# The City of Phoenix Employees' Retirement Plan

COMPONENT OF THE CITY OF PHOENIX, ARIZONA

# Comprehensive Annual Financial Report

FOR THE FISCAL YEAR ENDED JUNE 30, 2015 AND 2014

## Preserving City Services

# CITY OF PHOENIX
# EMPLOYEES' RETIREMENT PLAN
# (A Component Unit of the City of Phoenix, Arizona)

**SIXTY-NINTH ANNUAL**

**COMPREHENSIVE ANNUAL FINANCIAL REPORT**

**FOR THE FISCAL YEARS ENDED**

**JUNE 30, 2015 and 2014**

200 West Washington Ave, 10th Floor

Phoenix, Arizona 85003

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**Prepared by:**

City of Phoenix

Employees' Retirement System

and

City of Phoenix

Finance Department

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# Introductory Section

The **Introductory Section** contains the Certificate of Achievement for Excellence in Financial Reporting, the letter of transmittal, the Retirement Board structure, the administrative organization, and the Chairperson's Report.

Government Finance Officers Association

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

**City of Phoenix**
**Employees' Retirement Plan**
**Arizona**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

**June 30, 2014**

Jeffrey R. Emer

Executive Director/CEO

PPC

Public Pension Coordinating Council

## *Public Pension Standards Award For Funding and Administration 2015*

Presented to

***City of Phoenix 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

Alan H. Winkle
Program Administrator

City of Phoenix
RETIREMENT SYSTEMS

December 18, 2015

Chairperson and Members of the Retirement Board
City of Phoenix Employees' Retirement Plan:

I am pleased to submit this Comprehensive Annual Financial Report (CAFR) of the City of Phoenix Employees' Retirement Plan (COPERS or the Plan) as of and for the years ended June 30, 2015 and 2014. This report consists of the Introductory, Financial, Investment, Actuarial and Statistical sections.

The Plan is governed by the City of Phoenix Employees' Retirement Law of 1953 (Chapter XXIV of the City of Phoenix Charter). This law has been revised over the years, with the latest amendment approved by the City voters on August 25, 2015.

COPERS was created to provide retirement, survivor and disability benefits to the City of Phoenix general employees. COPERS is a qualified retirement plan under the Internal Revenue Code. The City of Phoenix Employees' Retirement Board (the Board) is the trustee of the Plan.

Elections are held every three years for the members of the Plan to elect three employee Retirement Board members. The last election was held in December 2014. The three elected employee Board members with terms of January 1, 2015 through December 31, 2017 were Elizabeth Bissa, Tammy Ryan and David Nieto. Susan Perkins was elected by the Board members as the Retiree Board member and John Hedblom was elected by the Board members as the Citizen Board member, both for three-year terms concurrent with the term of the elected employee Board members. The Ex-Officio Board members at the beginning of the fiscal year were: Neal Young, Finance Director; Rick Naimark, Deputy City Manager; Kathleen Gitkin, Interim City Treasurer; and, Cindy Bezaury, Interim Human Resources Director. Denise Olson joined the Board as the Interim Finance Director upon Mr. Young's retirement in June of 2015. Toni Maccarone joined the Board as the City Manager's designee upon Mr. Naimark's retirement in June of 2015.

The Mayor and City Council are covered by the Elected Officials Retirement Plan of Arizona (EORPA). Sworn police and fire employees are covered by the Arizona Public Safety Personnel Retirement System (APSPRS). The EORPA and the APSPRS were created by Arizona State Statute. EORPA and APSPRS benefit payments, investments and overall administration of the Plans are handled by centralized State Boards, and each of the retirement plans publish separate financial reports. However, the administration of the system and responsibility for making the APSPRS provisions effective for each employer are vested in Local Boards. For the City of Phoenix, this responsibility rests with the City of Phoenix Fire Pension Board and the City of Phoenix Police Pension Board. The COPERS Retirement Program Administrator serves as the Local Board Secretary for both Boards, and COPERS' staff perform the administrative functions on behalf of those Boards.

## FINANCIAL INFORMATION

Responsibility for accuracy of the data, completeness, and fairness of the presentation of the CAFR, including all disclosures, rests with the Retirement Board. The Plan's record-keeping, financial statement and investment control responsibilities have been performed by the City's Finance Department. To the best of our knowledge and belief, this report is accurate in all material respects and is reported in a manner designed to present fairly the Fiduciary position and changes in Fiduciary position. All disclosures necessary to enable the reader to gain an understanding of the Plan's financial activities have been included. The Management's Discussion and Analysis, which begins on page 18, provides analysis of the financial activities for the fiscal years ended June 30, 2015 and 2014.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to COPERS for its comprehensive annual financial report for the fiscal year ended June 30, 2014. In order to be awarded a Certificate of Achievement, an organization must conform to the highest standards of fiduciary reporting and full disclosure.

## INTERNAL CONTROLS

Internal controls are procedures designed to accomplish the following: to protect assets from loss, theft or misuse; to check the accuracy and reliability of accounting data; to promote operational efficiency; and, to encourage compliance with managerial policies. The Board and the City of Phoenix (the City) management are responsible for establishing a system of internal controls designed to provide reasonable assurance that these objectives are met. Because the cost of internal controls should not outweigh their benefits, the City's comprehensive framework of internal controls has been designed to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. Representatives from the City Auditor's Department meet periodically with the Board to review their audit plans and present the results of the audits. Moreover, representatives from the independent auditors meet annually with the Board to review their audit plans and receive input from the Board. The City also maintains budgetary controls designed to ensure compliance with legal provisions of the annual budget adopted by the City Council.

This report has been prepared in conformance with the principles of governmental accounting and reporting as set forth by the Governmental Accounting Standards Board. Transactions of COPERS are reported on the accrual basis of accounting. Revenues are recorded when earned, without regard to the date of collection, and expenses are recorded when incurred. The City's internal accounting and audit controls are designed to provide for the accuracy, reliability and integrity of all financial records.

## MAJOR INITIATIVES INVOLVING PLAN ADMINISTRATION

During its September and October 2015 meetings, the Board considered and approved a number of actuarial assumption changes as a result of a scheduled actuarial experience study conducted in 2015. The assumption changes were all demographic in nature; no economic assumptions were changed. The Board's adoption of a new mortality table was the most significant of those changes from a liability perspective. Cheiron, the Board's actuarial consultant, performed the experience study and used the new assumptions in the June 30, 2015 valuation.

Over the course of the Fiscal Year COPERS went through a Request for Proposals process for a new investment consultant. The COPERS Board chose Meketa Investment Group as the new general investment consultant, and retained RVK as its real estate investment consultant. Both contracts became effective July 1, 2015.

## ADMINISTRATIVE BUDGET

The City provides an annual budgetary allocation to pay for the general administration of COPERS. The cost paid by the City for COPERS' administration was $1,559,932. Most investment-related expenses, such as investment custody costs, investment manager fees, and consultant fees, are paid directly from the Plan's assets. Certain administrative fees for legal, medical, actuarial and computer services are also paid directly from Plan assets. The investment and administrative costs amounted to $15,208,000 for the fiscal year ended June 30, 2015. Administrative and investment costs combined represented 0.69% of total Plan assets.

## FUNDING STATUS AND PROGRESS

Fund balances are derived from net assets and are accumulated to meet current and future obligations to retirees and beneficiaries. COPERS' funding objective is to meet these obligations through contributions, which remain approximately level as a percent of member payroll. The actuarial valuation as of June 30, 2015, reflects a funded ratio of 55.4%, the difference between the actuarial value of assets and the actuarially calculated pension liability. The unfunded actuarial accrued liability will be amortized as a level percent of payroll over future years, except that the amortization of the impact of the assumption changes adopted in both 2013 and 2015 are being phased in to the full level percent of payroll amount over four years. The amortization period as of June 30, 2015 is 23 years. A smoothed market value of assets was used for the June 30, 2015 valuation. This method spreads the difference between the actual and expected investment return over four years. A detailed discussion of the funding of COPERS is provided in the Actuarial Section of this report.

## INVESTMENT ACTIVITIES

As of June 30, 2015, the net asset value of the COPERS' Plan is $2.210 billion. The fiscal year return for the Plan is 2.6%, which is 4.9% below the assumed rate of return of 7.50%. The five year annualized return is 9.9%.

The Board considered and approved two contracts for investment managers during the year.

## PROFESSIONAL SERVICES

The Retirement Board retains professional consultants to prudently discharge its fiduciary responsibility for the proper administration of the Plan. Cheiron provides actuarial services and the corresponding certification. BNY Mellon serves as the master custodian. Brokerage trade execution monitoring is compiled by Elkins/McSherry, LLC and reviewed by investment consultant RVK. RVK also provides investment performance analysis, asset allocation review and investment consulting to the Retirement Board. COPERS' financial statements are audited by Grant Thornton, LLP, and reviews of operations are performed by the City Auditor's Department.

## SUBSEQUENT EVENTS

On August 25, 2015, the Phoenix voters approved several changes to the Plan. One of those changes set an 11% cap on the employee contributions for Tier 2 members effective January 2016. Once effective, that cap will reduce Tier 2 member contributions by 4.51%. The second major change was to create a new Tier 3 retirement plan for all employees who begin service with the City on or after January 1, 2016. Tier 3 has lower benefit ratios and only applies to the first $125,000 of a member's salary (which amount is indexed for inflation); any amounts earned over that limit are subject to a defined contribution plan administered by the City's Human Resources Department. Tier 3 members also have a variable employee contribution rate with an 11% cap, similar to the new Tier 2 contribution structure.

## ACKNOWLEDGMENTS

The Plan received the Public Pension Standards Award for Funding and Administration. This award was presented by the Public Pension Coordinating Council, a confederation of the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems and the National Council on Teacher Retirement. This is the sixth year the Plan has applied for and received this award.

The guidance provided by the Retirement Board is greatly appreciated. The preparation of this report is a collaborative effort of many individuals. I would like to acknowledge the hard work of the COPERS staff, the Finance Department and the Retirement Board. This report is intended to provide important information crucial to the understanding of the pension plan.

Sincerely,

Scott A. Miller
Retirement Program Administrator

## Retirement Board



**TAMMY RYAN**
Chairperson, Retirement Board
Elected Board Member

**SUSAN PERKINS**
Vice Chairperson, Retirement Board
Retired Finance Department
Deputy Director
City of Phoenix
Retiree Board Member

**JOHN HEDBLOM**
Citizen Board Member



**BLAIR JOHNSON**
Human Resources Director
City of Phoenix
Ex-Officio Board Member

**TONI MACCARONE**
Special Assistant to the City Manager
City of Phoenix
Ex-Officio Board Member

**KATHLEEN GITKIN**
City Treasurer
City of Phoenix
Ex-Officio Board Member



**DAVID NIETO**
Elected Board Member

**CHARLENE REYNOLDS**
Elected Board Member

**DENISE OLSON**
Chief Financial Officer
City of Phoenix
Ex-Officio Board Member

## Retirement Board Committees

Investment Committee

**Kathleen Gitkin**, Chairperson
**John Hedblom**
**Denise Olson**
**Susan Perkins**
**Tammy Ryan**

Charter Amendments/Policies & Procedures Committee

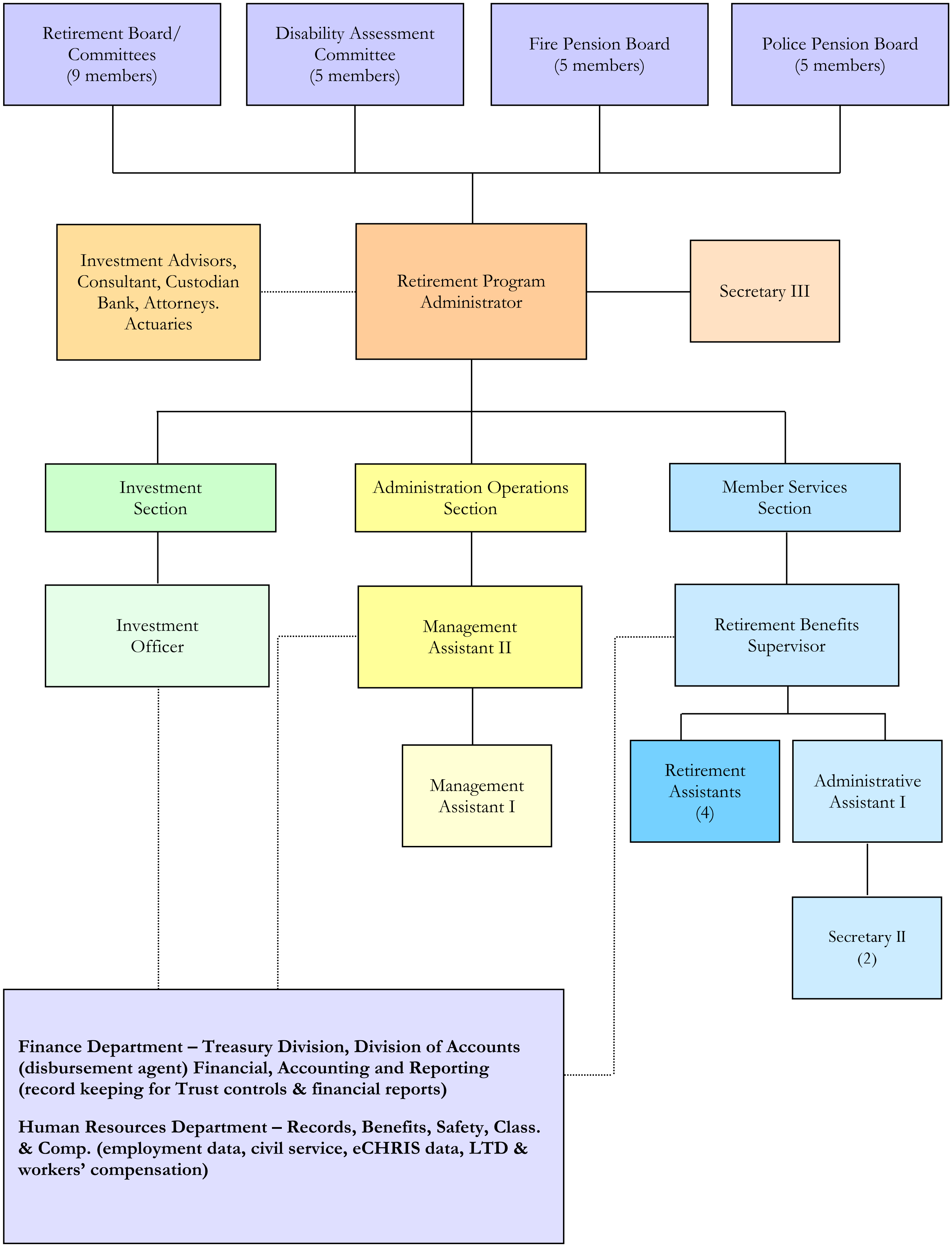
**Blair Johnson**, Chairperson
**David Nieto**
**Denise Olson**
**Tammy Ryan**

Legal Review Committee

**Toni Maccarone** Chairperson
**John Hedblom**
**David Nieto**
**Susan Perkins**

Disability Assessment Committee

**Scott Miller**, Chairperson
**Stanley Flowers**
**Robert Jones, M.D.**
**Mary Kyle**
**Fred Verdugo**


Retirement Board/ Committees (9 members)
Disability Assessment Committee (5 members)
Fire Pension Board (5 members)
Police Pension Board (5 members)
Investment Advisors, Consultant, Custodian Bank, Attorneys. Actuaries
Retirement Program Administrator
Secretary III
Investment Section
Administration Operations Section
Member Services Section
Investment Officer
Management Assistant II
Retirement Benefits Supervisor
Management Assistant I
Retirement Assistants (4)
Administrative Assistant I
Secretary II (2)
Finance Department – Treasury Division, Division of Accounts (disbursement agent) Financial, Accounting and Reporting (record keeping for Trust controls & financial reports)
Human Resources Department – Records, Benefits, Safety, Class. & Comp. (employment data, civil service, eCHRIS data, LTD & workers' compensation)

**Administrative Staff**

| | |
|---|---|
| **Scott A. Miller** | Retirement Program Administrator |
| **Tency Castillo** | Retirement Assistant |
| **Lollita Cordova** | Retirement Benefits Supervisor |
| **Trista Eaden** | Management Assistant I |
| **Greg Fitchet** | Investment Officer |
| **Desiree Garcia** | Secretary II |
| **Tim Jackson** | Retirement Assistant |
| **Josie Romero** | Retirement Assistant |
| **Diamond Smiley** | Secretary II |
| **Scott Steventon** | Management Assistant II |
| **Maria West** | Administrative Assistant I |
| **Marcia Wilson** | Secretary III |
| **Vacant** | Retirement Assistant |

**Accounting**

| | |
|---|---|
| **Denise Olson** | Chief Financial Officer, Finance Department |

**Treasurer**

| | |
|---|---|
| **Kathleen Gitkin** | City Treasurer, Finance Department |

**Legal**

| | |
|---|---|
| **Stephanie Hart** | Assistant City Attorney IV, Law Department |

**Actuary**

| | |
|---|---|
| Cheiron | McLean, VA |

**Auditor**

| | |
|---|---|
| Grant Thornton LLP | Phoenix, AZ<br>Certified Public Accountants under contract with the City Auditor |

**Brokerage**

| | |
|---|---|
| Elkins McSherry LLC | New York, NY |

**Investment Services**

Refer to Investment Section, page 46

**Legal Services**

| | |
|---|---|
| Cohen Milstein Sellers & Toll, PLLC | Washington, D.C. |
| Keller Rohrback, L.L.P. | Phoenix, AZ |
| Kessler Topaz Meltzer & Check, LLP | Radnor, PA |
| Labaton Sucharow LLP | New York, NY |
| Tiffany & Bosco, P.A. | Phoenix, AZ |

**Master Custodian**

| | |
|---|---|
| BNY Mellon | Pittsburgh, Pennsylvania |

**Medical Advisors**

Several physicians and clinics used for evaluation of disability applicants on a "per case" basis

City of Phoenix
RETIREMENT SYSTEMS

December 18, 2015

To COPERS' Members and Retirees:

On behalf of the Retirement Board, it is my pleasure to present the City of Phoenix Employees' Retirement System (COPERS) Comprehensive Annual Financial Report (CAFR) for the fiscal years ended June 30, 2015 and June 30, 2014. This annual report contains information regarding the COPERS' administration, financial statements, investments, actuarial and statistical data.

During the fiscal year, the Board's investment consultant, RVK, provided performance measurement and assisted the Board with analysis of investment issues. RVK reports the COPERS' total fund performance for the year ended June 30, 2015 was 2.6%. The annualized return for the past three and five years was 9.8% and 9.9%, respectively.

As reported by RVK, the fair value of the Plan's assets increased from $2.220 billion to $2.225 billion in the fiscal year ended June 30, 2015. The long-term returns of the Plan were negatively impacted by the difficult market environment and economic downturn experienced beginning mid-2007 through early 2009, as well as the negative returns in the international equity markets during the last fiscal year. The plan has now realized all of the losses from 2007-2009, however, and experienced a five-year return of 9.9%.

The Board has implemented a diversified portfolio, in which all segments of the U.S. and International equity markets are represented. The fixed income and real estate allocations are diversified among several managers. Real estate holdings are further diversified among geographic locations and property types.

The Board's actuarial consultant, Cheiron, Inc. (Cheiron), conducted both an actuarial experience study and the annual actuarial valuation that included new actuarial assumptions adopted by the Board during the fiscal year. In the actuarial valuation as of June 30, 2015, Cheiron reports the funded ratio of the plan to be 55.4%, a decrease of 3.3% from the June 30, 2014, funded ratio of 58.7%. The plan sponsor, the City of Phoenix, remains committed to funding the employer's actuarially computed contribution amount.

Representatives from the City Auditor Department and external auditors under contract with the City Auditor meet annually with the Board to review their audit plans, receive input from the Board and present the results of their audits.

A general election was held on August 25, 2015 and voters approved a number of changes impacting the retirement system. The Charter of the City of Phoenix (Charter) was amended to include an additional benefit tier. All new employees hired on and after January 1, 2016 will be placed in Tier III. Tier III is a "stacked hybrid" retirement plan, which provides for a defined benefit retirement plan for the first $125,000 of an employee's compensation (indexed for inflation). All compensation above that limit is subject to the City's 401(a) defined contribution program, which is not administered by the Retirement Board. The Charter was also amended to provide a cap on Tier II and Tier III employee contributions of 11%, and a cap on the interest credited to employee accounts for all Tiers.

The Board and staff have continued their effective communication with the Plan's retirees, which included a presentation for the City of Phoenix Retirees Association members.

The CAFR and the Popular Annual Financial Report (PAFR) for the fiscal years ended June 30, 2014 and 2013 were once again recognized by the Government Finance Officers Association. These reports are accessible through the COPERS' internet site.

The COPERS' Board continues to focus on fulfilling its fiduciary obligation to the COPERS members, retirees and beneficiaries. Please contact the Retirement Office with any questions or comments.

Sincerely,

Tammy Ryan

Tammy Ryan
Chairperson, Retirement Board

# FINANCIAL SECTION

The **Financial Section** contains the opinion of the independent auditors, management's discussion and analysis, the audited financial statements, notes to the financial statements, and relevant supplemental information.

Grant Thornton

## REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

**Grant Thornton LLP**
2398 E. Camelback Road, Suite 600
Phoenix, AZ 85016

T 602.474.3400
F 602.474.3421
www.GrantThornton.com

Honorable Mayor and Members of the City Council
City of Phoenix Employees' Retirement System Retirement Board

We have audited the accompanying financial statements of the City of Phoenix Employees' Retirement System (the "Plan"), which comprise the statements of fiduciary net position as of December 31, 2015 and 2014 and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

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 audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. 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 Plan'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 Plan'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.

