuarial value of assets; characteristics of future entrants for open group actuarial cost methods and other relevant items.

Actuarial Determined Contribution
A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

Actuarial Gain (Loss)
A measure of the difference between actuarial and expected experience based upon a set of actuarial assumptions. Examples include higher than expected salaries increases (loss) and a higher return on fund assets than anticipated (gain).

Actuarial Present Value
The discounted value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

Amortization
1. The portion of the cost of a limited-life or intangible asset charged as an expense during a particular period.

2. The reduction of debt by regular payments of principal and interest sufficient to retire the debt by maturity.

Comprehensive Annual Financial Report (CAFR)
The CAFR is the official annual report of a governmental entity. It includes the basic financial statements and their related notes prepared in conformity with GAAP. It also includes supporting schedules necessary to demonstrate compliance with finance-related legal and contractual provisions, required supplementary information, extensive introductory material and a detailed statistical section.

Cost-sharing Multiple-employer Defined Benefit Pension Plan (cost-sharing pension plan)
A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Glossary of Terms

(Continued)

Discount Rate

The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:

1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension plan's fiduciary net position is projected (under the requirements of GASB Statement No. 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.

2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

Entry Age Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on the level basis over the earnings or services of the individual between entry age and assumed exit age(s).

Independent Auditor's Report

In the context of a financial audit, a statement by the auditor describing the scope of the audit and the auditing standards applied in the examination, and setting forth the auditor's opinion on the fairness of presentation of the basic financial statements in conformity with generally accepted accounting principles (GAAP).

Money-weighted Rate of Return

A method of calculating period-by-period returns on pension plan investments that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Net Pension Liability

The liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.

Normal Cost

The ongoing annual cost allocated to the system by a particular actuarial cost method for providing benefits (future cost). Normal cost payments are made during the working lifetime of the member.

Pension Contribution

The amount paid into a pension plan by an employer (and/or employee), pursuant to the terms of the plan, state law, actuarial calculations or some other basis for determinations.

Pension Trust Fund

A fund used to account for public employee retirement benefits. Pension trust funds use the accrual basis of accounting and have a capital maintenance focus.

Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service in conformity with the requirements of GASB Statement No. 67.

Unfunded Actuarial Accrued Liability (UAAL)

The excess of the actuarial accrued liability over the actuarial value of assets represents the unfunded actuarial accrued liability.

UAAL Amortization Payment

The UAAL amortization payment is the portion of pension contributions, which is designed to pay off (amortize) the UAAL in a systematic fashion. Equivalently, it is a series of periodic payments required to pay off a debt.

Good VIBES of the OC

Orange County

ORANGE COUNTY
OCERS
EMPLOYEES RETIREMENT SYSTEM

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