Grant Thornton LLP
U.S. member firm of Grant Thornton International Ltd

Grant Thornton

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, information regarding City of Phoenix Employees' Retirement System's statements of fiduciary net position as of December 31, 2015 and 2014, and changes therein for the years then ended, and its financial status as of December 31, 2015 and 2014 and changes therein for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Required supplementary information

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 18 through 22, as well as the schedule of changes in net pension liability, schedule of employer contributions, and schedule of investment returns on pages 40 through 41, be presented to supplement the basic financial statements. Such information, although not a required 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. This required supplementary information is the responsibility of management. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America established by the American Institute of Certified Public Accountants. These limited procedures 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.

## Supplementary information

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The additional supplemental information listed in the table of contents is presented for purposes of additional analysis and is not a required part of the financial statements. Such supplementary information is the responsibility of the Plan's management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures. These additional procedures included comparing and reconciling the information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplemental information is fairly stated, in all material respects, in relation to the financial statements as a whole.

Grant Thornton LLP
U.S. member firm of Grant Thornton International Ltd

Grant Thornton

Other information

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied to the audit of the basic financial statements, and accordingly, we express no opinion on it.

GRANT THORNTON LLP

Phoenix, Arizona
December 18, 2015

Grant Thornton LLP
U.S. member firm of Grant Thornton International Ltd

## Management's Discussion and Analysis (unaudited)

Dear Members and Retirees:

The City of Phoenix Employees' Retirement System ("COPERS" or the "Plan") is pleased to provide the following analysis of the financial activities for the fiscal years ended June 30, 2015 and 2014. The information provided is intended to be considered in conjunction with the Transmittal Letter in the Introductory Section, the Statements provided in the Financial, Investment, Actuarial and Statistical Sections of this Comprehensive Annual Financial Report ("CAFR"), and the Notes to the Financial Statements.

**Financial Highlights:**
(in thousands)

- As of June 30, 2015, $2,209,526 in Net Position Restricted for Pensions, as identified in the Statements of Fiduciary Net Position on page 23. This amount represents a decrease of 0.6% from June 30, 2014. The decrease is attributable primarily to losses experienced in the financial markets, which impacted COPERS investment performance. The Net Position Restricted for Pensions as of June 30, 2014 was $2,222,242 compared to $1,959,952 as of June 30, 2013. The increase of 13.4% during 2014 was attributable to gains experienced in the financial markets, which impacted COPERS investment performance.

- COPERS' additions to the net Position Restricted for Pensions, as reported in the Statements of Changes in Fiduciary Net Position on page 24, for the fiscal year ended June 30, 2015 was $192,301 compared to $442,795 for fiscal year ended June 30, 2014 and $333,242 for fiscal year ended June 30, 2013. The decrease for the current year was attributable primarily to investment losses. The amount for the fiscal year ending June 30, 2015 includes employer and employee contributions of $145,152 and net investment income of $47,149. Fiscal year ended June 30, 2014 and June 30, 2013, employer and employee contributions were $144,059 and $137,832, respectively. The net investment income was $298,576 and $195,305 for fiscal years ended June 30, 2014 and June 30, 2013, respectively.

- The Statements of Changes in Fiduciary Net Position reported an increase in deductions in Plan net position of 13.6% from the fiscal year ended June 30, 2015. This compares to a 6.8% increase in deductions between June 30, 2014 and June 30, 2013. Deductions for fiscal year ended June 30, 2015 were $205,017 compared to $180,505 for fiscal year ended June 30, 2014 and $168,980 for fiscal year ended June 30, 2013. The increases in deductions as of June 30, 2015 and June 30, 2014 are attributable to an increase in the number of retirees, refunds of contributions, and transfers out.

- The recent Actuarial Valuation prepared as of June 30, 2015 reported the funded ratio to be 55.4%. The funded ratio for fiscal years June 30, 2014 and June 30, 2013 was 58.7% and 56.4%, respectively. A smoothed market value of assets was used for the June 30, 2015, June 30, 2014 and June 30, 2013 valuations. This method spreads the difference between the actual and expected investment return over four years.

**Using This Annual Report:**

This report is prepared to provide information as a means for making management decisions, complying with statutory provisions, and demonstrating the responsible stewardship of the assets of the Plan. The financial statements starting on page 23 in the Financial Section identify the Net Position Restricted for Pensions, and provide a comparison of the current fiscal year to the prior year.

**Overview of Financial Statements**:

The Financial Section includes the following:

- Statements of Fiduciary Net Position (Page 23)
- Statements of Changes in Fiduciary Net Position (Page 24)
- Notes to the Financial Statements (Page 25)
- Required Supplementary Information (Page 40)
- Additional Supplementary Information (Page 43)

Statements of Fiduciary Net Position:

These statements identify the receivables, investments, and liabilities of the Plan to arrive at the Net Position Restricted for Pensions payable to retirees and survivors. The current year information is provided in comparison to the previous year to assist the reader in evaluating the progress of the Plan.

Statements of Changes in Fiduciary Net Position:

The Statements of Changes in Fiduciary Net Position differ from the Statements of Fiduciary Net Position by providing the reader with the Plan's additions and deductions for the current year and the previous year. The statements provide the net increases or decreases realized during the years.

Notes to the Financial Statements:

The Notes to the Financial Statements are an integral part of the financial statements. The information provides the reader with a better understanding of the data presented in the financial statements to further evaluate the financial condition and operations of the Plan.

Required Supplementary Information (RSI):

The RSI provides the Plan's funding progress for the last eight years and the funding ratio to identify the Plan's ability to meet its current and future benefit obligations. The Schedule of Employer Contributions for the last ten years includes the City's required dollar amount of contributions made to the Plan. The Notes to the Required Supplementary Information provide additional information regarding actuarial assumptions and factors affecting trends.

Additional Supplementary Information:

The Additional Supplementary Information includes Administrative Expenditures and Encumbrances for the current and previous year in operating COPERS. The administrative expenditures are paid by the City of Phoenix and are not recognized in the COPERS financial statements. The Schedules of Investment Expenses provide the reader with the cost to the Plan for managing and monitoring the Plan's assets.

### Financial Analysis
(in thousands)

The evaluation of the Plan's net position provides a measurement tool in assessing the progress and performance of the Plan. COPERS Net Position Restricted for Pensions as of June 30, 2015 was $2,209,526. This amount represents a decrease of 0.6% from Net Position Restricted for Pensions of $2,222,242 as of June 30, 2014. The Net Position Restricted for Pensions as of June 30, 2013 was $1,959,952. The Net Position Restricted for Pensions held Cash & Cash Equivalents as of June 30, 2015 of $50,557 compared to $27,036 for June 30, 2014 resulting in an increase of $23,521. Cash & Cash Equivalents will fluctuate due to timing of investments managed by the individual fund managers. Uninvested cash will be held in Cash & Cash Equivalents and may change at any point in time. The Net Position Restricted for Pensions held Total Liabilities as of June 30, 2015 of $331,414 compared to $168,769 for June 30, 2014 and was attributable to several large purchases of investments in process at fiscal year end. The return on investments for fiscal years ended June 30, 2015, 2014 and 2013 was 2.64%, 15.88% and 11.35%, respectively. The investment performance for the fiscal year ended June 30, 2015 was attributable to domestic equity performance of 6.66%, international equity performance of (2.45%), real estate performance of 13.20%, real return performance of (4.99%), fixed income performance of 1.31% and emerging markets debt composite performance of 1.33%. The investment performance for the fiscal year ended June 30, 2014 was attributable to domestic equity performance of 24.07%, international equity performance of 23.49%, real estate performance of 12.66%, real return performance of 8.36%, fixed income performance of 5.06% and long/short equity performance of 10.08%. The investment performance for the fiscal year ended June 30, 2013 was attributable to domestic equity performance of 25.11%, international equity performance of 14.19%, real estate performance of 13.02%, real return performance of (0.13%), fixed income performance of 0.43% and long/short equity performance of 11.58%.

**Table 1: COPERS Fiduciary Net Position for Benefits for June 30, 2015 and 2014 (in thousands)**

| | 2015 | 2014 | Change | % Change |
|---|---|---|---|---|
| Cash & Cash Equivalents | $ 50,557 | $ 27,036 | $ 23,521 | 87.0% |
| Total Receivables | 190,532 | 117,296 | 73,236 | 62.4 |
| Total Investments | 2,299,851 | 2,246,679 | 53,172 | 2.4 |
| Total Assets | 2,540,940 | 2,391,011 | 149,929 | 6.3 |
| Total Liabilities | 331,414 | 168,769 | 162,645 | 96.4 |
| COPERS Net Position | $ 2,209,526 | $ 2,222,242 | $ (12,716) | (0.6)% |

**Table 2: COPERS Fiduciary Net Position for Benefits for June 30, 2014 and 2013 (in thousands)**

| | 2014 | 2013 | Change | % Change |
|---|---|---|---|---|
| Cash & Cash Equivalents | $ 27,036 | $ 23,854 | $ 3,182 | 13.3% |
| Total Receivables | 117,296 | 82,523 | 34,773 | 42.1 |
| Total Investments | 2,246,679 | 2,065,499 | 181,180 | 8.8 |
| Total Assets | 2,391,011 | 2,171,876 | 219,135 | 10.1 |
| Total Liabilities | 168,769 | 211,924 | (43,155) | (20.4) |
| COPERS Net Position | $ 2,222,242 | $ 1,959,952 | $ 262,290 | 13.4% |

**Reserves:**

COPERS maintains five accounts to hold reserves for benefit payments. Additions to the reserves come from contributions (employer and member) and investment income. Distributions from the reserves include monthly pension benefits and increases to eligible pensions under the Pension Equalization Program and the "13th Check." A schedule of reserve account balances is included in Note 3 to the Financial Statements.

**COPERS Activities:**
(in thousands)

COPERS provides retirement pensions, survivor benefits, member contribution refunds, and disability benefits to qualified members and their beneficiaries. These benefits are financed through employer and member contributions and income from COPERS investments.

Net investment income, which includes net appreciation and depreciation in fair value of investments, bond interest, dividend income, net securities lending income and investment expenses for the fiscal year ended June 30, 2015 was $47,149 (including securities lending). This compares to net investment income for June 30, 2014 and June 30, 2013 of $298,576 and $195,305 respectively. Employer contributions increased during the fiscal year due to the increase in the actuarial required contribution to $117,092 for the fiscal year ended June 30, 2015 compared to $115,244 for the fiscal year ended June 30, 2014. Deductions increased by 13.6% over the prior fiscal year, primarily as a result of increases in benefit payments and the number of retirees. This compares to a 6.8% increase in deductions from June 30, 2013 to June 30, 2014. Benefit payments for the fiscal years ended June 30, 2015, 2014 and 2013 were $201,178, $177,447 and $165,521, respectively. The increase in benefit payments for the last two fiscal years is due to an increase in the number of retirees.

The summary of COPERS revenues (additions) and expenses (deductions) for the fiscal years ended June 30, 2015, 2014 and 2013 are provided in Table 3 and Table 4:

**Table 3: Additions and Deductions to/from Fiduciary Net Position for the fiscal years ended June 30, 2015 and June 30, 2014 (in thousands)**

| | 2015 | 2014 | Change | % Change |
|---|---|---|---|---|
| Additions | | | | |
| Employer Contributions | $ 117,092 | $ 115,244 | $ 1,848 | 1.6% |
| Members' Contributions | 27,861 | 28,815 | (954) | (3.3) |
| Inter-System Transfers | 199 | 160 | 39 | 24.4 |
| Investment Income | 46,978 | 298,121 | (251,143) | (84.2) |
| Net Securities Lending Income | 171 | 455 | (284) | (62.4) |
| Total | 192,301 | 442,795 | (250,494) | (56.6) |
| Deductions | | | | |
| Benefit Payments | 201,178 | 177,447 | 23,731 | 13.4 |
| Refunds | 3,004 | 2,192 | 812 | 37.0 |
| Inter-System Transfers | 421 | 238 | 183 | 76.9 |
| Administrative Expense | 414 | 628 | (214) | (34.1) |
| Total | 205,017 | 180,505 | 24,512 | 13.6 |
| Change in Net Position Restricted for Pensions | (12,716) | 262,290 | (275,006) | (104.8) |
| Ending Net Position Restricted for Pensions | $ 2,209,526 | $ 2,222,242 | $ (12,716) | (0.6)% |

**Table 4: Additions and Deductions to/from Fiduciary Net Position for the fiscal years ended June 30, 2014 and June 30, 2013 (in thousands)**

| | 2014 | 2013 | Change | % Change |
|---|---|---|---|---|
| Additions | | | | |
| Employer Contributions | $ 115,244 | $ 110,094 | $ 5,150 | 4.7% |
| Members' Contributions | 28,815 | 27,738 | 1,077 | 3.9 |
| Inter-System Transfers | 160 | 105 | 55 | 52.4 |
| Net Investment Income | 298,121 | 194,902 | 103,219 | 53.0 |
| Net Securities Lending Income | 455 | 403 | 52 | 12.9 |
| Total | 442,795 | 333,242 | 109,553 | 32.9 |
| Deductions | | | | |
| Benefit Payments | 177,447 | 165,521 | 11,926 | 7.2 |
| Refunds | 2,192 | 2,464 | (272) | (11.0) |
| Inter-System Transfers | 238 | 606 | (368) | (60.7) |
| Administrative Expense | 628 | 389 | 239 | 61.4 |
| Total | 180,505 | 168,980 | 11,525 | 6.8 |
| Change in Position Restricted for Pensions | 262,290 | 164,262 | 98,028 | 59.7 |
| Ending Net Position Restricted for Pensions | $ 2,222,242 | $ 1,959,952 | $ 262,290 | 13.4% |

**Requests for Information:**

This report is prepared to provide the Retirement Board, members, retirees and citizens with an overview of the plan, to assess COPERS' financial position and to show accountability for funds received. Questions regarding the information provided in this financial report or requests for additional information may be addressed to:

COPERS
200 W. Washington, 10th Floor
Phoenix, AZ 85003
(602) 534-4400
www.phoenix.gov/copers

# Statements of Fiduciary Net Position
## June 30, 2015 and 2014

| (in thousands) | | 2015 | 2014 |
|---|---|---|---|
| **ASSETS** | | | |
| **Cash and Cash Equivalents** | $ | 50,557 | $ 27,036 |
| **Receivables** | | | |
| Due from the City of Phoenix | | 37 | 471 |
| City of Phoenix Contributions | | 3,075 | 2,733 |
| Member Contributions | | 671 | 598 |
| Interest and Dividends | | 1,871 | 1,727 |
| Unsettled Broker Transactions - Sales | | 109,963 | 89,047 |
| Unsettled Broker Transactions - Foreign Exchange Sales | | 74,816 | 21,658 |
| Other | | 99 | 1,062 |
| | Total Receivables | 190,532 | 117,296 |
| **Investments, at Fair Value** | | | |
| Temporary Investments from Securities Lending Collateral | | 84,164 | 83,874 |
| Fixed Income | | 543,972 | 497,987 |
| Domestic Equities and Other | | 410,654 | 588,564 |
| International Equities | | 278,918 | 354,409 |
| International Equities Commingled | | 441,301 | 312,804 |
| Hedge Funds | | 259,383 | 150,258 |
| Real Estate | | 281,459 | 258,783 |
| | Total Investments | 2,299,851 | 2,246,679 |
| | Total Assets | 2,540,940 | 2,391,011 |
| **Deferred Outflows of Resources** | | | |
| Total deferred outflows of resources | | -- | -- |
| **LIABILITIES** | | | |
| Payable for Securities Lending Collateral | | 84,164 | 83,874 |
| Unsettled Broker Transactions - Purchases | | 154,181 | 61,575 |
| Unsettled Broker Transactions - Foreign Exchange Purchases | | 73,862 | 21,369 |
| Due to the City of Phoenix - Benefits | | 17,255 | - |
| Due to the City of Phoenix - Other | | 276 | - |
| Investment Management Fees Payable | | 1,564 | 1,903 |
| Other Payables | | 112 | 48 |
| | Total Liabilities | 331,414 | 168,769 |
| **Deferred InFlows of Resources** | | | |
| Total deferred inflows of resources | | -- | -- |
| Commitments and Contingencies | | | |
| Net Position Restricted for Pensions | $ | 2,209,526 | $ 2,222,242 |

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

## Statements of Changes in Fiduciary Net Position
### For the Fiscal Years Ended June 30, 2015 and 2014

| (in thousands) | | 2015 | | 2014 |
|---|---|---|---|---|
| **ADDITIONS** | | | | |
| **Contributions** | | | | |
| City of Phoenix | $ | 117,092 | $ | 115,244 |
| Member | | 27,861 | | 28,815 |
| Inter-System Transfers | | 199 | | 160 |
| Total Contributions | | 145,152 | | 144,219 |
| **Net Investment Income** | | | | |
| From Investing Activities: | | | | |
| Net Appreciation/(Depreciation) in Fair Value of Investments | | 21,960 | | 270,665 |
| Interest | | 8,846 | | 5,964 |
| Dividends | | 23,166 | | 27,971 |
| Other | | (1,042) | | (494) |
| Total Income from Investing Activities | | 52,930 | | 304,106 |
| Less Investing Activities Expense | | (5,952) | | (5,985) |
| Net Income from Investing Activities | | 46,978 | | 298,121 |
| From Security Lending Activities: | | | | |
| Security Lending Gross Income | | 155 | | 633 |
| Less Security Lending Activity Expenses: | | | | |
| Agent Fees | | (73) | | (195) |
| Broker Rebates/Collateral Management Fees | | 89 | | 17 |
| Total Security Lending Expenses, net | | 16 | | (178) |
| Net Income from Security Lending Activities | | 171 | | 455 |
| Total Net Investment Income | | 47,149 | | 298,576 |
| Total Additions | | 192,301 | | 442,795 |
| **DEDUCTIONS** | | | | |
| Benefit Payments | | 201,178 | | 177,447 |
| Refunds of Contributions | | 3,004 | | 2,192 |
| Inter-System Transfers | | 421 | | 238 |
| Administrative Expense | | 414 | | 628 |
| Total Deductions | | 205,017 | | 180,505 |
| **NET INCREASE/(DECREASE) IN NET POSITION** | | (12,716) | | 262,290 |
| **Net Position Restricted for Pensions** | | | | |
| Beginning of Year | | 2,222,242 | | 1,959,952 |
| End of Year | $ | 2,209,526 | $ | 2,222,242 |

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

### Note 1 - Summary of Significant Accounting Policies

The City of Phoenix Employees' Retirement Plan ("COPERS" or the "Plan") is a defined benefit single-employer public employees' retirement system for the City of Phoenix ("City") general municipal employees. The accounting policies of COPERS conform to accounting principles generally accepted in the United States of America ("GAAP") as applicable to governmental retirement plans.

**a. Reporting Entity**

COPERS prepares and distributes separate financial statements as required by the Charter of the City of Phoenix (Chapter XXIV, Article II, Employees' Retirement Law of 1953) ("Charter"). Its financial statements are also included as a component unit of the City reporting entity due to the significance of COPERS operational and financial relationships with the City. The City is the only non-employee contributor to the pension plan. Not all employees of the City are covered under COPERS. Police officers and firefighters are covered under the Arizona Public Safety Personnel Retirement System ("APSPRS") and elected officials under the Elected Officials Retirement Plan of Arizona ("EORPA"). APSPRS and EORPA were established by Arizona State Statute and are administered by an independent Board of Trustees. The City's involvement with these plans is limited to the administration of benefits for APSPRS through the City of Phoenix Fire and Police Local Boards and making the required annual contributions.

**b. Basis of Accounting**

COPERS financial statements are prepared using the accrual basis of accounting using the economic resources measurement focus. Employee contributions are recognized as revenues in the period in which employee services are performed and the contributions are therefore earned. Employer contributions are recognized at the same time, as the City is formally committed to contributing the actuarially determined amount each year. Benefit payments received each month by retirees are recognized as an expense of the prior month, and refunds are recognized as expenses when due and payable, in accordance with the terms of the plan.

**c. Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make a number of estimates and assumptions that affect the reported amounts of net position restricted for pensions and changes therein. Actual results could differ from those estimates.

**d. Investments**

Equity securities and fixed-income securities are reported at fair value (Note 8). Interest and dividend income is recognized on the accrual basis as earned. Purchases and sales of investments are recorded on a trade-date basis. Cash equivalents are determined by using a maturity of no more than 90 days at time of purchase. The fair value of an investment is the amount that the Plan could reasonably expect to receive for it in a current sale between a willing buyer and a willing seller. The fair values of investments are generally based on published market prices and quotations obtained from major investment firms. For alternative investments where no readily ascertainable market value exists, the Plan's custodian, in consultation with the Plan investment managers, determines fair values for the individual investments.

### Note 2 - Description of Plan

**a. Purpose**

COPERS is a single-employer, defined benefit pension plan established by the City Charter. Its purpose is to provide retirement, disability retirement and survivor benefits for its members. Members are full-time employees on a work schedule which consists of the number of full-time hours per week designated for the class of employment for the employee's classification and which work schedule is intended to be continuous over a period of twelve months. All full-time classified civil service employees and full-time appointive officials of the City with the exception of sworn police and fire fighters are required, as a condition of employment, to contribute to COPERS.

**b. Administration**

The general administration, management and operation of COPERS are vested in a nine-member Retirement Board consisting of three elected employee members, four statutory members, a citizen member and a retiree member. The Retirement Board appoints the Retirement Program Administrator, a civil service position, and contracts investment counsel and other services necessary to properly administer the Plan.

**c. Plan Amendment and Termination**

COPERS is administered in accordance with the Charter and can be amended or repealed only by a vote of the people. There are no provisions for termination of COPERS. Voters approved changes to the City of Phoenix retirement system at a Special Election held on March 12, 2013. New employees hired on or after July 1, 2013 were placed in Tier 2. The employee contribution rate for Tier 2 is based on 50% of the actuarially determined rate necessary to fully fund the Annual Required Contribution.

**d. Membership Data**

| | June 30 | |
|---|---|---|
| | 2015 | 2014 |
| Current retirees, beneficiaries and survivors | 6,541 | 6,155 |
| Alternate payees | 147 | 135 |
| Terminated vested members | 901 | 816 |
| Active members: | | |
| Tier 1 | 6,741 | 7,421 |
| Tier 2 | 722 | 310 |
| Total Members | 15,052 | 14,837 |

**e. Pension Benefits**

Benefits are calculated on the basis of a given rate, final average salary and service credit. Members are eligible for retirement benefits at age 60 plus ten or more years of service credit; age 62 with five or more years of service credit; or where age and service credits equal 80 for Tier 1 employees and 87 for Tier 2 employees. The benefit for Tier 1 employees is based on 2% of final average compensation multiplied by the first 32.5 years of service credit, 1% in excess of 32.5 years to 35.5 years, and 0.5% thereafter. The benefit for Tier 2 employees is based on 2.1% of final average compensation multiplied by years of service credit for those with less than 20 years, 2.15% for 20-24.9 years, 2.2% for 25-29.9 years and 2.3% thereafter. A deferred pension is available at age 62 for members who have five or more years of service credit at time of separation and leave their accumulated contributions in COPERS.

A supplemental post-retirement payment and a permanent benefit increase (under the Pension Equalization Program) may be provided to retirees if sufficient reserves are available at the end of the fiscal year. The reserve is funded if the five-year average investment return exceeds 8%.

## Note 2 - Description of Plan (Continued)

**f. Disability Benefits**

A member who becomes permanently disabled for the performance of duty is eligible for a disability benefit if the disability is 1) by reason of a personal injury or disease and the member has ten or more years of service credit or 2) due to on-the-job injuries, regardless of service credit.

**g. Survivor Benefits**

Dependents of deceased members may qualify for survivor benefits if the deceased member had ten or more years of service credit or if the member's death was in the line of duty with the City and compensable under the Workmen's Compensation Act of the State of Arizona. Chapter XXIV, Section 25 of the Charter of the City of Phoenix specifies the dependents and conditions under which they qualify for survivor benefits.

**h. Refunds**

Upon separation from employment, a member or beneficiary not entitled to a pension may withdraw the member's contribution plus applicable interest. An interest rate of 7.50% for fiscal year 2015 (8% for fiscal year 2014) was granted by the Retirement Board to be applied at June 30, 2015 to the members' mean account balances during the fiscal year. The acceptance of a refund cancels the individual's rights and benefits in COPERS. Employer contributions to COPERS are not refundable.

**i. Tax Exempt Status of Member Contributions**

COPERS has received a favorable letter of determination of qualification from the Internal Revenue Service under Section 401(a) of the Internal Revenue Code. Continued tax-exempt status of COPERS is contingent on future operations remaining in compliance with Section 401(a).

Under Internal Revenue Code Section 414(h)(2) and Revenue Ruling 81-36, effective January 1, 1985 the City of Phoenix authorized that a portion of its contributions be earmarked as being made by the members of COPERS, and "picked up" that portion of the designated active member contributions. The portion of COPERS contribution that is picked up by the City of Phoenix is treated as an employer contribution for federal and state income tax purposes and excluded from the member's gross income until distributed by COPERS.

**j. New Accounting Pronouncements**

GASB Statement No. 68, **Accounting and Financial Reporting for Pensions** replaces Statement No. 27 for employer reporting. The City of Phoenix (“City”), as the Employer plan sponsor, has implemented Statement 68 for its June 30, 2015 year end reporting. The objective of this Statement is to improve financial reporting by state and local governmental pension plans.

GASB Statement No. 72, **Fair Value Measurement and Application**, enhances comparability of financial statements by requiring measurement of certain assets and liabilities at fair value using a consistent and more detailed definition of fair value and accepted valuation techniques. The requirements of this Statement are effective for financial statements for reporting periods beginning after June 15, 2015. The City and COPERS will implement this Statement in fiscal year 2016.

GASB Statement No. 73, **Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68**, improves financial reporting by establishing a single framework for the presentation of information about pensions. The requirements of this Statement for pension plans that are within the scope of Statement 67 or for pensions that are within the scope of Statement 68 are effective for fiscal years beginning after June 15, 2015. The City and COPERS will implement this Statement in fiscal year 2016.

GASB Statement No. 76, **The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments**, will improve financial reporting across several key areas. The provisions in this Statement are effective for reporting periods beginning after June 15, 2015. The City and COPERS will implement this Statement in fiscal year 2016.

### Note 3 – Net Position Held in Trust for Pension Benefits

Various accounts have been established to hold the reserves for benefit payments:

- The **Income Account** is used to account for COPERS investment income and loss, including net appreciation or depreciation in fair value and miscellaneous income. At year-end, the Income Account is closed to the Employees' Savings Account, the Pension Accumulation Account, the Pension Reserve Account and the Pension Equalization Reserve Account, which results in no fund balance in the Income Account.

- The **Employees' Savings Account** is used to account for member contributions, member refunds, and the member portion of investment income. As a condition of employment, a member hired before July 1, 2013 is required to contribute 5% of his/her covered compensation; a member hired after this date is required to contribute 50% of the actuarially determined rate, while the City contributes the other 50%. Accumulated contributions receive regular interest that is computed at the end of each fiscal year on the mean balance in the members' accounts during the year. The rate of interest is established each year by the Board (7.50% in fiscal 2015 and 8% in fiscal 2014). Transfers are made from the Employees' Savings Account to the Pension Reserve Account when a member retires or becomes eligible for disability benefits.

- The **Pension Accumulation Account** is used to account for employer contributions and for a portion of investment income. The Charter requires the City to contribute an amount that is determined annually by COPERS' retained actuaries. Contributions are based upon a level percentage of payroll funding principle so that the contribution rates do not fluctuate significantly over time. This contribution is over and above the member contributions made by the City. The Pension Accumulation Account may carry a negative balance as the City contribution rate includes a component for the unfunded actuarial liability (UAL). Transfers are made from the Pension Accumulation Account to the Pension Reserve Account when a member retires or becomes eligible for disability benefits.

- The **Pension Reserve Account** is used to account for distributions to retirees and the balance receives regular interest that is computed at the end of each fiscal year on the mean balance during the year. The rate of interest is the actuarial assumed rate.

- The **Pension Equalization Reserve Account** is used for funding increases to eligible pensions under the Pension Equalization Program and the "13th Check." The Pension Equalization Program was established on October 1, 1991, when voters of the City of Phoenix approved an amendment to the City Charter, allowing pension adjustments to be paid to retired members of COPERS. These adjustments are to be made exclusively from COPERS investment earnings in excess of 8% (per Charter) over the preceding 5-year period, and may not exceed the Phoenix area Consumer Price Index (CPI). This amendment was effective January 1, 1992, and will benefit only retirees who, as of January 1 of each year, have received at least 36 pension payments.

Following are the fiscal year-end reserve balances as of June 30, 2015 and 2014 respectively, based on amortized cost for fixed income investments and cost for equity investments (in thousands):

| | 2015 | 2014 |
|---|---|---|
| Employees' Savings | $ 445,722 | $ 462,492 |
| Pension Accumulation | (732,747) | (411,165) |
| Pension Reserve | 2,281,760 | 1,811,979 |
| Pension Equalization Reserve | 13,227 | 23,578 |
| Convert to Fair Value | 201,564 | 335,358 |
| Total Based on Fair Value | $ 2,209,526 | $ 2,222,242 |

### Note 4 - Administrative Costs and Investment Fees

The 2015 administrative costs paid by the City and not recognized in COPERS' financial statements were $1,560. This compares to the 2014 administrative costs of $1,557. Investment-related costs are paid directly from Plan assets. The COPERS Board approves the payment from Plan assets of certain fees for legal, medical, actuarial and, computer services. The investment and administrative costs from Plan assets were $15,185 and $13,060 for the fiscal years ended June 30, 2015 and 2014, respectively. Fund Manager fees charged to the Plan for investments for actively managed funds are deducted from income earned and are not separately reflected. Consequently, Fund Manager fees are reflected as a reduction of investment return for such investments.

### Note 5 - Funding Requirement Determinations and Actual Contributions

City of Phoenix contributions for the fiscal year ended June 30, 2015 were $117,092 which is equivalent to 25.43% of the estimated annual active member payroll, compared to $115,094 or 22.24% for the fiscal year ended June 30, 2014. Member contributions for the fiscal years ended June 30, 2015 and June 30, 2014 were $27,861 and $28,815, respectively, which represents the Tier 1 employee contribution rate of 5% and, effective July 1, 2013 and July 2, 2014, the Tier 2 employee contribution rate of 13.62% and 14.8%, respectively.

Employer contributions are actuarially determined amounts, which together with member contributions are sufficient to cover both (i) normal costs of the plan and (ii) financing of unfunded actuarial costs over a selected period of future years. (See Note 6)

### Note 6 – Funded Status and Funding Progress (as of most recent valuation)

Unfunded actuarial liabilities are determined annually by the consulting actuary. The unfunded actuarial liability as of June 30, 2015 and June 30, 2014 are detailed below (in thousands).

| | 2015 | 2014 |
|---|---|---|
| **Actuarial Value of Assets** | $ 2,202,923 | $ 2,120,700 |
| **Actuarial Liability** | | |
| Active Members | 1,442,839 | 1,459,048 |
| Retirees and Beneficiaries Currently Receiving Benefits | 2,465,862 | 2,099,274 |
| Terminated Members Not Yet Receiving Benefits | 67,206 | 56,461 |
| Total Actuarial Liability | 3,975,908 | 3,614,784 |
| **Unfunded Actuarial Liability** | $ (1,772,985) | $ (1,494,084) |
| **Funded Ratio** (actuarial value of assets to actuarial liability) | 55.4% | 58.7% |
| **Covered Payroll** | $ 484,853 | $ 509,267 |
| **UAL (as a percentage of covered payroll)** | 365.7% | 293.4% |

### Note 6 – Funded Status and Funding Progress (as of most recent valuation) (Continued)

Actuarial present values are determined by a consulting actuary applying actuarial assumptions to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements, such as for death, disability, withdrawal or retirement) between the valuation date and the expected date of payment.

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the date indicated. Additional information as of the latest actuarial valuation follows:

| Description | Methods/Assumptions | |
|---|---|---|
| **Valuation Date** | **June 30, 2015** | **June 30, 2014** |
| Actuarial Cost Method | Individual Entry Age | Individual Entry Age |
| Amortization Method | Level Percentage of Payroll, Open | Level Percentage of Payroll, Open |
| Remaining Amortization Period | 20-Years, with 3-Year Phase In | 25-Years, Closed with 4-Year Phase In |
| Asset Valuation Method | 4-Year Smoothed Market Value | 4-Year Smoothed Market Value |
| **Actuarial Assumptions** | | |
| Investment Rate of Return | 7.5% | 7.5% |
| Projected Salary Increases (a) | 3.5%-10.1% | 3.5%-7.3% |
| Cost-of-Living Adjustments | 1.5% | 1.5% |
| **Factors Affecting Trends:** | | |
| | None | None |

(a) Includes inflation at 3.5%. Merit and longevity assumptions are age-related rates.

The actuarial assumptions employed as of June 30, 2015 includes the following:

1) Salary Scale – Projected salary increases of 3.0% per year compounded annually attributable to inflation, with another 0.5% to competition and productivity. Additional projected salary increases ranging from 0.0% to 6.6% per year, depending on age, attributable to merit and longevity.
2) Multiple Decrement Tables:
   a) Death - For determination of member, retiree and beneficiary mortality, the MP-2015 Mortality Improvement Scale.
   b) Disability - Based upon 0.960 times the CalPERS Public Agency: Miscellaneous Ordinary Disability Incidence table for males.
   c) Withdrawal - Based upon COPERS' experience, measures the probability of members terminating employment for reasons other than retirement, death or disability.
3) Smoothed Funding – A smoothed market value of assets was used for the June 30, 2015 valuation. This method, which is unchanged from last year, spreads the difference between the actual and expected investment return over four years.

The actuarial assumptions employed as of June 30, 2014 and June 30, 2013 includes the following:

1) Salary Scale – Projected salary increases of 3.0% per year compounded annually attributable to inflation, with another 0.5% to competition and productivity. Additional projected salary increases ranging from 0.0% to 3.8% per year, depending on age, attributable to merit and longevity.
2) Multiple Decrement Tables:
   a) Death - For determination of member, retiree and beneficiary mortality, the RP 2000 Healthy Annuitants Mortality Table.
   b) Disability - Based upon COPERS' experience.
   c) Withdrawal - Based upon COPERS' experience, measures the probability of members terminating employment for reasons other than retirement, death or disability.
3) Smoothed Funding – A smoothed market value of assets was used for the June 30, 2014 valuation. This method, which is unchanged from last year, spreads the difference between the actual and expected investment return over four years.

The foregoing actuarial assumptions are based on the presumption that COPERS will continue as presently chartered. If COPERS is amended, different actuarial assumptions and other factors might be applicable in determining actuarial present values.

**Note 6 – Funded Status and Funding Progress (as of most recent valuation) (Continued)**

The target allocation and best estimates of arithmetic real rates of return for each major asset class based on RVK's capital market assumptions are summarized in the following table:

| Asset Class | Target Allocation | 10-Year Expected Real Return Rate of Return |
|---|---|---|
| Broad US Equity | 24% | 5.60% |
| Broad International Equity | 19 | 6.70 |
| Intermediate Duration Fixed Income | 20 | 3.33 |
| Emerging Markets Debt Hard | 5 | 4.52 |
| Core Real Estate | 8 | 6.03 |
| Non-Core Real Estate | 4 | 7.51 |
| Diversified Hedge Funds | 12 | 6.08 |
| Private Equity | 1 | 7.56 |
| Diversified Inflation Strategies | 7 | 5.03 |

Actual returns may be lower due to volatility of returns. The long-term expected rate of return is based on RVK's capital market assumptions with a 2.5% inflation assumption.

Discount Rate

The discount rate used to measure the total pension liability was 7.5%. The projection of cash flows used to determine the discount rate assumed that Tier 1 member contributions remain at 5.0% of payroll, Tier 2 member contributions are set equal to half of the total actuarially determined contribution rate, and City contributions will be made at rates equal to the difference between the actuarially determined contribution rates and the member rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

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

The table below presents the net pension liability of the Plan calculated using the discount rate of 7.5%, as well as what the net pension liability would be if it were calculated using the discount rate that is 1.0% lower (6.5%) or 1.0% higher (8.5%) than the current rate at June 30, 2015. Changes in the discount rate affect the measurement of the TPL (Total Pension Liability). Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. A 1% decrease in the discount rate increases the TPL by approximately 11.13% and increases the NPL (Net Pension Liability) by approximately 22%. A 1% increase in the discount rate decreases the TPL by approximately 10.42% and decreases the NPL by approximately 23%. The table below shows the sensitivity of the NPL to the discount rate.

**Sensitivity of Net Pension Liability to Changes in Discount Rate**
**(in thousands)**

| | 1% Decrease 6.5% | Discount Rate 7.5% | 1% Increase 8.5% |
|---|---|---|---|
| Total Pension Liability | $ 4,474 | $ 3,976 | $ 3,561 |
| Plan Fiduciary Net Position | 2,210 | 2,210 | 2,210 |
| Net Pension Liability | $ 2,264 | $ 1,766 | $ 1,352 |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 49.4% | 55.6% | 62.0% |

## Note 7 - Funding Policy

As a condition of employment, Tier 1 members are required to contribute 5% and Tier 2 members, for fiscal year 2014-2015, are required to contribute 14.8% of their salary to COPERS as provided in Chapter XXIV, Section 27, of the City Charter. Present members' accumulated contributions at June 30, 2015 were $445,721,686, including interest compounded annually, compared to $462,492,152 at June 30, 2014, and are included in the Employee Savings Account as discussed on page 28. The City's funding policy is designed to provide annual contributions to COPERS in amounts that are estimated to remain a constant percentage of members' compensation each year, such that, when combined with members' contributions, all active member benefits will be fully funded as earned. Contributions by the City to the Plan are actuarially determined. The unfunded actuarial liability adopted by the COPERS Board in September 2015 is amortized over a 20-year period as a level percentage of payroll with a four year phase-in to the full amortization rate.

## Note 8 – Investments

The Board has a duty to invest and manage the assets of the Plan solely in the interests of the members and beneficiaries. The Board shall invest and manage trust assets as a prudent investor would, by considering the purposes, terms, distribution requirements, and other circumstances of the Plan. In satisfying this standard, the Board shall exercise reasonable care, skill, and caution.

The Board's present policy has resulted in approximately 17.9% at fair value being invested in domestic common stocks as of June 30, 2015 or approximately 17.5% at cost. The City Charter does not contain any limitations on the percent invested in international equities. The Board's present policy has a target of 22% investment (at fair value) in international equity investments. As of June 30, 2015 approximately 12.13% was invested (at fair value) in international equity investments.

A summary of investments at June 30, 2015 and 2014 is as follows (in thousands):

| | 2015 | | 2014 | |
|---|---|---|---|---|
| | Fair Value | Amortized Cost | Fair Value | Amortized Cost |
| Temporary Investments from Securities Lending Collateral (Note 9) | $ 84,164 | $ 84,164 | $ 83,874 | $ 83,874 |
| Fixed Income | 543,972 | 519,112 | 497,987 | 472,835 |
| Domestic Equities | 410,654 | 367,059 | 588,564 | 452,015 |
| Hedge Funds | 259,383 | 222,500 | 150,258 | 95,000 |
| Global Commingled | 441,301 | 459,127 | 354,409 | 338,198 |
| International Equities Commingled | 278,918 | 232,714 | 312,804 | 252,679 |
| Real Estate | 281,459 | 213,611 | 258,783 | 216,720 |
| **Total Investments** | **2,299,851** | **2,098,287** | **2,246,679** | **1,911,321** |
| **Cash and Cash Equivalents** | **50,557** | **50,557** | **27,036** | **27,036** |
| **Total** | **$ 2,350,408** | **$ 2,148,844** | **$ 2,273,715** | **$ 1,938,357** |

COPERS investments are managed by professional fund managers and are held by a plan custodian who is a COPERS agent.

As of June 30, 2015, the total fair value of futures held was ($23,630) and the total market value for swaps was $716,724. On June 30, 2014, the total fair value of futures held was ($56,331) and the total market value for swaps was ($378,465).

### Note 8 – Investments (Continued)

The following schedule provides the categories of investments at June 30, 2015 and 2014 (in thousands):

| Investment Categories | 2015 Fair Value | 2014 Fair Value |
|---|---|---|
| Cash | $ 10,884 | $ 14 |
| Short-Term Investment Fund | 39,673 | 27,022 |
| Cash and Cash Equivalents | 50,557 | 27,036 |
| Temporary Investments from Securities Lending Collateral | 84,164 | 83,874 |
| Fixed Income: | | |
| Futures | (24) | (56) |
| SWAPS | 717 | (379) |
| U S Government Guaranteed Securities | 72,411 | 93,562 |
| Government Agencies Securities | 2,960 | 2,980 |
| Mortgage Backed Securities-Residential | 76,008 | 77,095 |
| Asset Backed Securities | 3,240 | 3,929 |
| Municipal Bonds | 5,607 | 5,611 |
| Corporate Bonds | 70,713 | 41,339 |
| Corporate Bonds Commingled | 5,418 | 3,684 |
| Commingled Fixed Income | 169,149 | 151,568 |
| Foreign | 34,472 | 100,860 |
| Foreign Commingled | 103,301 | 17,794 |
| | 543,972 | 497,987 |
| Domestic Equities | 402,704 | 447,649 |
| Global Commingled | 441,301 | 354,409 |
| International Equities: | | |
| Commingled Funds | 278,918 | 312,804 |
| Commingled Equity Index Fund | -- | 140,915 |
| Private Equity | 7,950 | -- |
| Hedge Funds | 259,383 | 150,258 |
| Real Estate Funds | 281,459 | 258,783 |
| Total with Securities Lending Collateral | 2,350,408 | 2,273,715 |

<u>Custodial Credit Risk - Deposits</u>

Custodial credit risk for deposits is the risk that in the event of a depository institution failure, a government will not be able to recover deposits or collateral held by an outside party. As of June 30, 2015, COPERS did not realize any losses related to custodial credit risk for deposits.

## Note 8 – Investments (Continued)

Annual Money-Weighted Rate of Return

The rate of return for the year ended June 30, 2015, which is the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 2.2%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Custodial Credit Risk – Investments

Custodial credit risk for investments is the risk that in the event of a failure of a counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. As of June 30, 2015 and 2014, COPERS did not realize any losses due to custodial credit risk for investments or securities lending arrangements. Note 9 on page 38 provides detailed information regarding securities lending. COPERS policy requires all investments to be collateralized and registered in COPERS' or its nominee's name.

Concentration of Credit Risk

Concentration of Credit Risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. COPERS investment policy does not allow for an investment in any one issuer that is in excess of 5% of COPERS' total investments which includes futures, options and swaps, except investments issued or explicitly guaranteed by the U.S. government. As of June 30, 2015 and 2014, COPERS did not have any investments with any one issuer in excess of 5%.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates may adversely affect the fair value of an investment or a deposit. COPERS investment policy includes a target of 22.0% of the Plan's total assets in international equity investments. The current actual international equity investment allocation is 19.35% of total Plan assets as of June 30, 2015. The fair value of COPERS' international commingled equity funds at June 30, 2015 was $278,918 managed by Baillie Gifford, GMO, Mondrian and MSCI ACW Ex US, all of which was exposed to foreign currency risk. The fair value of COPERS' international commingled equity funds at June 30, 2014 was $312,804,000, managed by Baillie Gifford, MSCI ACW Ex US Index and Mondrian, all of which was exposed to foreign currency risk.

Dollar denominated holdings and non-dollar denominated holdings accounted for 91.9% and 8.09%, respectively, of the foreign fixed income investments at June 30, 2015. Dollar denominated holdings and non-dollar denominated holdings accounted for 94.8% and 5.2%, respectively, of the foreign fixed income investments at June 30, 2014.

**Foreign Currency Exposure June 30, 2015 and 2014**
(in thousands)

| Currency | Fixed Income Currency Contracts 2015 | Fixed Income Currency Contracts 2014 |
|---|---|---|
| Australian Dollar | $ 60 | $ -- |
| Brazilian Real | 495 | 170 |
| British Pound | 15 | 1,058 |
| Canadian Dollar | 90 | -- |
| Euro | 12,027 | 6,155 |
| Indian Rupee | 2,135 | 332 |
| Japanese Yen | 4,383 | 2,342 |
| Mexican Peso | 1,571 | 1,975 |
| Totals | $ 20,776 | $ 12,032 |

## Note 8 – Investments (Continued)

Commitments

In connection with the purchase of various non-core real estate investments, COPERS had commitments totaling $207,000,000 as of June 30, 2015 and $147,000,000 as of June 30, 2014. Remaining unfunded commitments for real estate were $80,727,483 as of June 30, 2015 and $60,116,965 as of June 30, 2014. COPERS is not in any redemption queues. All non-core real estate is self-liquidating.

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. COPERS' investment policy permits purchasing any security that is included in the Barclays Capital US Aggregate Index and relies on the methodology used by Barclays Capital to determine if a security is investment grade. For fixed income securities and their futures or options derivatives, emphasis will be on high-quality securities.

COPERS currently has four managers responsible for fixed income investments. Aberdeen, MFS Institutional Advisors, PIMCO and Western Asset Management Company ("Western") are active bond managers. As part of their portfolio, PIMCO and Western may enter into futures, options, and swaps contracts for hedging purposes and/or as a part of the overall portfolio strategy and will be incidental to its securities trading activities for the account. Table I on page 36 provides information relating to the credit risk for COPERS' fixed income investments as of June 30, 2015 and 2014.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates adversely affect the fair value of an investment. Typically, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in interest rates. COPERS' investment services agreement with Western Asset Management Company directs them to maintain an average weighted duration of portfolio security holdings including futures and options positions within +/- 20% of the Barclays Capital US Aggregate Index. COPERS' investment management agreement with Aberdeen specifies a weighted average duration of +/- two years of the Barclays Capital US Aggregate Index. The investment management agreement with PIMCO requires a weighted average duration of +/- two years of the Barclays Capital US Aggregate Index. The investment management agreement MFS Heritage Trust specifies a weighted average duration of +/- seven years of the JPMorgan Emerging Markets Bond Index.

Information about the interest rate risk exposure of COPERS is provided in Table I on page 36. COPERS assets include several collateralized mortgage obligations and mortgage-backed securities, which could be considered as highly sensitive to interest rate changes, depending upon the exercise of prepayment options.

COPERS' investment policy permits the following investments, which include investments that are considered to be highly sensitive to interest rate changes due to long maturities, prepayment options, coupon multipliers, reset dates and similar terms:

- Obligations issued or guaranteed by the U.S. Federal Government, U.S. Federal Agencies or U.S. government-sponsored corporations and agencies.
- Obligations of U.S. and non-U.S. corporations such as mortgage bonds, convertible and non-convertible notes and debentures.
- Mortgage-backed and asset-backed securities, swaps, forwards, options on swaps, options on forwards.
- Obligations denominated in U.S. dollars of international agencies, supranational entities and foreign governments (or their subdivisions or agencies).
- Securities defined under Rule 144A and Commercial paper defined under Section 4(2) of the Securities Act of 1933.
- Bank Loans, TBA Securities and Mortgage Dollar Rolls.
- General obligation bonds, revenue bonds, improvement district bonds, or other evidences of indebtedness of any state of the United States, or any of the counties or incorporated cities, towns and duly organized school districts in the State of Arizona which are not in default as to principal and interest.

### Note 8 – Investments (Continued)

Table I: Credit Rating and Maturity for COPERS' Fixed Income Investments (in thousands)

| | | 2015 | | | 2014 | | |
|---|---|---|---|---|---|---|---|
| | Credit Quality Ratings | | Fair Value | Weighted Average Maturity (Years) | | Fair Value | Weighted Average Maturity (Years) |
| Derivatives | Not Rated | $ | 518 | 37.672 | | (435) | 33.340 |
| Derivatives | A | | 175 | 9.543 | | -- | -- |
| **Total Derivatives** | | | **693** | | $ | **(435)** | |
| U.S. Government Guaranteed Securities | Not Rated | $ | 933 | 6.910 | | 489 | 20.363 |
| U.S. Government Guaranteed Securities | AAA | | 71,478 | 14.510 | | 93,073 | 6.089 |
| **Total U. S. Government Guaranteed Securities** | | | **72,411** | | | **93,562** | |
| Government Agency | AA | $ | 2,960 | 6.749 | $ | 2,980 | 7.718 |
| **Total Government Agency** | | | **2,960** | | | **2,980** | |
| Mortgage Backed | Not Rated | $ | 50,157 | 17.740 | $ | 56,204 | 27.004 |
| Mortgage Backed | AAA | | 16,177 | 26.477 | | 9,533 | 26.942 |
| Mortgage Backed | AA | | 2,214 | 9.129 | | 2,106 | 9.431 |
| Mortgage Backed | A | | 1,256 | 25.876 | | 1,126 | 27.787 |
| Mortgage Backed | BBB | | 1,091 | 19.621 | | 1,803 | 23.062 |
| Mortgage Backed | BB | | 1,066 | 24.135 | | 780 | 22.997 |
| Mortgage Backed | B | | 799 | 26.601 | | 1,041 | 27.114 |
| Mortgage Backed | CCC | | 2,394 | 23.500 | | 3,252 | 24.306 |
| Mortgage Backed | CC | | - | - | | 109 | 21.334 |
| Mortgage Backed | D | | 854 | 23.678 | | 1,141 | 25.264 |
| **Total Mortgage Backed** | | | **76,008** | | | **77,095** | |
| Asset Backed | AAA | $ | - | - | $ | 24 | 3.898 |
| Asset Backed | AA | | 2,218 | 12.554 | | 2,380 | 12.375 |
| Asset Backed | A | | 247 | 26.582 | | 467 | 29.195 |
| Asset Backed | BB | | - | - | | 78 | 3.890 |
| Asset Backed | B | | 175 | 20.167 | | 196 | 21.167 |
| Asset Backed | CCC | | 600 | 28.448 | | 784 | 27.372 |
| **Total Asset Backed** | | | **3,240** | | $ | **3,929** | |
| Municipal Bonds | Not Rated | $ | 357 | 22.104 | | 801 | 25.490 |
| Municipal Bonds | AA | | 2,350 | 25.274 | | 2,335 | 26.273 |
| Municipal Bonds | A | | 2,386 | 24.765 | | 1,964 | 25.442 |
| Municipal Bonds | B | | 514 | 31.942 | | 511 | 32.942 |
| **Total Municipal Bonds** | | | **5,607** | | | **5,611** | |

### Note 8 – Investments (Continued)

Table I: Credit Rating and Maturity for COPERS' Fixed Income Investments (in thousands) (Continued)

| | | 2015 | | 2014 | |
|---|---|---|---|---|---|
| | Credit Quality Ratings | Fair Value | Weighted Average Maturity (Years) | Fair Value | Weighted Average Maturity (Years) |
| Corporate Bonds | Not Rated | $ 20,837 | 5.399 | $ 325 | 1.118 |
| Corporate Bonds | AAA | 2,903 | 14.182 | 1,841 | 22.544 |
| Corporate Bonds | AA | 3,246 | 16.898 | 1,775 | 14.376 |
| Corporate Bonds | A | 16,898 | 8.791 | 15,163 | 9.370 |
| Corporate Bonds | BBB | 19,356 | 13.207 | 14,603 | 10.718 |
| Corporate Bonds | BB | 4,930 | 8.821 | 5,739 | 9.330 |
| Corporate Bonds | B | 2,160 | 24.143 | 1,725 | 26.046 |
| Corporate Bonds | CCC | 289 | 21.718 | 168 | 15.578 |
| Corporate Bonds | D | 94 | 31.896 | - | - |
| **Total Corporate Bonds** | | **70,713** | | **41,339** | |
| Corporate Bonds Commingled | Not Rated | $ 5,418 | 2.899 | $ 3,684 | 2.880 |
| **Total Corporate Bonds Commingled** | | **5,418** | | **3,684** | |
| Foreign | Not Rated | $ 7,781 | 13.889 | $ 2,843 | 5.554 |
| Foreign | AAA | 4,549 | 1.600 | 278 | 45.912 |
| Foreign | AA | 1,917 | 7.682 | 1,701 | 8.486 |
| Foreign | A | 2,404 | 10.224 | 3,225 | 10.698 |
| Foreign | BBB | 13,644 | 6.978 | 7,185 | 10.891 |
| Foreign | BB | 2,531 | 12.053 | 1,493 | 4.948 |
| Foreign | B | 816 | 3.240 | 851 | 4.262 |
| Foreign | CCC | 220 | 8.570 | 218 | 9.570 |
| Foreign | C | 610 | 0.649 | - | - |
| **Total Foreign** | | **34,472** | | **17,794** | |
| Fixed Income Commingled | Not Rated | $ 169,149 | 7.000 | $ 151,568 | 7.020 |
| **Total Fixed Income Commingled** | | **169,149** | | **151,568** | |
| Foreign Commingled | Not Rated | $ 103,301 | 10.200 | $ 100,860 | 11.130 |
| **Total Foreign Commingled** | | **103,301** | | **100,860** | |
| **Total Fixed Income Investments by Maturity Date** | | **$ 543,972** | | **$ 497,987** | |

### Note 9 – Securities Lending Program

State statutes and City Charter do not prohibit COPERS from participating in securities lending transactions, and COPERS has, via a Securities Lending Authorization Agreement effective May 6, 2015, authorized Bank of New York Mellon ("BNY") to lend its securities to broker-dealers and banks pursuant to a form of loan agreement.

During 2015 and 2014, BNY lent, on behalf of COPERS, certain securities held by BNY as custodian and received cash (United States and foreign currency), securities issued or guaranteed by the United States government and irrevocable letters of credit as collateral. BNY did not have the ability to pledge or sell collateral securities delivered absent a borrower default. Borrowers were required to deliver collateral for each loan equal to: (i) in the case of loaned securities denominated in United States dollars or whose primary trading market was located in the United States or sovereign debt issued by foreign governments, 100% of the fair value of the loaned securities; and (ii) in the case of loaned securities not denominated in United States dollars or whose primary trading market was not located in the United States, 105% of the fair value of the loaned securities.

During 2015 and 2014, COPERS and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax exempt plan lenders, in a liquidity pool and a duration pool. The collateral pool had a weighted average maturity (WAM) of 21 days and a weighted average life (WAL) of 78 days. Because the loans were terminable at will, their duration did not generally match the duration of the investments made with cash collateral. The collateral held and the fair value of securities on loan for COPERS as of June 30, 2015 were $84,163,817 and $82,172,551, respectively, and as of June 30, 2014 were $83,874,150 and $81,769,267, respectively.

### Note 10 – Risk and Uncertainties

COPERS invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and such changes could materially affect the amounts reported in the statements of changes in fiduciary net position. Because the values of individual investments fluctuate with market conditions, the amount of investment gains or losses that COPERS will recognize in its future financial statements cannot be determined.

### Note 11 – Funds To/From Other Systems

Under the provisions of Arizona Revised Statutes, Sections 38-730 and 38-922 as amended, transfers between COPERS and the Arizona State Retirement System ("ASRS") are allowed when the City hires an employee who was formerly covered by ASRS, or a COPERS member who separates from City of Phoenix employment goes to work for an entity that covers its employees under ASRS. Effective July 2011, ASRS changed the method of retirement service credit transfers between COPERS and ASRS. Previously, retirement service credits (time) would be transferred between systems without possible service reduction or member cost. Beginning July 2011, retirement service credit transfers are based on an actuarial present value (APV) methodology to the extent the prior retirement system is funded on a fair value basis. With this calculation, for the member to receive all of their service credits they may have to pay for a portion of the service or accept a reduced transfer of service credits.

Under the provisions of Arizona Revised Statutes, Section 38-923 and 38-924 as amended in 2006, an active or inactive member of COPERS or the ASPRS who becomes a member of the other retirement system may transfer service credits from the member's prior retirement system to the member's current retirement system.

**Note 12 – Interfund Balances**

On the Statement of Fiduciary Net Position, the liability, if any, due to the City of Phoenix results from the fact that COPERS does not have a local bank account. The City of Phoenix Payroll Section issues both Retirement pension warrants and employee retirement contribution refund warrants from the City's bank account through a warrant or direct deposit.

Until Retirement personnel instruct the custodian bank to wire funds to the City of Phoenix in reimbursement for the warrants and direct deposits, the Retirement Plan is in debt to the City. Also, City employees previously employed by government entities may purchase prior service credits. The dollar amount of these purchases is deposited in the City's bank account, to be later transferred to the Plan's custodian. Until the transfer is made, the City is in debt to the Retirement Plan.

**Note 13 – Contingent Liabilities**

COPERS is a party in pending litigation matters. While the final outcomes cannot be determined at this time, management is of the opinion that the final obligations, if any, for these legal actions will not have a material adverse effect on COPERS financial position or change in net assets.

**Note 14 – Subsequent Events**

On August 25, 2015, the Phoenix voters approved proposition 103, which will change the terms of the Plan for employees hired after January 1, 2016. Among the approved changes was the closure of Tier 2 to new members (Tier 1 was closed to new members with the creation of Tier 2) and the requirement that all new employees be placed in a new hybrid retirement plan (Tier 3) which limits the compensation used to calculate pensions; uses a five-year compensation average to determine pension amounts; replaces automatic post-retirement increases with an option to reduce initial pension payments to fund post-retirement increases, and eliminates the credit for unused sick leave. Proposition 103 also set a cap for plan contributions by employees for those hired after July 1, 2015 of 11 percent of annual compensation and limits the interest rate (3.75 percent) applied to contributions refunded to withdrawing members.

Following a nationwide recruitment, City Manager Ed Zuercher appointed Denise Olson, who had been serving as Acting Chief Financial Officer since Neal Young's retirement in June 2015, as Chief Financial Officer on November 12, 2015. Ms. Olson serves on the COPERS Board as an Ex-Officio Member.

## Required Supplementary Information

The schedules of Required Supplementary Information started with one year of information as of the implementation of GASB 67 in 2014, but eventually will need to build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB. The current and prior year are shown, as more information becomes available additional years will be displayed.

**Schedule of Changes in Net Pension Liability and Related Ratios (in thousands)**

| **Total Pension Liability** | 2015 | 2014 |
|---|---|---|
| Service cost (MOY) | $ 75,310 | $ 78,331 |
| Interest (includes interest on service cost) | 266,355 | 257,219 |
| Changes of benefit terms | - | - |
| Differences between expected and actual experience | (31,009) | (20,336) |
| Changes of assumptions | 254,870 | - |
| Benefit payments, including refunds of member contributions | (204,403) | (179,877) |
| **Net change in pension liability** | **$ 361,123** | **135,337** |
| **Total Pension liability - beginning** | **3,614,784** | **3,479,447** |
| **Total Pension liability - ending** | **$ 3,975,907** | **$ 3,614,784** |
| | | |
| **Plan Fiduciary Net Position** | | |
| Contributions - employer | $ 117,092 | $ 110,629 |
| Contributions - member | 27,861 | 27,760 |
| Net investment income | 47,148 | 298,736 |
| Benefit payments, including refunds of member contributions | (204,403) | (179,877) |
| Administrative Expenses | (414) | (628) |
| **Net change in plan fiduciary net position** | **$ (12,716)** | **$ 256,620** |
| **Plan fiduciary net position - beginning** | **2,222,242** | **1,965,622** |
| **Plan fiduciary net position - ending** | **$ 2,209,526** | **$ 2,222,242** |
| | | |
| **Net Pension Liability** | **$ 1,766,381** | **$ 1,392,543** |
| **Plan fiduciary net position as a percentage of the total pension liability** | **55.57%** | **61.48%** |
| **Covered employee payroll** | **$ 460,441** | **$ 485,227** |
| **Net pension liability as a percentage of covered employee payroll** | **383.63%** | **286.99%** |

## Required Supplementary Information
**(Continued)**

**Schedule of Employer Contributions**
**Last Ten Fiscal Years**
(in thousands)

| Fiscal Year | Actuarial Determined Contribution | Contributions In Relation To The Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Employee Payroll | Contributions As A Percentage Of Covered Employee Payroll |
|---|---|---|---|---|---|
| 2014-15 | $ 117,092 | $ 117,092 | $ -- | $ 460,441 | 25.43% |
| 2013-14 | 135,441 | 110,629 | 24,812 | 485,227 | 22.80 |
| 2012-13 | 126,816 | 115,244 | 11,571 | 508,948 | 22.64 |
| 2011-12 | 125,454 | 114,709 | 10,745 | 506,422 | 22.65 |
| 2010-11 | 110,094 | 105,682 | 4,412 | 516,467 | 20.46 |
| 2009-10 | 106,483 | 90,965 | 15,518 | 556,088 | 16.36 |
| 2008-09 | 92,145 | 86,241 | 5,904 | 564,650 | 15.27 |
| 2007-08 | 86,591 | 66,383 | 20,209 | 586,778 | 11.31 |
| 2006-07 | 67,153 | 64,198 | 2,955 | 530,013 | 12.11 |
| 2005-06 | 64,198 | 58,151 | 6,047 | 490,043 | 11.87 |

**Schedule of Investment Returns**
**For Year Ended June 30, 2015**

| | 2015 | 2014 |
|---|---|---|
| Annual money-weighted rate of return, net of investment expenses | 2.19% | 15.42% |

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

**Change in Net Pension Liability**
(in thousands)

| | 2015 | 2014 |
|---|---|---|
| **Total Pension Liability (TPL)** | | |
| Balance at end of prior fiscal year | $ 3,614,784 | $ 3,479,447 |
| Net changes | 361,123 | 135,337 |
| **TPL Total (a)** | **3,975,907** | **3,614,784** |
| **Plan Fiduciary Net Position (FNP)** | | |
| Balance at end of prior fiscal year | 2,222,242 | $ 1,965,622 |
| Net changes | (12,716) | 256,620 |
| **FNP Total (b)** | **2,209,526** | **2,222,242** |
| **Net Pension Liability (NPL)** | | |
| Balance at end of prior fiscal year | 1,392,542 | 1,513,825 |
| Net Changes | 373,839 | (121,282) |
| **NPL Total (a)-(b)** | **1,766,381** | **1,392,543** |

## Notes to the Required Supplementary Information

In September and October 2015, the COPERS Board adopted new actuarial assumptions and methods, based upon the recommendations from the current actuary, Cheiron, for the purpose of determining contributions and to meet the GASB 67 implementation requirements to be applied to the financial reporting for the fiscal year ending June 30, 2015.

The 2015 adopted changes are the following:

1. Salary increase rate was changed for price inflation to 3.00%, real wage growth to 0.50% and wage inflation to 3.5%.
2. Pension Equalization Reserve (PER) was valued for future benefits payable through the PER as a 1.5% annual compound cost-of-living adjustment (COLA). Adopted September 2013.
3. Amortization method for the unfunded actuarial liability (UAL) was amortized over a 20-year period as a level percentage of payroll with a four-year phase-in to the full amortization rate. Future gains and losses are amortized over closed 20-year periods as a level percentage of payroll from the valuation date in which they are first recognized. For Tier 1, members contribute 5% of pay and the City contributes the remainder of the total contribution rate. For the Tier 2, the members and the City each pay half of the total contribution rate.
4. Revised data tables for merit/salary increases, retirement rates, termination rates, disability incidence rates, and mortality rates.

In September 2013, the COPERS Board adopted new assumptions and methods, based upon the recommendations from the current actuary, Cheiron, for the purpose of determining contributions and to meet the GASB 67 implementation requirements to be applied to the financial reporting for the fiscal year ending June 30, 2014.

The September 2013 adopted changes are the following:

1. Discount rate was lowered to 7.5% based on the expected return on assets.
2. Salary increase rate was changed for price inflation to 3.00%, real wage growth to 0.50% and wage inflation to 3.5%.
3. Pension Equalization Reserve (PER) was valued for future benefits payable through the PER as a 1.5% annual compound cost-of-living adjustment (COLA).
4. Amortization method for the unfunded actuarial liability (UAL) was amortized over a 25-year period as a level percentage of payroll with a four year phase-in to the full amortization rate. Future gains and losses are amortized over closed 20-year periods as a level percentage of payroll from the valuation date in which they are first recognized. For Tier 1, members contribute 5% of pay and the City contributes the remainder of the total contribution rate. For the Tier 2, the members and the City each pay half of the total contribution rate.
5. The administrative expense assumption was added. In prior years, the discount rate was assumed to be net of administrative expenses.

The following changes in methods were made pursuant to the recommendations of the actuarial audit of the June 30, 2007 annual valuation and implemented in the June 20, 2008 annual valuation.

1. The Normal Cost contribution rate was calculated to be consistent with contributions that are paid throughout the year, not at the beginning of the year.
2. The calculation of the projected final average compensation and years of service at retirement was changed to mid-year, consistent with the timing regarding the applications of the assumptions.

## Additional Supplementary Information

**Schedule of Investment Expenses For the Fiscal Years Ended June 30, 2015 and 2014**

| Payee | Fees 2015 | Fees 2014 | Nature of Services |
|---|---|---|---|
| RV Kuhns & Associates | $ 196,696 | $ 193,249 | Investment Consultant |
| State Street Bank | -- | 124,267 | Master Custodian |
| BNY Mellon Bank | 94,133 | 31,462 | Master Custodian |
| Elkins McSherry | 10,000 | 10,000 | Brokerage Services |
| Aberdeen/Artio Global Investors | 468,756 | 310,957 | Investment Management |
| Cadence Capital | 133,703 | 499,238 | Investment Management |
| Cramer Rosenthal McGlynn | 510,236 | 552,235 | Investment Management |
| Eagle Asset | 311,861 | 344,524 | Investment Management |
| Foreign Taxes | -- | 13,074 | Foreign Taxes |
| GMO | -- | 4,770 | Investment Management |
| J P Morgan | 889,490 | 791,376 | Investment Management |
| MFS | 524,934 | 468,335 | Investment Management |
| Mondrian | 403,734 | 438,295 | Investment Management |
| MSCI ACWI ex US Index Fund | 69,486 | 69,775 | Investment Management |
| Northwood GP, LLC IV | 587,173 | -- | Investment Management |
| Northwood Series V | 155,900 | 277,799 | Investment Management |
| PIMCO Total Return | 464,994 | 463,521 | Investment Management |
| Research Affiliates | -- | 103,535 | Investment Management |
| Robeco Investment Management | 525,842 | 548,161 | Investment Management |
| S&P 500 | 40,948 | 36,683 | Investment Management |
| The Boston Company | 340,115 | 380,077 | Investment Management |
| Western Asset | 252,910 | 222,747 | Investment Management |
| Wrightwood Capital | -- | 16,858 | Investment Management |
| Total | $ 5,980,911 | $ 5,900,938 | |

| Payee (1) | Fees 2015 | Fees 2014 | Nature of Services |
|---|---|---|---|
| Artisan Partners | $ 660,177 | $ -- | Investment Management |
| Baillie Gifford | 488,650 | 421,758 | Investment Management |
| Carlson Capital | 679,472 | -- | Investment Management |
| Fir Tree | 608,662 | -- | Investment Management |
| GMO | 927,691 | 1,201,745 | Investment Management |
| JDM Partners | 241,689 | 250,116 | Investment Management |
| K2 Advisors | -- | 933,315 | Investment Management |
| Morgan Stanley | 741,861 | 652,866 | Investment Management |
| Neuberger | 147,813 | -- | Investment Management |
| PAAMCO | 1,339,093 | 1,080,838 | Investment Management |
| PIMCO All Asset | 1,462,600 | 785,353 | Investment Management |
| RECAP II | 32,215 | 77,314 | Investment Management |
| RECAP III | 254,266 | 450,000 | Investment Management |
| RECAP IV | 375,000 | -- | Investment Management |
| TA Associates | 102,462 | 142,932 | Investment Management |
| Wheelock I | 249,049 | 204,193 | Investment Management |
| Wheelock II | 450,000 | 334,726 | Investment Management |
| Wrightwood Capital | 22,069 | 40,132 | Investment Management |
| Total | $ 8,782,769 | $ 6,575,288 | |

**Schedule of Administrative Expenses For the Fiscal Years Ended June 30, 2015 and 2014**

| Payee | Fees Paid 2015 | Fees Paid 2014 | Nature of Services |
|---|---|---|---|
| Cheiron, Inc | $ 163,950 | $ 242,574 | Actuarial Services |
| City of Phoenix Law Department | 104,931 | 136,095 | Legal Services |
| Dr. Laura Don | 1,918 | 1,938 | Medical Services |
| ICE Miller | 13,885 | -- | Legal Services |
| Levi Ray & Shoup | 136,098 | 197,968 | Computer Services |
| MCN | -- | 5,205 | Medical Services |
| Total | $ 420,782 | $ 583,780 | |

(1) Fees for these managers are not paid separately as are fees to the other fund managers; they are not included in the investment expenses reported in the Statements of Changes in Fiduciary Net Position. The fees are a component of the overall performance of the investment.

# Additional Supplementary Information
**(Continued)**

**Schedule of Administrative Expenditures and Encumbrances (Non-GAAP Budgetary Basis)**
**Paid by the City of Phoenix for the Fiscal Years Ended June 30, 2015 and 2014**

| | 2015 | | 2014 | |
|---|---|---|---|---|
| | Original Budget | Plan Actual | Original Budget | Plan Actual |
| Personal Services | | | | |
| Staff Salaries and Benefits | $ 966,955 | 883,844 | $ 1,068,876 | 969,008 |
| Insurance | 192,279 | 162,506 | 185,647 | 172,864 |
| Social Security and Medicare | 71,331 | 62,353 | 75,206 | 63,714 |
| Retirement Contributions | 224,369 | 201,898 | 234,740 | 205,889 |
| Total Personal Services | 1,454,934 | 1,310,601 | 1,564,469 | 1,411,475 |
| Professional Services | | | | |
| Consultants | 285 | 305 | 85 | 238 |
| Audit and Accounting | 117,074 | 203,800 | 128,934 | 105,524 |
| Total Professional Services | 117,359 | 204,105 | 129,019 | 105,762 |
| Communications | | | | |
| Printing | 12,468 | 16,414 | 12,600 | 8,935 |
| Postage and Mailing | 13,736 | 8,903 | 16,081 | 13,487 |
| Telephone | 787 | 1,185 | 580 | 993 |
| Subscriptions and Memberships | 5,200 | 2,765 | 2,000 | 1,370 |
| Total Communications | 32,191 | 29,267 | 31,261 | 24,785 |
| Miscellaneous | | | | |
| Supplies | 14,500 | 8,624 | 21,000 | 7,595 |
| Insurance | 0 | 0 | 0 | 0 |
| Computer Equipment | 4,500 | 712 | 0 | 0 |
| Other | 2,103 | 6,623 | 2,840 | 7,820 |
| Total Miscellaneous | 21,103 | 15,959 | 23,840 | 15,415 |
| Total Administrative Expenditures and Encumbrances | $ 1,625,587 | 1,559,932 | $ 1,748,589 | 1,557,437 |

Note: Administrative expenditures of COPERS are budgeted and paid by the City of Phoenix. The COPERS Board approves the payment of fees for legal, medical, and actuarial services from Plan assets and are not included in amounts above.

# Investment Section

The **Investment Section** contains the Plan's report on investment activity, its investment policies, schedules of investment results and related information.

December 2, 2015

Board of Trustees
City of Phoenix Employees' Retirement System
c/o Scott Miller
Retirement Program Administrator
200 W. Washington Street, 10th Floor
Phoenix, Arizona 85003

RVK

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Dear Board Members,

The past year has been marked by generally positive results within the U.S. economy. Global equity markets have diverged though, with U.S. equity markets producing positive performance while international equity markets had negative returns over the trailing one year through June 30, 2015. U.S. Real Gross Domestic Product grew in each of the last four quarters as the economy expanded by 2.7% since June 30, 2014.[1] The economy also added approximately 2,963,000 nonfarm jobs as the unemployment rate declined to 5.3%.[2] Inflation, as measured by the Consumer Price Index, only rose 0.1% during the year. The Federal Reserve has kept target short-term interest rates at a range of 0.00 – 0.25% since 2008. During the fiscal year, Treasury yields rose across their range of maturities from 6 months up to five years, while declining slightly for the 3 month maturity and for maturities between 5 and 30 years.

The fair value of the City of Phoenix Employees' Retirement System (the System) assets increased from $2.220 billion to $2.225 billion in the year ended June 30, 2015. Five years ago, the fund was valued at $1.532 billion.

The past year through June 30, 2015 exhibited mixed results within equity markets, with U.S. markets strongly outpacing international equities. In the United States, the S&P 500 Index returned 7.4%. Broad international equity markets diverted from domestic equities during the past year, returning -4.8% (as measured by the MSCI All Country World ex U.S. Index). The past year was also slightly positive for fixed income markets as the Barclays U.S. Aggregate Bond Index returned 1.9%.

The System's investment return over the past year was 2.6%, the System's three-year annualized return was 9.8%, and the System's five-year

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[1] Based on data provided by the U.S. Department of Commerce, Bureau of Economic Analysis.

[2] Based on data provided by the U.S. Department of Labor.

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annualized return was 9.9%. The ten-year annualized return was 5.4%[3], which was negatively impacted by the difficult market environment and economic downturn experienced during mid-2007 through early 2009. As seen with the recent trailing 7-year result, we are hopeful that, with improved investment results since the economic downturn, long-term returns will continue to improve. The System's current actuarial assumed rate of return is 7.5%, which represents the System's long-term return goal.

The System's current investments are well diversified. All segments of the U.S. and International equity markets are represented in the portfolio, and the fixed income portfolio is well diversified between four investment managers (U.S and non-U.S.). The System has a well-diversified real estate portfolio through its two core real estate managers and multiple value-added and opportunistic real estate investments. In an effort to respond to inflation and to provide a return that is uncorrelated to major markets, the plan utilizes a real return strategy. Additional exposures to alternative investments within the portfolio include a diversified fund of hedge funds manager, two direct multi-strategy hedge fund managers, and a new allocation to private equity. As of June 30, 2015, 23.9% of the System's investments were invested in U.S. equities, 19.4% in non-U.S. equities, 22.9% in fixed income investments (U.S and non-U.S.), 12.7% in real estate, 0.4% in private equity, 7.5% in real return strategies, 11.7% in absolute return strategies, and 1.7% in cash equivalents.[4]

We believe that the course undertaken by the Board to diversify the System's investments into several new asset classes will enhance future portfolio returns while reducing risk or volatility in returns. The Board has approved the inclusion of absolute return strategies and private equity investments within the target asset allocation, in addition to previously approved investments in real estate, emerging markets equities, real return strategies, and international small-capitalization equities during the past several years. The System has also implemented further diversification of the fixed income and real estate portfolios. We are confident that the Board's decisions in this respect will preserve and enhance the System's ability to meet its long-term goals.

The System's investment policies, goals, and objectives, as well as the performance of its assets and transaction costs, are regularly monitored by the Board and the plan's consultant. These evaluations include analyses of the investment management firms and the custodial bank that serve the System.

The System's assets are held in custody at Bank of New York ("BNY") Mellon (representing a recent custody transition from State Street Bank as of May 1, 2014). Fair values and performance

[3] Total Fund performance is gross of fees.
[4] Allocation shown may not sum up to 100% exactly due to rounding.

referenced above are calculated by RVK and based upon financial statements prepared by State Street Bank, BNY Mellon, and investment managers. The statements are, to the best of our knowledge, reliable and accurate. Investment performance is calculated using a time-weighted rate of return methodology (gross of fees) based upon fair values and cash flows.

An uncertain market environment demands careful attention and thoughtful treatment of the assets entrusted to the Board's care by the System's employee participants. We expect the Board's continued high standard of care for these assets and commitment to diversification to allow the System to meet its long-term goals and objectives.

Sincerely,

*Rebecca Gratsinger, CFA*

*Chief Executive Officer*

*RVK, Inc.*

## Outline of Investment Policies and Objectives
### Adopted July, 1990 and subsequently amended

1. COPERS' asset allocation targets (at fair value) as of June 30, 2015 were 16.5% large cap domestic equities, 6.5% small/mid cap domestic equities, 19.4% international large cap equities, 2.6% international small/mid cap equities, 20.0% domestic fixed income, 15.0% real estate, 5.0% emerging market debt, 5.0% real return and 10.0% long/short equity.

2. Each asset class will be broadly diversified to be similar to the market for the asset class. The market for stocks shall be represented by the Russell 1000 Value Index, the Russell Mid Cap Index, the Russell 2000 Growth and Value Indices, FTSE RAFI USD Low Vol Index, JP Morgan EMBI Global Diversified TR Index, MSCI EAFE Small Cap Index, MSCI ACWI ex US Index, MSCI ACWI ex US Small Cap Index and the S & P 500 Index. The market for bonds shall be represented by the Barclays Capital US Aggregate Bond Index and the Barclays Capital US Intermediate Government/Credit Term Bond Index. The market for real estate shall be represented by the NCREIF ODCE Property Index.

3. Multiple managers will be employed. Allocations among the managers will be controlled by the Trustees to maintain both diversification and policy guidelines.

4. Investments will conform to the Phoenix City Charter, Chapter XXIV, Part II, Section 34 (See note 8). All other investments are prohibited.

5. COPERS' main investment objective is to achieve a rate of return that exceeds inflation by at least 3% over time. The actuarial assumed rate of return is 7.5%.

## Directed Brokerage Commissions

A directed brokerage commissions program was established by COPERS' Board on July 31, 1991. Becker, Burke Associates ("BBA") provided the directed brokerage commissions program through December 31, 2003. As of January 1, 2004 State Street Global Markets, LLC ("SSGM") became the provider of the commission recapture program. SSGM has agreed to allocate to the fund 80% of commissions for US trades executed with a network of brokers and 100% (above the "execution only" rate) for US trades directly with SSGM's Trading Desk, identified and designated by investment managers as "directed." Under this program, COPERS' equity managers are requested to execute trades to achieve best execution of fund transactions and to use best efforts to place trades with SSGM. For the fiscal year ended June 30, 2015, the total payments received from the directed brokerage commissions program under SSGM were $8,768.

## Investment Services Under Contract (as of June 30, 2015)

| Equity Managers | | |
|---|---|---|
| Artisan Partners | **Ting Rattanaphasouk** | San Francisco, CA |
| Baillie Gifford | **Kathrin Hamilton** | Edinburgh, Scotland |
| Cramer Rosenthal McGlynn | **Sarah Strange** | New York, NY |
| Eagle Asset Management | **Clay Lindsey** | St. Petersburg, FL |
| GMO | **Wendy Malaspina** | Berkeley, CA |
| Mondrian | **Paul Ross** | Philadelphia, PA |
| Robeco Investment Management | **William Supple** | Boston, MA |
| SSgA MSCI ACWI Ex US Index Fund | **Megan Hart** | San Francisco, CA |
| SSgA FTSE RAFI US Low Vol | **Megan Hart** | San Francisco, CA |
| The Boston Company | **Jerry Navarette** | Boston, MA |

| Hedge Fund Managers | | |
|---|---|---|
| Carlson Capital | **Erin Kraxberger** | Dallas, TX |
| Fir Tree Partners | **Benjamin Ghriskey** | New York, NY |
| PAAMCO | **Jim Meehan** | Irvine, CA |

| Transition Managers | | |
|---|---|---|
| Northern Trust Transition Management | **Grant Johnsey** | Chicago, IL |
| Russell Implementation Services, Inc | **Steve Cauble** | Seattle, WA |
| State Street Global Markets | **James Doherty** | Irvine, CA |

| Fixed Income Managers | | |
|---|---|---|
| Aberdeen/Artio Global Investors | **Teri Smith** | New York, NY |
| MFS Institutional Advisors | **Carolyn Lucey** | Boston, MA |
| PIMCO | **Matt Clark** | Newport Beach, CA |
| Western Asset Management | **Sue Signori** | Pasadena, CA |

| Real Estate Managers | | |
|---|---|---|
| JDM Partners | **Mel Shultz** | Phoenix, AZ |
| J.P. Morgan | **Mia Dennis** | San Francisco, CA |
| Morgan Stanley Real Estate Advisor | **Candice Todd** | Atlanta, GA |
| Northwood Real Estate Partners | **Jennifer Davis** | New York, NY |
| RECAP | **Liwen Ho** | Singapore, CHN |
| TA Realty Associates | **Tom Landry** | Boston, MA |
| Wheelock Street Partners | **Lawrence Settanni** | Greenwich, CT |
| Wrightwood Capital | **Jennifer Naylor** | Chicago, IL |

| Real Return Managers | | |
|---|---|---|
| Research Affiliates LLC | **Brian Ralph** | Newport Beach, CA |

| Investment Consultant | | |
|---|---|---|
| RVK | **Mark Bartman** | Chicago, IL |

## Schedule of Investment Results
### For the Fiscal Years Ended June 30, 2015

| | | Annualized | |
|---|---|---|---|
| | 1-Year | 3-Years | 5-Years |
| **TOTAL PORTFOLIO:** | | | |
| **COPERS** | 2.64% | 9.82% | 9.92% |
| Target Benchmark | 3.93 | 9.87 | 10.19 |
| RVK All Pension Plans $1B - $5B median | 2.83 | 10.25 | 10.70 |
| | | | |
| **EQUITY FUNDS:** | | | |
| **Baillie Gifford (1)** | 0.34 | 11.69 | -- |
| MSCI ACWI Ex US Index | (4.85) | 9.92 | 8.23 |
| **Cramer Rosenthal McGlynn** | 6.94 | 18.08 | 16.62 |
| Russell 2000 Value Index | 0.78 | 15.50 | 14.81 |
| **Eagle Asset Management** | 11.66 | 19.89 | 19.23 |
| Russell 2000 Growth Index | 12.34 | 20.11 | 19.32 |
| **GMO (2)** | (3.98) | -- | -- |
| MSCI ACWI | 1.23 | 13.61 | 12.52 |
| **Mondrian Investment Partners (3)** | (1.95) | 11.91 | -- |
| MSCI EAFE Small Cap Index | (3.61) | 14.00 | 11.50 |
| **Robeco Investment Management (4)** | 6.46 | -- | -- |
| Russell 1000 Value Index | 4.13 | 17.34 | 16.50 |
| **SSgA FTSE RAFI US Low Vol (5)** | -- | -- | -- |
| FTSE RAFI USD Lo Vol Index | 2.94 | 4.15 | 4.94 |
| **SSgA MSCI ACWI Ex US Index (6)** | (5.06) | 9.70 | -- |
| MSCI ACWI Ex US Index | (4.85) | 9.92 | 8.23 |
| **Artisan Global Opportunities (7)** | -- | -- | -- |
| MSCI ACWI Ex US Index | 1.23 | 13.61 | 12.52 |
| **The Boston Company** | 5.57 | 21.98 | 19.57 |
| Russell Midcap Index | 6.63 | 19.26 | 18.23 |
| | | | |
| **FIXED INCOME FUNDS:** | | | |
| **Aberdeen/Artio** | 1.04 | 2.06 | 3.95 |
| Barclays US Aggregate Bond Index | 1.86 | 1.83 | 3.35 |
| **MFS Heritage Trust (8)** | 1.33 | -- | -- |
| JPMorgan EMBI Global Dvf'd TR Index | 0.51 | 4.30 | 6.76 |
| **Western Asset Management** | 1.88 | 3.60 | 5.10 |
| Barclays Capital US Aggregate Bond Index | 1.86 | 1.83 | 3.35 |
| **PIMCO Total Return** | 1.27 | 1.74 | 3.80 |
| | | | |
| **HEDGE FUND OF FUNDS:** | | | |
| **Carlson (9)** | -- | -- | -- |
| **PAAMCO (10)** | 0.92 | -- | -- |
| **Fir Tree International (11)** | -- | -- | -- |
| | | | |
| **PRIVATE EQUITY FUNDS:** | | | |
| **Neuberger Berman Sonoran (12)** | -- | -- | -- |
| | | | |
| **REAL ESTATE FUNDS:** | | | |
| **J P Morgan** | 13.35 | 13.91 | 14.49 |
| **JDM Partners** | 3.27 | 0.81 | 14.88 |
| **Morgan Stanley** | 17.27 | 16.03 | 16.65 |
| **Northwood RE IV (13)** | 15.83 | -- | -- |
| **Northwood RE V (14)** | -- | -- | -- |
| **RECAP II** | (30.17) | (1.15) | 6.20 |
| **RECAP III (15)** | 3.21 | 12.40 | -- |
| **RECAP IV (16)** | -- | -- | -- |
| **TA Associates Realty** | 18.22 | 15.19 | 14.67 |
| **Wheelock (17)** | 39.00 | 38.76 | -- |
| **Wheelock II (18)** | -- | -- | -- |
| **Wrightwood** | 12.57 | 15.00 | 16.78 |
| **NCREIF ODCE Index** | 14.43 | 13.11 | 14.41 |
| | | | |
| **REAL RETURN FUND** | | | |
| **PIMCO All Asset (19)** | (5.00) | -- | -- |
| All Asset Custom Index | 0.46 | 5.16 | 6.39 |

## Schedule of Investment Results
**(Continued)**

(1) Baillie Gifford added July 1, 2011 as an International Commingled Equity Fund manager; funds transitioned from Pyramis. Performance figures would not be representative of the benchmark index.

(2) GMO has been an international equity manager but the investments within GMO were restructured effective October 1, 2013 and performance figures of the restructured investments would not be representative of the benchmark.

(3) Mondrian added as an international Small Cap manager July 1, 2011. Performance figures would not be representative of the benchmark index.

(4) Robeco Investment Management was added as a domestic large cap value manager on May 1, 2013. Funds transitioned from Dimensional Fund Advisors. Performance figures would not be representative of the benchmark index.

(5) SSgA FTSE RAFI US Low Vol was added as an equity manager effective January 1, 2015. Performance figures would not be representative of the benchmark index.

(6) MSCI ACWI Ex US was added as an international equity manager effective July 29, 2011. Funding came from the termination of MSCI EAFE Small Cap Exchange. Performance figures would not be representative of the benchmark index.

(7) Artisan Global Opportunities was added as an equity manager effective December 1, 2014. Performance figures would not be representative of the benchmark index.

(8) MFS Heritage Trust added as core plus fixed income manager effective February 1, 2013. Performance figures would not be representative of the benchmark index.

(9) Carlson was added as an hedge fund manager effective August 1, 2014. Performance figures would not be representative of the benchmark index.

(10) PAAMCO added as a hedge funds manager effective January 2, 2009. PAAMCO transition mandates from Long/Short Equity to Absolute Return as of January 1, 2014. Performance figures would not be representative of the benchmark index.

(11) Fir Tree International was added as an hedge fund manager effective August 1, 2014. Performance figures would not be representative of the benchmark index.

(12) Neuberger Berman Sonoran was added as a private equity manager on April 1, 2015. Performance figures would not be representative of the benchmark index.

(13) Northwood IV was added as an opportunistic real estate manager on February 1, 2014. Performance figures would not be representative of the benchmark index.

(14) Northwood V was added as an opportunistic real estate manager on February 1, 2015. Performance figures would not be representative of the benchmark index.

(15) RECAP III was added as an opportunistic real estate manager of February 13, 2012. Performance figures would not be representative of the benchmark index.

(16) RECAP IV was added as an opportunistic real estate manager of February 1, 2015. Performance figures would not be representative of the benchmark index.

(17) Wheelock was added as an opportunistic real estate manager of May 24, 2012. Performance figures would not be representative of the benchmark index.

(18) Wheelock II was added as an opportunistic real estate manager of September 1, 2014. Performance figures would not be representative of the benchmark index.

(19) PIMCO All Asset added as a real return manager on December 1, 2013. Performance figures would not be representative of the benchmark index.

The calculations above were prepared by COPERS' consultant, using a time-weighted rate of return, based on market value. Non core real estate performance is calculated as an IRR.

## Asset Allocation by Manager
**As of June 30, 2015**

| Manager | Style | Management (in thousands) | % of Portfolio |
|---|---|---|---|
| **CASH AND CASH EQUIVALENTS FUNDS** | | | |
| The Boston Company | Mid Cap Value | $ 238 | 0.01% |
| COPERS Cash Account | Short Term Income Fund | 38,586 | 1.70 |
| PIMCO Total Return | Core Plus Fixed Income | 2,408 | 0.11 |
| Cramer Rosenthal McGlynn | Small Cap Value | 2,050 | 0.09 |
| Eagle Asset Management | Small Cap Growth | 1,431 | 0.06 |
| Robeco Investment Management | Large Cap Value | 2,027 | 0.09 |
| Western Asset Management | Core Plus Fixed Income | 3,817 | 0.17 |
| TOTAL CASH & CASH EQUIVALENT FUNDS | | 50,557 | 2.23 |
| **DOMESTIC EQUITIES FUNDS** | | | |
| The Boston Company | Mid Cap Value | 45,184 | 1.99 |
| Cramer Rosenthal McGlynn | Small Cap Value | 52,337 | 2.31 |
| Eagle Asset Management | Small Cap Growth | 54,152 | 2.39 |
| Robeco Investment Management | Large Cap Value | 128,185 | 5.66 |
| SSgA FTSE RAFI US Low Vol | Large Cap Core | 122,846 | 5.42 |
| TOTAL DOMESTIC EQUITIES FUNDS | | 402,704 | 17.77 |
| **FIXED INCOME FUNDS** | | | |
| Aberdeen/Artio Global Investors | Core Plus Fixed Income | 169,149 | 7.46 |
| PIMCO Total Return | Core Plus Fixed Income | 182,577 | 8.06 |
| MFS Emerging Markets Debt | Emerging Markets Debt | 103,301 | 4.56 |
| Western Asset Management | Core Plus Fixed Income | 88,945 | 3.92 |
| TOTAL FIXED INCOME FUNDS | | 543,972 | 24.00 |
| **INTERNATIONAL EQUITIES COMMINGLED FUNDS** | | | |
| Artisan Partners | International | 123,669 | 5.46 |
| GMO | International | 151,559 | 6.69 |
| PIMCO All Asset Custom Index | International | 166,073 | 7.33 |
| TOTAL INTERNATIONAL EQUITIES COMMINGLED FUNDS | | $ 441,301 | 19.47% |

## Asset Allocation by Manager
**As of June 30, 2015 (Continued)**

| Manager | Style | Management (in thousands) | % of Portfolio |
|---|---|---|---|
| **INTERNATIONAL EQUITIES FUNDS** | | | |
| Baillie Gifford | International | $ 157,096 | 6.93% |
| Mondrian Investment Partners | International | 54,785 | 2.42 |
| SSgA MSCI ACWI ex US Index Fund | International | 67,037 | 2.96 |
| TOTAL INTERNATIONAL EQUITIES FUNDS | | 278,918 | 12.31 |
| **REAL ESTATE FUNDS** | | | |
| JDM Partners | Non-Core Real Estate | 25,984 | 1.15 |
| J P Morgan Investment Management | Core Real Estate | 93,763 | 4.14 |
| Morgan Stanley | Core Real Estate | 88,316 | 3.90 |
| Northwood IV | Non-Core Real Estate | 13,041 | 0.58 |
| Northwood V | Non-Core Real Estate | 6,941 | 0.31 |
| RECAP II | Non-Core Real Estate | 676 | 0.03 |
| RECAP III | Non-Core Real Estate | 19,497 | 0.86 |
| RECAP IV | Non-Core Real Estate | 3,232 | 0.14 |
| TA Realty Associates | Non-Core Real Estate | 7,599 | 0.34 |
| Wheelock Street Partners | Non-Core Real Estate | 15,394 | 0.68 |
| Wheelock Street Partners II | Non-Core Real Estate | 5,638 | 0.25 |
| Wrightwood Capital | Non-Core Real Estate | 1,378 | 0.06 |
| TOTAL REAL ESTATE FUNDS | | 281,459 | 12.42 |
| **PRIVATE EQUITY FUNDS** | | | |
| Neuberger | | 7,950 | 0.35 |
| TOTAL REAL ESTATE FUNDS | | 7,950 | 0.35 |
| **HEDGE FUNDS** | | | |
| Carlson | | 61,110 | 2.70 |
| Fir Tree International | | 62,317 | 2.75 |
| PAAMCO | Hedge Fund of Funds | 135,956 | 6.00 |
| TOTAL HEDGE FUNDS | | 259,383 | 11.45 |
| Total Portfolio Before Securities Lending | | $ 2,266,244 | 100.00% |
| Securities Lending | | 84,164 | |
| TOTAL INVESTMENTS | | $ 2,350,408 | |

# List of Largest Assets Held
## As of June 30, 2015 (dollars in thousands)

### Ten Largest Bond Holdings (Fair Value)

| Par Value | Description | Interest Rate | Due | Rating | Fair Value |
|---|---|---|---|---|---|
| $ 16,400 | US Treasury Note | 1.75 | 05/15/2022 | AA+ | $ 16,084 |
| 13,000 | FNMA | 3.50 | 08/01/2045 | AA+ | 13,363 |
| 10,527 | FNMA | 3.50 | 04/01/2022 | AA+ | 11,105 |
| 8,290 | US Treasury—CPI | .025 | 01/15/2025 | AA+ | 8,132 |
| 7,000 | US Treasury Bond | 2.50 | 02/15/2045 | AA+ | 6,161 |
| 5,600 | US Treasury Bond | 3.12 | 02/15/2042 | AA+ | 5,629 |
| 5,000 | FNMA SF MTG | 3.50 | 08/01/2030 | AA+ | 5,263 |
| 4,065 | US Treasury—CPI | 1.75 | 01/15/2028 | AA+ | 4,065 |
| 29,400 | RealKredit Danmark | 2.00 | 01/01/2016 | AAA | 4,437 |
| 3,196 | US Treasury—CPI | 2.50 | 01/15/2029 | AA+ | 3,938 |

### Ten Largest Stock Holdings (Fair Value)

| Shares | Stock | Fair Value |
|---|---|---|
| 79,290 | JP Morgan Chase & CO | $ 5,373 |
| 84,758 | Wells Fargo & CO | 4,767 |
| 34,109 | Berkshire Hathaway Inc | 4,643 |
| 50,636 | Capital One Financial Corp | 4,454 |
| 110,333 | Pfizer Inc | 3,700 |
| 63,043 | Citigroup Inc | 3,483 |
| 35,107 | Johnson & Johnson | 3,421 |
| 24,200 | Apple Inc | 3,036 |
| 37,939 | Occidental Petroleum Corp | 2,950 |
| 104,834 | Cisco Systems Inc | 2,852 |

A complete list of portfolio holdings is available at the COPERS office.

## Schedule of Investment Related Fees
### For the Fiscal Year Ended June 30, 2015

| Manager | Management (in thousands) | Fees (1) |
|---|---|---|
| **CASH AND CASH EQUIVALENTS FUNDS** | | |
| The Boston Company | $ 238 | $ -- |
| COPERS Cash Account | 38,586 | -- |
| PIMCO Total Return | 2,408 | -- |
| Cramer Rosenthal McGlynn | 2,050 | -- |
| Eagle Asset Management | 1,431 | -- |
| Robeco Investment Management | 2,027 | -- |
| Western Asset Management | 3,817 | -- |
| TOTAL CASH & CASH EQUIVALENT FUNDS | 50,557 | -- |
| **DOMESTIC EQUITIES FUNDS** | | |
| The Boston Company | 45,184 | 340,115 |
| Cramer Rosenthal McGlynn | 52,337 | 510,236 |
| Eagle Asset Management | 54,152 | 311,861 |
| Robeco Investment Management | 128,185 | 525,842 |
| FTSE RAFI US LOW VOL | 122,846 | 40,948 |
| TOTAL DOMESTIC EQUITIES FUNDS | 402,704 | 1,729,002 |
| **FIXED INCOME FUNDS** | | |
| Aberdeen/Artio Global Investors | 169,149 | 468,756 |
| PIMCO Total Return | 182,577 | 464,994 |
| MFS Emerging Markets Debt | 103,301 | 524,934 |
| Western Asset Management | 88,945 | 252,910 |
| TOTAL FIXED INCOME FUNDS | 543,972 | 1,711,594 |
| **GLOBAL COMMINGLED FUNDS** | | |
| Artisan Partners | 123,669 | 660,177 |
| GMO | 151,559 | 927,691 |
| PIMCO All Asset Custom Index | 166,073 | 1,462,600 |
| TOTAL GLOBAL COMMINGLED FUNDS | $ 441,301 | $ 3,050,468 |

## Schedule of Investment Related Fees
### For the Fiscal Year Ended June 30, 2015 (Continued)

| Manager | Management (in thousands) | Fees (1) |
|---|---|---|
| **INTERNATIONAL EQUITIES FUNDS** | | |
| Baillie Gifford | $ 157,096 | $ 488,650 |
| Mondrian Investment Partners | 54,785 | 403,734 |
| State Street ACWI X | 67,037 | 69,486 |
| TOTAL INTERNATIONAL EQUITIES | 278,918 | 961,870 |
| **REAL ESTATE FUNDS** | | |
| JDM Partners | 25,984 | 241,689 |
| J P Morgan Investment Management | 93,763 | 889,490 |
| Morgan Stanley Prime Property | 88,316 | 741,861 |
| Northwood GP LLC IV | 13,041 | 587,173 |
| Northwood Series V | 6,941 | 155,900 |
| RECAP II | 676 | 32,215 |
| RECAP III | 19,497 | 254,266 |
| RECAP IV | 3,232 | 375,000 |
| TA Realty Associates | 7,599 | 102,462 |
| Wheelock Street Partners | 15,394 | 249,049 |
| Wheelock Street Partners II | 5,638 | 450,000 |
| Wrightwood Capital | 1,378 | 22,069 |
| TOTAL REAL ESTATE | 281,459 | 4,101,174 |
| **HEDGE FUNDS** | | |
| Carlson Capital | 61,110 | 679,472 |
| Fir Tree Partners | 62,317 | 608,662 |
| PAAMCO | 135,956 | 1,339,093 |
| TOTAL HEDGE FUNDS | 259,383 | 2,627,227 |
| **PRIVATE EQUITY** | | |
| Neuberger | 7,950 | 147,813 |
| TOTAL PRIVATE EQUITY FUNDS | 7,950 | 147,813 |
| Total before Securities Lending | $ 2,266,244 | 14,324,148 |
| Securities Lending **(2)** | 84,164 | |
| TOTAL | $ 2,350,408 | 14,329,148 |
| Other Investment Service Fees | | |
| RV Kuhns & Associates (Consultant) | | 196,696 |
| Cheiron (Consultant) | | 163,950 |
| BNY Mellon (Custodian) | | 94,133 |
| Elkins McSherry Brokerage | | 10,000 |
| TOTAL OTHER INVESTMENT SERVICE FEES | | 464,779 |
| TOTAL INVESTMENT RELATED FEES | $ | 14,793,927 |

(1) Does not represent contractual fee schedule and may include expenses other than management fees.
(2) No separate billing for the securities lending program, the fees are netted from the securities lending income.

# Investment Summary
## As of June 30, 2015

| Type of Investment | Market Value (in thousands) | Percent of Total Fair Value |
|---|---|---|
| **Fixed Income:** | | |
| Asset Backed | $ 3,240 | 0.14% |
| Corporate Bond | 73,458 | 3.24 |
| Corporate Bonds Commingled | 2,627 | 0.12 |
| Energy Related | 46 | 0.00 |
| Foreign Bond | 34,563 | 1.53 |
| Foreign Bonds Commingled | 103,301 | 4.56 |
| Mortgage Backed | 76,008 | 3.35 |
| Municipal Bonds | 5,607 | 0.25 |
| Commingled Fixed Income | 169,149 | 7.46 |
| US Government Guaranteed | 72,411 | 3.20 |
| Government Agency | 2,960 | 0.13 |
| Derivatives | 602 | 0.03 |
| **Total Fixed Income** | 543,972 | 24.00 |
| **Domestic Equities:** | | |
| Commingled | 122,848 | 5.42 |
| Consumer Discretionary | 47,193 | 2.08 |
| Energy Related | 18,146 | 0.80 |
| Financials | 71,289 | 3.15 |
| Health Care | 47,000 | 2.07 |
| Industrials | 50,872 | 2.24 |
| Information Technology | 45,355 | 2.00 |
| **Total Domestic Equities** | 402,704 | 17.77 |
| **Real Estate:** | | |
| Asset Backed | 182,079 | 8.03 |
| Private Equity | 25,984 | 1.15 |
| Limited Partnership | 48,606 | 2.14 |
| Real Estate Fund | 24,790 | 1.09 |
| **Total Real Estate** | 281,459 | 12.42 |
| **Hedge Funds:** | | |
| Hedge Funds | 259,383 | 11.45 |
| **International Equities:** | | |
| Asset Backed | 278,918 | 12.31 |
| **Global Commingled:** | | |
| Global Commingled | 441,301 | 19.47 |
| **Private Equity:** | | |
| Private Equity | 7,950 | 0.35 |
| **Cash and Cash Equivalents:** | | |
| Cash & Cash Equivalents | 50,557 | 2.23 |
| **Total before Securities Lending** | $ 2,266,244 | 100.00% |
| **Securities Lending** | 84,164 | |
| **Total Investments** | $ 2,350,408 | |

## Schedule of Commissions
### For the Fiscal Year Ended June 30, 2015

| Brokerage Firm | Number of Shares Traded | Total Commissions | Commissions Per Share |
|---|---|---|---|
| Telsey Advisory Group LLC | 597,969 | $ 23,918.76 | $ 0.04 |
| Abel Noser Corporation | 572,021 | 22,868.44 | 0.04 |
| J.P. Morgan Securities Inc. | 934,105 | 21,812.01 | 0.02 |
| Credit Suisse (CSUS) | 784,975 | 18,482.17 | 0.02 |
| BMO Capital Markets Corporation | 455,026 | 17,511.58 | 0.04 |
| Goldman Sachs & Company | 784,382 | 17,280.92 | 0.02 |
| State Street Brokerage Services | 869,331 | 26,659.09 | 0.03 |
| Weeden & Company | 946,254 | 14,838.60 | 0.02 |
| Citigroup Global Markets, Incorporated | 337,631 | 10,544.62 | 0.03 |
| All Other Brokers (1) | 16,000,015 | 392,301.13 | 0.03 |
| **Total** | **22,281,709** | **$ 566,217.32** | |

(1) Includes brokers with total commissions less than $10,000 each.

# ACTUARIAL SECTION

The **Actuarial Section** contains the actuary's certification letter, supporting schedules prepared by the actuary, and a summary of plan provisions.

CHEIRON

Classic Values, Innovative Advice

*Via Electronic Mail*

December 1, 2015

Board of Retirement
City of Phoenix Employees' Retirement System
200 W. Washington St., 10th Floor
Phoenix, Arizona 85003

Dear Members of the Board:

The purpose of this letter is to provide the certification for the Actuarial Section of the Comprehensive Annual Financial Report (CAFR) for the City of Phoenix Employees' Retirement System (COPERS) with respect to pension benefits.

## Actuarial Valuation Used for Funding Purposes

Actuarial valuations are performed annually, and the most recent actuarial valuation was performed as of June 30, 2015. Please refer to that report for additional information related to the funding of COPERS.

We prepared the following schedules for inclusion in the Actuarial Section of the CAFR based on the June 30, 2015 actuarial valuation (all historical information prior to the June 30, 2012 actuarial valuation shown in these schedules is based on information reported by the prior actuary, Rodwan Consulting Company):

- Summary of Actuarial Assumptions and Methods;
- Schedule of Active Member Valuation Data;
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls;
- Analysis of Financial Experience;
- Solvency Test;
- Schedule of Funding Progress; and,
- Summary of Plan Benefits.

In addition, we prepared the following schedules for inclusion in the Statistical Section of the CAFR:

- Schedule of Retired Members by Type of Benefit, and
- Schedule of Retired Members by Benefit Option.

The Board of Retirement is responsible for establishing and maintaining the contribution policy for COPERS. The actuarial methods and assumptions used in the actuarial valuation are adopted by the Board of Retirement with advice from the actuary. The actuarial cost method and the actuarial assumptions used for funding purposes are the same as those used for financial reporting purposes.

www.cheiron.us 1.877.CHEIRON (243.4766)

Board of Retirement
December 1, 2015
Page 2

## Actuarial Valuation Used for Financial Reporting Purposes

For financial reporting purposes, the Total Pension Liability as of the beginning of the year is based on the actuarial valuation as of June 30, 2014. The end-of-year Total Pension Liability is based on the actuarial valuation as of June 30, 2015. Please refer to *Section VI, Accounting and Financial Reporting Under GASB 67 and 68,* of the June 30, 2015 actuarial valuation report for additional information related to the financial reporting of COPERS.

We prepared the following schedules for inclusion in the Financial Section of the CAFR based on Section VI of the June 30, 2015 actuarial valuation report:

- Change in Net Pension Liability;
- Sensitivity of Net Pension Liability to Changes in Discount Rate;
- Schedule of Changes in Net Pension Liability and Related Ratios; and,
- Notes to the Schedule of Employer Contributions.

## Reliance on the Information Provided by the System and Compliance with ASOPs and GAAP

The schedules named above are the only schedules we prepared for the CAFR. In preparing our valuations and the schedules for the CAFR, we relied on information, some oral and some written, supplied by COPERS. This information includes, but is not limited to, the plan provisions, membership data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future actuarial measurements may differ significantly from the current measurements 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; and, changes in plan provisions or applicable law.

The funded ratios shown in the Actuarial Section are for the purpose of assessing contribution amounts for an ongoing plan. The funded ratios shown in the Financial Section are in accordance with the requirements of GASB Statement No. 67. Neither of these funded ratio measures is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

To the best of our knowledge, this letter and the schedules named above have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. The schedules provided for financial reporting purposes have been prepared in accordance with our understanding of generally accepted accounting principles as promulgated by the GASB. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion

CHEIRON

contained in this letter and these exhibits. This letter does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This letter and the schedules named above were prepared for COPERS for the purposes described herein. Other users of this letter and the schedules named above are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user

Sincerely,
Cheiron

William R. Hallmark

William R. Hallmark, ASA, EA, FCA, MAAA
Consulting Actuary

Elizabeth A. Wiley, FSA, EA, FCA, MAAA
Consulting Actuary

Enclosures

## Supporting Schedules

**Summary of Actuarial Assumptions and Methods**

The City of Phoenix Employees' Retirement Board adopts actuarial assumptions and methods which are recommended by the COPERS' actuary. The Board adopted new methods and assumptions in September and October 2015. The next experience study will be completed before the June 30, 2020 actuarial valuation.

**Actuarial Cost Method**

The entry age (EA) actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of entry and assumed retirement. The actuarial liability is the difference between the present value of future benefits and the present value of future normal cost. Or, equivalently, it is the accumulation of normal costs for all periods prior to the valuation date. The normal cost and actuarial liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and actuarial liability for the System.

**Funding Method**

The unfunded actuarial liability (UAL) is the difference between the actuarial liability and the actuarial value of assets. The UAL is amortized over periods in accordance with the following amortization methods.

- The UAL as of June 30, 2013, developed prior to implementing the September 2013 assumption changes, is amortized over a closed 25-year period as a level percentage of payroll.
- The impact of the September 2013 assumption changes on the UAL is amortized over a closed 25-year period as a level percentage of payroll with a four-year phase-in to the full amortization rate. The phase-in is calculated by multiplying the first year amortization payment by 25 percent. For the second year, the amortization schedule is recalculated reflecting the 25 percent payment in the first year and the remaining 24-year period and the calculated amortization payment is then multiplied by 50 percent. The process is repeated until the full amortization payment is made beginning in the fourth year of the 25-year period.
- The impact of the August 2015 assumption changes on the UAL is amortized over a closed 20-year period as a level percentage of payroll with a four-year phase-in to the full amortization rate. The phase-in is calculated by multiplying the first year amortization payment by 25 percent. For the second year, the amortization schedule is recalculated reflecting the 25 percent payment in the first year and the remaining 24-year period and the calculated amortization payment is then multiplied by 50 percent. The process is repeated until the full amortization payment is made beginning in the fourth year of the 25-year period.
- Future gains and losses are amortized over closed 20-year periods as a level percentage of payroll from the valuation date in which they are first recognized. However, gains will not be amortized over a shorter period than the remaining period on the amortization of the 2013 UAL.

The total contribution rate is the sum of the normal cost rate (including assumed administrative expenses) and the UAL rate. The normal cost rate is determined by dividing the total normal cost determined under the actuarial cost method by the payroll expected for members active on the valuation date. The UAL rate is determined by dividing the UAL payments determined under the amortization method described above by the total expected payroll for the year (including members active on the valuation date and new entrants expected to replace active members who are expected to leave employment). These rates are determined for the fiscal year immediately following the valuation date, but are applied one year later without adjustment.

For Tier 1, members contribute 5 percent of pay and the City contributes the remainder of the total contribution rate. For Tier 2, the members and the City each pay half of the total contribution rate until January 1, 2016. Thereafter, Tier 2 and Tier 3 members contribute half the total contribution rate, not to exceed 11 percent of pay, and the City contributes the remainder of the total contribution rate.

## Summary of Actuarial Assumptions and Methods

### Asset Valuation Method for Actuarial Purposes

A smoothed market value of assets was used for the June 30, 2015 valuation. This method, which is unchanged from last year, spreads the difference between the actual and expected investment return over four years. For purposes of determining contribution rates, an actuarial value of assets is used that dampens the volatility in market values that occur because of the fluctuations in market conditions. Use of an asset smoothing method reduces the volatility of contribution rates and is consistent with the long-term process of funding a pension plan.

The actuarial value of assets is calculated by recognizing the deviation of actual investment returns compared to the expected return on the actuarial value of assets over a four-year period. The dollar amount of expected return on the actuarial value of assets is determined using the actual contributions and benefit payments during the year. Any difference between this amount and the actual net investment earnings is considered a gain or loss.

### Valuation Data

The data with respect to persons now covered and present assets were furnished by COPERS' administrative staff. Data is examined for general reasonableness and year-to-year consistency, but is not audited by the actuary. COPERS' fiscal year coincides with the City's fiscal year (July 1 to June 30).

### Economic Assumptions

#### Discount Rate

7.5 percent annually, compounded annually. Considering other financial assumptions, the 7.5 percent rate translates to an assumed real rate of return of 3.5 percent over inflation and 3.0 percent over across-the-board salary increases. The real rate of return is the rate of investment return over the inflation rate. The discount rate of 7.5 percent is based on the expected return on assets. For stochastic projections, a standard deviation of 10.74 percent is assumed. Adopted September 2013.

#### COLA Due to Pension Equalization Reserve (PER)

In September 2013, the Board first adopted an assumption valuing future benefits payable through the PER as a 1.5 percent annual compound cost-of-living adjustment (COLA). The PER only applies to Tier 1 and 2 benefits.

#### Active Member Total Payroll

Individual salary increases are composed of a price inflation component, a real wage growth component and a merit or longevity component that varies by age. In September 2013, the Board adopted a reduced price inflation component.

| Component | Adopted September 2013 |
|---|---|
| Price Inflation | 3.00% |
| Real Wage Growth | 0.50% |
| Wage Inflation | 3.50% |

### Experience Study

COPERS' actuary conducts an experience study every five years to determine if any adjustments in actuarial assumptions are necessary. This report reflects the assumption changes adopted by the Board in August 2015, following the experience study for the period of July 1, 2009 through June 30, 2015. The next experience study will be completed before the June 30, 2020 actuarial valuation and will cover the period of July 1, 2015 through June 30, 2020.

### Summary of Actuarial Assumptions and Methods (continued)

#### Individual Member Pay Increases

A member's pay is assumed to increase each year in accordance with a table consisting of a percent increase for each age. Adopted August 2015. For sample ages, the following table describes annual increase percentages:

| Age | Price Inflation | Real Wage Growth | Merit or Longevity | Total |
|---|---|---|---|---|
| 20 | 3.00% | 0.50% | 6.60% | 10.10% |
| 25 | 3.00% | 0.50% | 5.00% | 8.50% |
| 30 | 3.00% | 0.50% | 3.65% | 7.15% |
| 35 | 3.00% | 0.50% | 2.60% | 6.10% |
| 40 | 3.00% | 0.50% | 1.85% | 5.35% |
| 45 | 3.00% | 0.50% | 1.25% | 4.75% |
| 50 | 3.00% | 0.50% | 0.75% | 4.25% |
| 55 | 3.00% | 0.50% | 0.40% | 3.90% |
| 60 | 3.00% | 0.50% | 0.15% | 3.65% |
| 65 | 3.00% | 0.50% | 0.00% | 3.50% |

#### Decrement Assumptions

**Mortality**
Mortality rates are based on the sex-distinct employee and annuitant mortality tables described below, including adjustment factors applied to the published tables for each group. Future mortality improvements are reflected by applying the MP-2015 projection scale on a generational basis to adjust base tables from the base year shown below.

a) Non-Annuitant-CalPERS employee Mortality table without scale BB projection

| Gender | Adjustment Factor | Base Year |
|---|---|---|
| Male | 1.054 | 2009 |
| Female | 1.112 | 2009 |

b) Healthy Annuitant-CalPERS healthy annuitant mortality table without scale BB projection

| Gender | Adjustment Factor | Base Year |
|---|---|---|
| Male | 1.019 | 2009 |
| Female | 1.061 | 2009 |

c) Disabled Annuitant-RP2014 disabled retiree mortality table without MP-2014 projection

| Gender | Adjustment Factor | Base Year |
|---|---|---|
| Male | 0.984 | 2006 |
| Female | 1.038 | 2006 |

# Supporting Schedules (continued)

## Summary of Actuarial Assumptions and Methods (continued)

### Decrement Assumptions (continued)

**Mortality**

| | Base Year Rates of Mortality at Selected Ages After Adjustment Factor | | | | | |
|---|---|---|---|---|---|---|
| | Healthy Non-annuitant | | Healthy Annuitant | | Disabled Annuitant | |
| Age | Male | Female | Male | Female | Male | Female |
| 25 | 0.0425% | 0.0244% | 0.0310% | 0.0220% | 0.9553% | 0.2563% |
| 30 | 0.0520 | 0.0265 | 0.0410 | 0.0300 | 0.8233 | 0.2876 |
| 35 | 0.0605 | 0.0372 | 0.0640 | 0.0490 | 0.9749 | 0.4139 |
| 40 | 0.0796 | 0.0531 | 0.1170 | 0.0970 | 1.3126 | 0.6492 |
| 45 | 0.1126 | 0.0754 | 0.2410 | 0.2120 | 2.1145 | 1.0447 |
| 50 | 0.1646 | 0.1062 | 0.5320 | 0.4950 | 2.3941 | 1.2438 |
| 55 | 0.2421 | 0.1526 | 0.6360 | 0.4600 | 2.4866 | 1.5013 |
| 60 | 0.3545 | 0.2225 | 0.8170 | 0.5340 | 2.8111 | 1.9459 |
| 65 | 0.5092 | 0.3272 | 1.0560 | 0.7480 | 3.6312 | 2.5299 |
| 70 | 0.7089 | 0.4672 | 1.7660 | 1.2650 | 4.8812 | 3.4253 |
| 75 | 0.9646 | 0.6696 | 2.9830 | 2.1930 | 6.7010 | 4.912 |
| 80 | 1.3394 | 1.0363 | 5.2760 | 3.6950 | 9.4261 | 7.259 |
| 85 | 9.4290 | 6.675 | 9.4290 | 6.6750 | 13.7102 | 10.8498 |
| 90 | 16.1860 | 12.335 | 16.1860 | 12.3350 | 20.4562 | 15.8639 |
| 95 | 25.3150 | 20.8530 | 23.3150 | 20.8530 | 27.9623 | 22.6687 |

### Rates of Disability

**Rates of Disability**

| Age | Disability |
|---|---|
| 20 | 0.0163% |
| 25 | 0.0163 |
| 30 | 0.0183 |
| 35 | 0.0471 |
| 40 | 0.1172 |
| 45 | 0.1834 |
| 50 | 0.2046 |
| 55 | 0.2122 |
| 60 | 0.2132 |

## Supporting Schedules (Continued)

**Summary of Actuarial Assumptions and Methods (continued)**

**Retirement**

Rates of retirement are based on age according to the following table. Tier 1 rates were adopted November 17, 2005 and first used for the June 30, 2006 valuation. Tier 2 rates were adopted October 17, 2013 and first used for the June 30, 2013 valuation.

**Percent of Active Members Retiring Within Year Following Attainment of Indicated Retirement Age**

| | Years of Service | | | |
|---|---|---|---|---|
| Age | < 15 | 15-24 | 25-31 | ≥ 32 |
| 50-51 | 0.00% | 0.00% | 40.00% | 40.00% |
| 52 | 0.00% | 0.00% | 35.00% | 40.00% |
| 53 | 0.00% | 0.00% | 32.50% | 32.50% |
| 54 | 0.00% | 22.50% | 27.50% | 32.50% |
| 55-58 | 0.00% | 22.50% | 22.50% | 32.50% |
| 59 | 0.00% | 22.50% | 22.50% | 42.50% |
| 60 | 10.00% | 22.50% | 27.50% | 42.50% |
| 61 | 17.00% | 22.50% | 32.50% | 42.50% |
| 62 | 17.00% | 30.00% | 32.50% | 42.50% |
| 63 | 17.00% | 25.00% | 32.50% | 42.50% |
| 64 | 14.00% | 25.00% | 37.50% | 42.50% |
| 65 | 30.00% | 32.50% | 40.00% | 42.50% |
| 66-69 | 25.00% | 32.50% | 40.00% | 42.50% |
| 70 | 100.00% | 100.00% | 100.00% | 100.00% |

**Turnover**

Adopted November 17, 2005. These rates were first used for the June 30, 2006 valuation. Rates of separation from employment for reasons other than age and service retirement, death or disability are:

**Family Composition**

Upon the death of an active member, 90 percent are assumed to be married. Spouses of male members are assumed to be three years young, and spouses of female members are assumed to be three years older.

**Rates of Separation**

| | Years of Service | | | | | |
|---|---|---|---|---|---|---|
| Age | 0 | 1 | 2 | 3 | 4 | 5+ |
| 20 | 17.00% | 15.00% | 9.00% | 8.00% | 6.25% | 5.50% |
| 25 | 17.00% | 15.00% | 9.00% | 8.00% | 6.25% | 5.50% |
| 30 | 15.00% | 11.25% | 8.00% | 6.75% | 5.25% | 4.50% |
| 35 | 15.00% | 8.75% | 7.00% | 5.50% | 4.50% | 3.50% |
| 40 | 15.00% | 7.50% | 6.25% | 4.50% | 4.00% | 2.75% |
| 45 | 15.00% | 6.50% | 5.50% | 4.50% | 4.00% | 2.25% |
| 50 | 15.00% | 6.50% | 5.50% | 4.50% | 4.00% | 2.00% |
| 55 | 15.00% | 6.50% | 5.50% | 4.50% | 4.00% | 2.00% |
| 60 | 15.00% | 6.50% | 5.50% | 4.50% | 4.00% | 2.00% |

## Supporting Schedules (Continued)

**Summary of Actuarial Assumptions and Methods (continued)**

**Actuarial Valuation Data - Active Members**

| Valuation Year | Number of Members | Annual Payroll (in thousands) | Average Pay | % Increase/(Decrease) in Average Pay |
|---|---|---|---|---|
| 2015 | 7,463 | $ 484,853 | 64,968 | (1.4)% |
| 2014 | 7,731 | 509,267 | 65,874 | 4.9 |
| 2013 | 8,090 | 508,032 | 62,798 | 3.3 |
| 2012 | 8,325 | 506,017 | 60,783 | 1.5 |
| 2011 | 8,569 | 513,322 | 59,904 | (3.1) |
| 2010 | 8,896 | 550,175 | 61,845 | 6.8 |
| 2009 | 9,317 | 539,468 | 57,901 | (1.6) |
| 2008 | 9,624 | 566,512 | 58,865 | 5.2 |
| 2007 | 9,564 | 535,079 | 55,947 | 4.2 |
| 2006 | 9,260 | 497,105 | 53,683 | 3.6 |

**Schedule of Retirees and Beneficiaries Added To and Removed From Rolls**

| | Added to Rolls | | | Removed | | Rolls End of Year | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Annual Pensions | | | | | | | |
| Year End | No. | New | PER (a) | No. | Annual Pensions | No. | Annual Pensions | Average Annual Pensions | % Increase in Annual Pensions |
| 2015 | 578 | $ 20,077 | $ 2,406 | 192 | $ 4,225 | 6,541 | $ 205,816 | $ 31,466 | 9.7% |
| 2014 | 597 | 20,138 | 1,810 | 145 | 3,232 | 6,155 | 187,559 | 30,473 | 11.1 |
| 2013 | 426 | 12,574 | -- | 201 | 3,996 | 5,703 | 168,843 | 29,606 | 5.4 |
| 2012 | 448 | 14,488 | -- | 161 | 4,174 | 5,478 | 160,294 | 29,256 | 6.9 |
| 2011 | 444 | 15,251 | -- | 184 | 3,574 | 5,191 | 149,950 | 28,887 | 8.4 |
| 2010 | 432 | 15,139 | 120 | 170 | 3,206 | 4,931 | 138,273 | 28,042 | 9.5 |
| 2009 | 426 | 14,195 | 1,594 | 174 | 3,002 | 4,669 | 126,220 | 27,034 | 11.3 |
| 2008 | 348 | 10,935 | 2,874 | 148 | 2,732 | 4,417 | 113,433 | 25,681 | 10.8 |
| 2007 | 290 | 8,205 | 1,519 | 142 | 2,165 | 4,217 | 102,356 | 24,272 | 8.0 |
| 2006 | 309 | 9,247 | 1,976 | 147 | 2,144 | 4,069 | 94,797 | 23,297 | 9.0 |

(in thousands)
(a) Pension Equalization Increases

**Unused Vacation and Compensatory Time**
For Tier 1 and Tier 2 members, compensatory service credits and lump sum payments for unused vacation and compensatory time are assumed to increase the present value of normal retirement benefits by 9.0%. No increase to the present value of normal retirement benefits was assumed for Tier 3 members.

**Post-Decrement Probabilities Assumption**
For all active members the following post-decrement probability assumptions apply:

- 50% of all Duty or Non-Duty related death or disability claims are assumed to receive a Modified Cash Refund annuity.
- 0% of all Duty or Non-Duty related death or disability claims are assumed to receive a refund of contributions.

## Supporting Schedules (Continued)

**Solvency Test**
(in thousands)

| | Aggregate Accrued Liabilities for: | | | | Portion of Accrued Liabilities Covered by Net Assets Available for Benefits | | |
|---|---|---|---|---|---|---|---|
| Valuation Date | (1) Active Member Contributions | (2) Retirees and Beneficiaries | (3) Active Members Employer Portion | Net Assets Available for Benefits | (1) | (2) | (3) |
| 6/30/2015 | $ 383,029 | $ 2,465,862 | $ 1,127,017 | $ 2,202,923 | 100% | 74% | --% |
| 6/30/2014 | 393,754 | 2,099,274 | 1,121,756 | 2,120,700 | 100 | 82 | -- |
| 6/30/2013 (a) | 396,583 | 1,881,123 | 1,201,741 | 1,962,533 | 100 | 83 | -- |
| 6/30/2012 | 443,964 | 1,525,152 | 970,258 | 1,827,528 | 100 | 91 | -- |
| 6/30/2011 | 446,456 | 1,431,877 | 874,576 | 1,834,620 | 100 | 97 | -- |
| 6/30/2010 | 445,141 | 1,311,929 | 940,217 | 1,868,093 | 100 | 100 | 12 |
| 6/30/2009 | 446,039 | 1,193,391 | 878,664 | 1,895,148 | 100 | 100 | 29 |
| 6/30/2008 | 433,742 | 1,066,886 | 912,737 | 1,908,414 | 100 | 100 | 45 |
| 6/30/2007 | 403,819 | 964,006 | 798,294 | 1,816,508 | 100 | 100 | 56 |
| 6/30/2006 | 374,091 | 892,123 | 734,131 | 1,626,741 | 100 | 100 | 49 |

(a) Revised actuarial values after assumption changes were adopted by the Board in September 2013.

**Analysis of Financial Experience**
(in thousands)

| | Derivation for Year Ended June 30, | | | | |
|---|---|---|---|---|---|
| | 2015 | 2014 | 2013 (a) | 2012 | 2011 |
| (1) UAL at Start of Year | $ 1,494,084 | 1,516,915 | $ 1,111,845 | $ 918,289 | $ 829,195 |
| (2) Normal cost for year | 75,679 | 78,331 | 71,828 | 77,366 | 80,099 |
| (3) Contributions for year | (157,683) | (153,885) | (143,502) | (133,822) | (119,613) |
| (4) Assumed Investment Income Accrual on (1), (2) and (3) | 109,037 | 110,987 | 86,136 | 71,248 | 64,652 |
| (5) Expected UAL Before Changes | 1.521,117 | 1,552,347 | 1,126,307 | 933,081 | 854,333 |
| (6) Effect of Assumption/Method Changes | 254,870 | -- | 423,247 | -- | -- |
| (7) Effect of Benefit Changes | -- | -- | -- | -- | -- |
| (8) Expected UAL After Changes | 1,775,987 | 1,552,347 | 1,549,554 | 933,081 | 854,333 |
| (9) Actual UAL | 1,772,985 | 1,494,084 | 1,516,915 | 1,111,845 | 918,289 |
| (10) Gain (loss) (8) - (9) | $ 3,002 | 58,265 | $ 32,639 | $ (178,764) | $ (63,956) |
| (11) As % of AL at Start of Year | 0.1% | 1.7% | 1.1% | (6.5%) | (2.4%) |

UAL means unfunded actuarial liability
AL means actuarial liability

(a) Revised actuarial values after assumption changes were adopted by the Board in September 2013.

## Summary of Plan Provisions

**Purpose**

COPERS is a defined benefit pension plan created under and is governed by the Charter of the City of Phoenix (Charter) to provide retirement, survivor and disability benefits to the City of Phoenix general employees. COPERS is a qualified plan under the Internal Revenue Code.

**Administration**

The Charter provides that the administration, management and operation of COPERS be vested in a nine-member Retirement Board (Board). The Board has the responsibility of administering the Charter provisions and bears a fiduciary responsibility to the municipal employees and retirees who are the Plan's beneficiaries.

Three of the Board members are elected from and by the active employee members of COPERS and must have at least ten years of credited service. Four members are statutory, consisting of the City Manager or their delegate, the City Treasurer, the Finance Director, and a department head to be selected by the City Manager. The eighth Board member is a citizen who must be a resident of the City of Phoenix and have at least five years experience in retirement administration, and is not employed by the City or a COPERS' retiree. The ninth board member is a COPERS retiree and is elected by the employee Board members. A listing of the current Retirement Board is included on page 7 of this report.

Members of the COPERS Plan are full-time employees of the City of Phoenix and do not include police officers or firefighters who are covered by another retirement system to which the City contributes. Members who were hired before July 1, 2013, as well as members who join the City after July 1, 2013, who were members of Arizona State Retirement System (ASRS) prior to July 1, 2011 and did not withdraw their contributions are Tier 1 members. Members hired into employment with the City on or after July 1, 2013, who are not Tier 1 members, are Tier 2 members.

**Final Average Compensation**

Final Average Compensation ("FAC") is the average of a member's monthly pay during the 36 consecutive months of credited service producing the highest monthly average contained within the 120 consecutive months of credited service immediately preceding retirement. For most members, this is the last three years of employment. Pursuant to City management and Board action, on October 31, 2013, the City Council eliminated certain compensation elements from the calculation of pensionable earnings from the FAC calculation. The change was effective for middle managers and executives effective January 1, 2014. In addition, a vacation "snapshot" of unused vacation time was implemented on December 31, 2013 for middle managers and executives and June 30, 2014 for all other General City employees.

**Voluntary Retirement**

An active member may retire with Tier 1 benefits if he or she meets the eligibility requirements of:

- age 60 with 10 or more years of credited service,
- age 62 with 5 or more years of credited service, or
- an age which added to his or her years of credited service equals 80 (Rule of 80).

Tier 1 benefits are calculated as unused sick leave multiplied by 2 percent of FAC times credited services times the corresponding accrual rate:

**Tier 1**

| Years of Service | Accrual Rate |
|---|---|
| $0 <$ Service $\leq 32.5$ | 2.00% |
| $32.5 <$ Service $\leq 35.5$ | 1.00% |
| Service $>35.5$ | 0.50% |

Tier 1 members who voluntary retire, will receive a minimum monthly pension of $250, or $500 if the member has 15 or more years of service.

## Summary of Plan Provisions (Continued)

**Voluntary Retirement (continued)**

An active member may retire with Tier 2 benefits if he or she meets the eligibility requirements of:

- age 60 with 10 or more years of credited service,
- age 62 with 5 or more years of credited service, or
- an age which added to his or her years of credited service equals 87 (Rule of 87).

Tier 2 benefits are calculated as unused sick leave multiplied by 2 percent of FAC plus FAC times credited service times the corresponding accrual rate:

**Tier 2**

| Years of Service | Accrual Rate |
|---|---|
| 0 < Service ≤ 20 | 2.10% |
| 20 < Service ≤ 25 | 2.15% |
| 25 < Service ≤ 30 | 2.20% |
| Service >30 | 2.30% |

**Credited Service**

Credited service is determined based on Section 14 of Chapter XXIV of the Phoenix City Charter as well as COPERS administrative policy number 43. In no case is more than a year of service credited to any member for all service rendered in any calendar year. The amount of service credited to members varies by Tier, as detailed below.

Tier 1

A member is credited with a month of service for each calendar month in which the member performs at least 10 days of City service. A member is credited with a year of service for any calendar year in which the member has at least 10 months of credited service. If a member has less than 10 months of credited service for any calendar year, they are credited for the actual number of months.

Tier 2 and 3

A member is credited with a month of service for each calendar month in which the member performs at least 20 days of City service. A member is credited with a year of service for any calendar year in which the member has 12 months of credited service. If a member has less than 12 months of credited service for any calendar year, they are credited for the actual number of months.

**Purchase of Public Service Credits**

On January 28, 1998, the COPERS' Board, after review of legal and actuarial considerations, adopted a program permitting COPERS' members to purchase in-state and out-of-state public service credits, along with non-intervening military service credits, towards their retirement. The basic requirements for this program are contained in Board Policy 180. Effective January 1, 2007, the Board revised the service purchase program. The cost of eligible service shall be based on the full actuarial cost of providing benefits for the period of service being purchased. Members are eligible to purchase service credits upon membership with COPERS. Military purchases are limited to a maximum of five years. The Board policy revision to the service purchase program is to allow active members to purchase previous City of Phoenix job-share and City of Phoenix full-time temporary employment service. This revision was adopted on May 21, 2008, after legal and actuarial reviews, and was implemented effective October 1, 2008.

## Summary of Plan Provisions (Continued)

**Deferred Retirement**

If a member leaves COPERS-covered employment before age 60, but after completing five or more years of credited service, they become eligible for a deferred pension, provided they live to age 62 and do not withdraw their accumulated contributions.

**Disability Retirement**

Non-Duty

A member with ten or more years of credited service, who becomes totally and permanently disabled for duty in the employ of the City from other than duty-connected causes, is eligible for a non-duty disability benefit computed in the same manner as a pension allowance, based upon the service and average salary at the time of disability.

Duty

A member who becomes totally and permanently disabled for duty in the employ of the City as a result of a duty-related injury or disease is eligible for a duty disability benefit computed in the same manner as a pension allowance, regardless of length of service. There is a 15 percent (of FAC) minimum benefit payable.

Upon termination of the worker's compensation period, if any, the member shall be given service credit and the disability pension shall be recomputed to include such additional credited service.

Disability Assessment Committee Examinations

The City Charter provides for a Disability Assessment Committee ("DAC") consisting of five members: the Personnel Safety Administrator, the Executive Secretary to the Board, two employee members appointed by the Board, and one citizen member appointed by the Board who is a resident of Maricopa County, not employed by the City or receiving benefits from the plan and has at least five years experience in a responsible position in the health care field. The DAC determines eligibility for disability benefits under the Charter. Each person alleging a condition of disability or the continuance of such condition shall be required to undergo any medical examinations required by the DAC, but not more than twice annually or after age 60.

**Survivor Benefits**

Dependents of deceased members may qualify for survivor benefits if (1) the deceased member had ten or more years of credited service or (2) the member's death was the result of causes arising out of and in the course of his employment with the City, and is compensable under the Worker's Compensation Act of the State of Arizona.

If the member had less than ten years of credited service and died as a result of causes arising out of and in the course of employment, the credited service shall be increased to ten years.

A deceased member's spouse will be paid a benefit equivalent to Option A Standard, 100 percent Joint and Survivor, calculated as if the member had retired the day preceding the date of death, notwithstanding that the member might not have attained age 60. Benefits cease upon death of the survivor.

The voters of the City of Phoenix approved a change to the Charter on September 7, 1999 to increase surviving child pension benefits. Effective January 1, 2000, a deceased member's unmarried child or children under age 18 shall receive a benefit of $200 per month, regardless of the number of children. The benefit shall cease upon adoption, marriage, death or attainment of age 18.

## Summary of Plan Provisions (Continued)

### Post-Retirement Distribution "13th Check"

Each year, based upon a predetermined formula and investment return, a distribution amount (known as the 13th Check) for each eligible retiree and beneficiary may be payable in the form of a supplemental one-time payment, provided an adequate balance in the Pension Equalization Reserve exists. This payment must be made prior to the seventh month after the end of the fiscal year. A minimum 1 percent of annual pension, for the 13th Check, was established by an amendment to the City Charter, adopted by City of Phoenix voters October 3, 1995.

### Pension Equalization Program

A provision for permanent pension adjustments, based on Plan performance, was established effective January 1, 1992. On the basis of COPERS' five-year average rate of return, reported by the Plan's consultant, earnings in excess of 8 percent will be transferred to a Pension Equalization Reserve. The Plan's actuary will determine what percentage pension increase should be applied to eligible retirees who, on January 1, have received 36 pension payments. This permanent increase to the gross pension shall not exceed the Consumer Price Index as calculated by the U.S. Department of Labor, Bureau of Labor Statistics ("Phoenix-Mesa, AZ" for all Urban Consumers).

### Optional Forms of Payment

When a COPERS member makes application for retirement, benefits are calculated in four optional forms, and the member selects the one that best fits their retirement needs. The election of an optional form of payment is made prior to the receipt of the first benefit check, and when payments begin that election is irrevocable. Married members must select Option A Standard unless the spouse signs a consent form authorizing a different option. The four options are as follows:

Straight Life Option

This is the highest payment available to a retiree; however, upon the death of the retiree, monthly payments cease. If the retiree had not received an amount equal to at least their accumulated contributions (inclusive of regular interest to date of retirement) before their death, a refund of the balance of their account is made to the designated beneficiary. The City of Phoenix Charter was amended on September 7, 1999, to establish a minimum pension benefit of $500 for retirees with 15 years or more of service and $250 for retirees with less than 15 years.

Option A

This is a continuing survivor option that allows the retiree to receive less than the Straight Life Option, with the provision that the designated survivor will receive 100 percent of the retiree's reduced benefit for the remainder of their lifetime.

**Standard:** Under this option, should the designated survivor die prior to the retiree, the pension paid the retiree will remain the same.

**Pop-Up:** This form of Option A provides that, should the designated survivor die before the retiree, the reduced pension paid the retiree shall be increased to equal the Straight Life Option for the remainder of the retiree's life. The selection of this form of Option A generally provides an amount less than that available under the Option A Standard.

Option B

This option is also a continuing survivor benefit option similar to Option A above, except that the percentage is changed. Under Option B, the retiree would receive less than the Straight Life Option (but more than under Option A) with the designated survivor receiving 50 percent of the retiree's benefit for the remainder of their lifetime.

**Standard:** Under this option, should the designated survivor die prior to the retiree, the pension paid the retiree will remain the same.

**Pop-Up:** This form of Option B provides that, should the designated survivor die before the retiree, the reduced pension paid the retiree shall be increased to equal the Straight Life Option for the remainder of the retiree's life. The selection of this option generally provides an amount less than that available under the Option B Standard.

## Summary of Plan Provisions (Continued)

**Optional Forms of Payment (Continued)**

Option C

The final of the four options is referred to as a "ten-year certain and life" form. As with the other options, the benefit is payable for the lifetime of the retiree but with the added provision that if the retiree lives less than 10 years after retirement, COPERS will make additional monthly payments to the designated survivor, not to exceed 120 monthly payments (between the retiree and the survivor). Monthly payments cease upon the primary retiree's death if they live more than 10 years.

**Member Contributions**

As a condition of employment, a member hired prior to July 1, 2013 is required to contribute 5 percent of their covered compensation. Members hired on or after July 1, 2013 are required to contribute 50 percent of the actuarially-determined rate. The City established a qualified employee "pick-up" plan under Internal Revenue Code Section 414(h) effective January 1, 1985, to allow those contributions to be made on a pre-tax basis.

Accumulated contributions also include regular interest that is computed at the end of each fiscal year on the mean balance in the member's account during the year. The rate of interest is established each year by the Board. The Board adopted an 7.50 percent interest rate for June 30, 2015.

If a member leaves covered City employment for reasons other than retirement, their accumulated contributions may be refunded to them. If a member dies prior to accruing ten or more years of credited service and not as a result of causes arising out of and in the course of his employment, those accumulated contributions are refunded to his designated beneficiary.

**Employer Contributions**

The Charter requires the City to contribute an amount that is determined annually by COPERS' retained actuary. Contributions are based upon level percentage of projected payroll funding principles, so that the contribution rates do not fluctuate significantly over time. This contribution is over and above the member contributions. The Schedule of Employer Contributions for the Last Ten Fiscal Years is located on page 40 of this report.

It is noted this summary of plan provisions has been written to furnish the members of COPERS and other readers with general information about the Plan. Since it is a summary, all of the requirements of the Plan are not covered. Details of all benefits can be obtained from Chapter XXIV of the City Charter, which is available in COPERS' Office. **Although every effort has been made to accurately summarize the benefits under the Plan, the provisions of Chapter XXIV shall prevail in the unlikely event of discrepancies.**

# STATISTICAL SECTION

The **Statistical Section** provides financial and demographic data pertaining to COPERS.

## Statistical Section

The purpose of the statistical section is to provide the reader with data, which is considered to be pertinent to the financial and economic condition of the retirement plan. Each schedule is defined below with an explanation of the schedule and an identification of the source of the data.

**Schedule of Changes in Fiduciary Net Position**

This schedule provides the additions and deductions to the plan for the past ten years. The change in net position is provided to illustrate whether sufficient resources are available in the current fiscal year to cover plan benefits. This schedule is developed using the Statements of Changes in Fiduciary Net Position for the past ten years.

**Schedule of Benefit Expenses by Type**

This schedule provides the benefit expenses of the plan by type for the last ten years. COPERS benefits include payments for service retirements, disability benefits, death in service benefits, child benefits, payment to alternate payees and survivor benefits. This schedule is developed using reports from the City's accounting system. The expenses can be found in COPERS' Statements of Changes in Fiduciary Net Position for the past ten years.

**Schedule of Retired Members by Type of Benefit**

This schedule provides the number of retired members by type of benefit. COPERS plan benefits include payments for deferred benefits, normal retirement benefits, disability benefits, survivor benefits, death benefits and payments to alternate payees. The schedule is developed using COPERS' database.

**Schedule of Average Benefit Payment Amounts**

This schedule provides the average benefit payments per years of credited service. This information is provided to illustrate the changes in benefit payment amounts as the amount of service credit earned increases. This schedule is developed using COPERS' database.

## Schedule of Changes in Fiduciary Net Position

Last Ten Fiscal Years

| | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|
| **ADDITIONS** | | | | | |
| Member Contributions | $ 27,861 | $ 28,815 | $ 27,738 | $ 28, 140 | $ 28, 648 |
| Employer Contributions | 117,092 | 115, 244 | 110,094 | 105,682 | 90,965 |
| Funds from Other Systems | 199 | 160 | 105 | 4,030 | 4,999 |
| Net Investment Income (Loss) | 47,149 | 298, 576 | 195,305 | (5,664) | 315,936 |
| Total Additions to Fiduciary Net Position | 192,301 | 442, 795 | 333,242 | 132,188 | 440,548 |
| **DEDUCTIONS** | | | | | |
| Benefit Payments | 201,178 | 177,447 | 165,521 | 156,679 | 145,922 |
| Refunds of Contributions | 3,004 | 2,192 | 2,464 | 2,333 | 2,470 |
| Funds to Other Systems | 421 | 238 | 606 | 1,365 | 2,872 |
| Administrative Expenses | 414 | 628 | 389 | 328 | 251 |
| Total Deductions from Fiduciary Net Position | 205,017 | 180, 506 | 168,980 | 160,705 | 151,515 |
| **CHANGE IN NET POSITION RESTRICTED FOR PENSIONS** | $ (12,716) | $ 262,290 | $ 164,262 | $ (28,517) | $ 289,033 |

| | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|---|---|---|---|---|
| **ADDITIONS** | | | | | |
| Member Contributions | $ 30, 240 | $ 31,774 | $ 31,237 | $ 30,207 | $ 27,979 |
| Employer Contributions | 86,241 | 66,383 | 64,198 | 58,151 | 52,974 |
| Funds from Other Systems | 4,619 | 2,411 | 4,755 | 4,507 | 1,070 |
| Net Investment Income (Loss) | 143,016 | (375,388) | (106,022) | 272,051 | 133,934 |
| Total Additions to Fiduciary Net Position | 264,116 | (274,820) | (5,832) | 364,916 | 215,957 |
| **DEDUCTIONS** | | | | | |
| Benefit Payments | 133,522 | 121,484 | 109,308 | 100,366 | 91,911 |
| Refunds of Contributions | 2,877 | 2,812 | 2,623 | 2,770 | 2,465 |
| Funds to Other Systems | 1,699 | 1,518 | 2,103 | 1,798 | 600 |
| Administrative Expenses | 402 | 477 | -- | -- | -- |
| Total Deductions from Fiduciary Net Position | 138,500 | 126,291 | 114,034 | 104,934 | 94,976 |
| **CHANGE IN NET POSITION RESTRICTED FOR PENSIONS** | $ 125,616 | $ (401,111) | $ (119,866) | $ 259,982 | $ 120,981 |

Note: Administrative expenses of COPERS are paid by the City of Phoenix. As of October 2, 2008, the COPERS Board approved the payment of certain fees for legal, medical, actuarial, and computer services from Plan Assets.

# Schedule of Benefit Expenses by Type

Last Ten Fiscal Years

**Retirement and Survivor Benefits**
(in thousands)

| Fiscal Year | Age & Service Benefits Retirees | Death In Service | Disability Benefits Retirees Duty | Disability Benefits Retirees Non-Duty | Survivors | Deferred | Child | Alternate Payee | Total Benefits |
|---|---|---|---|---|---|---|---|---|---|
| 2014-2015 | $ 176,699 | $ 3,109 | $ 710 | $ 3,184 | $ 12,958 | $ 2,582 | $ 47 | $ 1,889 | $ 201,178 |
| 2013-2014 | 154,684 | 2,921 | 711 | 2,898 | 12,157 | 2,373 | 32 | 1,701 | 177,447 |
| 2012-2013 | 143,970 | 2,812 | 702 | 2,880 | 11,581 | 2,158 | 31 | 1,387 | 165,521 |
| 2011-2012 | 136,223 | 2,793 | 700 | 2,882 | 10,792 | 1,997 | 36 | 1,257 | 156,679 |
| 2010-2011 | 126,576 | 2,706 | 718 | 2,774 | 10,047 | 1,859 | 32 | 1,210 | 145,922 |
| 2009-2010 | 115,115 | 2,672 | 707 | 2,650 | 9,633 | 1,651 | 32 | 1,062 | 133,522 |
| 2008-2009 | 104,189 | 2,795 | 716 | 2,541 | 8,819 | 1,444 | 33 | 947 | 121,484 |
| 2007-2008 | 93,116 | 2,583 | 690 | 2,398 | 8,413 | 1,287 | 39 | 782 | 109,308 |
| 2006-2007 | 85,252 | 2,509 | 668 | 2,202 | 7,799 | 1,208 | 39 | 681 | 100,366 |
| 2005-2006 | 77,830 | 2,414 | 626 | 2,029 | 7,319 | 1,033 | 49 | 611 | 91,911 |

*Amounts shown are annualized amounts based on the June 30th payroll.

**Refunds**
(in thousands)

| Fiscal Year | Beneficiaries | Separation | Total Refunds |
|---|---|---|---|
| 2014-2015 | $ 725 | $ 2,279 | $ 3,004 |
| 2013-2014 | 515 | 1,677 | 2,192 |
| 2012-2013 | 821 | 1,644 | 2,465 |
| 2011-2012 | 437 | 1,896 | 2,332 |
| 2010-2011 | 677 | 1,793 | 2,470 |
| 2009-2010 | 963 | 1,914 | 2,877 |
| 2008-2009 | 618 | 2,194 | 2,812 |
| 2007-2008 | 149 | 2,474 | 2,623 |
| 2006-2007 | 376 | 2,394 | 2,770 |
| 2005-2006 | 347 | 2,118 | 2,465 |

## Schedule of Retired Members by Type of Benefit
June 30, 2015

| | | Type of Retirement | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Monthly Benefit | Number of Retirees | Deferred | Normal or Voluntary | Duty Disability | Non-Duty Disability | Survivor Payment | Death Benefit | Alternate Payee |
| Deferred | 901 | 901 | -- | -- | -- | -- | -- | -- |
| $1 - 300 | 94 | -- | 44 | 1 | -- | 12 | 24 | 13 |
| 301 – 400 | 146 | -- | 95 | 6 | 2 | 32 | 3 | 8 |
| 401 – 500 | 135 | -- | 87 | 9 | 4 | 27 | 1 | 7 |
| 501 – 600 | 138 | -- | 90 | 4 | 8 | 24 | 4 | 8 |
| 601 – 700 | 168 | -- | 95 | 3 | 10 | 45 | 6 | 9 |
| 701 – 800 | 176 | -- | 95 | 3 | 12 | 43 | 11 | 12 |
| 801 – 900 | 186 | -- | 119 | 6 | 20 | 30 | 7 | 4 |
| 901 – 1,000 | 172 | -- | 90 | 2 | 14 | 48 | 6 | 12 |
| 1,001 – 1,100 | 196 | -- | 113 | 5 | 10 | 48 | 10 | 10 |
| 1,101 – 1,200 | 190 | -- | 124 | 1 | 15 | 30 | 8 | 12 |
| 1,201 – 1,300 | 161 | -- | 111 | 1 | 14 | 21 | 6 | 8 |
| 1,301 – 1,400 | 176 | -- | 113 | -- | 13 | 34 | 7 | 9 |
| 1,401 – 1,500 | 173 | -- | 129 | 2 | 6 | 24 | 10 | 2 |
| 1,501 – 2,000 | 780 | -- | 609 | 15 | 34 | 73 | 31 | 18 |
| 2,001 – 2,500 | 833 | -- | 719 | 1 | 14 | 80 | 11 | 8 |
| 2,501 – 3,000 | 723 | -- | 657 | -- | 8 | 44 | 11 | 3 |
| 3,001 – 4,000 | 1,046 | -- | 981 | -- | 6 | 46 | 12 | 1 |
| 4,001 – 5,000 | 584 | -- | 560 | -- | 2 | 16 | 5 | 1 |
| Over 5,001 | 611 | -- | 588 | -- | -- | 18 | 3 | 2 |
| Totals | 7,589 | 901 | 5,419 | 59 | 192 | 695 | 176 | 147 |

| | | Option Selected | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Option A | | Option B | | | |
| Monthly Benefit | Total | Life | Standard | Pop-Up | Standard | Pop-Up | Option C | Child Benefit |
| $1 – 300 | 94 | 41 | 19 | 7 | -- | -- | 3 | 24 |
| 301 – 400 | 146 | 94 | 34 | 7 | 1 | 3 | 7 | -- |
| 401 – 500 | 135 | 81 | 40 | 7 | -- | 1 | 6 | -- |
| 501 – 600 | 138 | 81 | 23 | 19 | 3 | 2 | 10 | -- |
| 601 – 700 | 168 | 101 | 35 | 21 | 2 | 3 | 6 | -- |
| 701 – 800 | 176 | 113 | 31 | 15 | 3 | 3 | 11 | -- |
| 801 – 900 | 186 | 91 | 45 | 22 | 5 | 10 | 13 | -- |
| 901 – 1,000 | 172 | 112 | 25 | 15 | 5 | 7 | 8 | -- |
| 1,001 – 1,100 | 196 | 128 | 37 | 19 | 2 | 4 | 6 | -- |
| 1,101 – 1,200 | 190 | 99 | 59 | 13 | 3 | 10 | 6 | -- |
| 1,201 – 1,300 | 161 | 79 | 39 | 28 | 3 | 9 | 3 | -- |
| 1,301 – 1,400 | 176 | 94 | 44 | 12 | 7 | 11 | 8 | -- |
| 1,401 – 1,500 | 173 | 95 | 40 | 14 | 5 | 14 | 5 | -- |
| 1,501 – 2,000 | 780 | 343 | 228 | 92 | 23 | 54 | 40 | -- |
| 2,001 – 2,500 | 833 | 357 | 250 | 103 | 30 | 65 | 28 | -- |
| 2,501 – 3,000 | 723 | 304 | 184 | 101 | 38 | 62 | 34 | -- |
| 3,001 – 4,000 | 1,046 | 408 | 335 | 119 | 40 | 95 | 49 | -- |
| 4,001 – 5,000 | 584 | 214 | 190 | 74 | 30 | 57 | 19 | -- |
| Over 5,001 | 611 | 244 | 209 | 60 | 24 | 46 | 28 | -- |
| Totals | 6,688 | 3,079 | 1,867 | 748 | 224 | 456 | 290 | 24 |
| | | | | | | | | |
| Deferred | 901 | | | | | | | |
| Total | 7,589 | | | | | | | |

## Schedule of Average Benefit Payment Amounts
By Year of Retirement

**Last Five Fiscal Years**

| Retirement Effective Dates | Years of Credited Service | | | | | |
|---|---|---|---|---|---|---|
| For Fiscal Years Ending June 30: | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ |
| 2015 | | | | | | |
| Average Monthly Benefit | $ 627.12 | $1,198.23 | $1,800.35 | $2,832.46 | $3,747.22 | $4,451.39 |
| Mean Monthly Final Average Compensation | $ 4,394.71 | $4,918.77 | $5,272.00 | $6,355.55 | $6,642.33 | $6,734.34 |
| Number of Active Retirees | 41 | 62 | 66 | 95 | 206 | 136 |
| 2014 | | | | | | |
| Average Monthly Benefit | $ 627.98 | $ 1,171.08 | $ 2,093.01 | $ 2,620.92 | $ 3,963.91 | $ 4,471.11 |
| Mean Monthly Final Average Compensation | $ 4,149.40 | $ 4,891.54 | $ 6,133.52 | $ 5,746.43 | $ 6,986.39 | $ 6,578.83 |
| Number of Active Retirees | 31 | 43 | 47 | 82 | 148 | 58 |
| 2013 | | | | | | |
| Average Monthly Benefit | $ 559.68 | $ 1,260.13 | $ 1,907.01 | $ 2,599.91 | $ 3,748.72 | $ 4,933.05 |
| Mean Monthly Final Average Compensation | $ 4,273.41 | $ 5,221.78 | $ 5,509.08 | $ 5,821.48 | $ 6,697.39 | $ 7,417.31 |
| Number of Active Retirees | 41 | 41 | 28 | 54 | 94 | 48 |
| 2012 | | | | | | |
| Average Monthly Benefit | $ 572.10 | $ 1,082.46 | $ 1,761.17 | $ 2,793.32 | $ 3,620.34 | $ 4,805.13 |
| Mean Monthly Final Average Compensation | $ 4,353.18 | $ 4,633.71 | $ 5,268.80 | $ 6,176.80 | $ 6,574.75 | $ 7,449.58 |
| Number of Active Retirees | 30 | 35 | 32 | 64 | 118 | 62 |
| 2011 | | | | | | |
| Average Monthly Benefit | $ 573.56 | $ 1,125.30 | $ 1,756.20 | $ 2,780.95 | $ 4,123.71 | $ 4,908.60 |
| Mean Monthly Final Average Compensation | $ 4,216.52 | $ 4,941.00 | $ 5,243.97 | $ 6,276.18 | $ 7,396.17 | $ 7,417.58 |
| Number of Active Retirees | 33 | 42 | 35 | 66 | 104 | 84 |
| From July 1, 2010 to June 30, 2015 | | | | | | |
| Average Monthly Benefit | $ 592.09 | $ 1,167.44 | $ 1,863.55 | $ 2,725.51 | $ 3,840.78 | $ 4,713.86 |
| Mean Monthly Final Average Compensation | $ 4,277.44 | $ 4,921.36 | $ 5,485.47 | $ 6,075.29 | $ 6,859.41 | $ 7,119.53 |
| Number of Active Retirees | 176 | 223 | 208 | 361 | 670 | 388 |

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