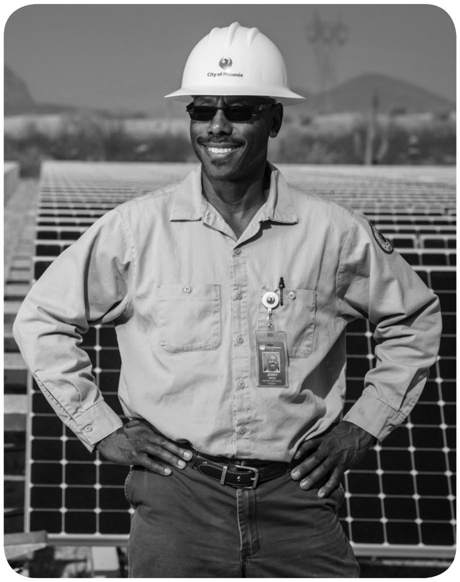

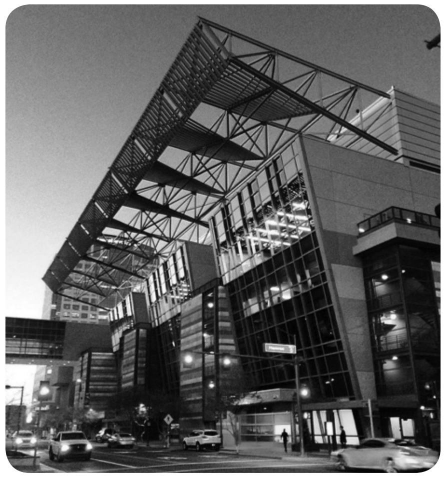

City of Phoenix Employees' Retirement Plan

Comprehensive Annual Financial Report
For Fiscal Years
Ended June 30, 2016 and 2015

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

SEVENTIETH ANNUAL
COMPREHENSIVE ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEARS ENDED
JUNE 30, 2016 and 2015

200 West Washington Ave, 10th Floor
Phoenix, Arizona 85003
(602) 534-4400
FAX (602) 495-2008

Prepared by:
City of Phoenix
Employees' Retirement System
and
City of Phoenix
Finance Department

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STATISTICAL SECTION

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.

PPCC

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2016

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

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, 2015

Jeffrey R. Esser
Executive Director/CEO

City of Phoenix
RETIREMENT SYSTEM

December 16, 2016

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, 2016 and 2015. 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.

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 net position and changes in Fiduciary net 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, 2016 and 2015.

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, 2015. 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

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. That cap reduced Tier 2 member contributions by 4.51%. The second major change was to create a new Tier 3 retirement plan for all employees who began 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. COPERS successfully implemented the above changes by the January 1, 2016 effective date.

Over the course of the fiscal year, COPERS obtained, installed and implemented the necessary hardware and software to begin remote check deposits into our custodial bank for the first time. Before this was implemented, COPERS was reliant on the City's Finance Department to accumulate and deposit COPERS' checks, a process that sometimes delayed those deposits. COPERS can now immediately deposit checks, which allows those funds to be invested on a timelier basis.

With the IRS' pending termination of its determination letter filing program, it was imperative that COPERS file its application for a determination letter by the January 31, 2016 deadline. COPERS worked with its outside tax counsel and the City Attorney's Office to ensure necessary amendments were made to COPERS' plan documents in time to meet that deadline. We successfully filed the application by the deadline, and are awaiting the IRS' findings. Assuming we receive a positive response, the determination letter will not only verify that COPERS is structured as required by the Internal Revenue Code in order to maintain its tax-qualified status, but it will significantly help our investment program as we work with both domestic and international investment managers.

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 $1,536. 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 $15,839 for the fiscal year ended June 30, 2016. Administrative and investment costs combined represented 0.65% 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, 2016, reflects a funded ratio of 57.3%, 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, 2016 is 22 years. A smoothed market value of assets was used for the June 30, 2016 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, 2016, the net asset value of the COPERS Plan is $2.151 billion. The fiscal year net return for the Plan is 0.6%, which is 6.9% below the assumed rate of return of 7.50%. The five year annualized return, net of fees, is 5.5%.

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. Meketa Investment Group provides investment performance analysis, asset allocation review and investment consulting to the Retirement Board. RVK provides consultative services to COPERS regarding its real estate investments. COPERS' financial statements are audited by Grant Thornton, LLP, and reviews of operations are performed by the City Auditor's Department.

The City Attorney’s office provides legal representation. However, the COPERS Board decided to issue an RFP for outside legal services to use in the event there is a conflict. COPERS contracted with a primary outside law firm and a secondary outside law firm, Ryan, Rapp & Underwood, P.L.C., and Robinson Bradshaw, respectively.

SUBSEQUENT EVENTS

During its July, 2016 Board meeting, the COPERS Trustees approved a three-year strategic plan that will guide the Board's and Staff's efforts going forward. The strategic plan was created through the help and input of both the Board members and staff. The projects addressed by the strategic plan will improve customer service and increase office productivity.

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

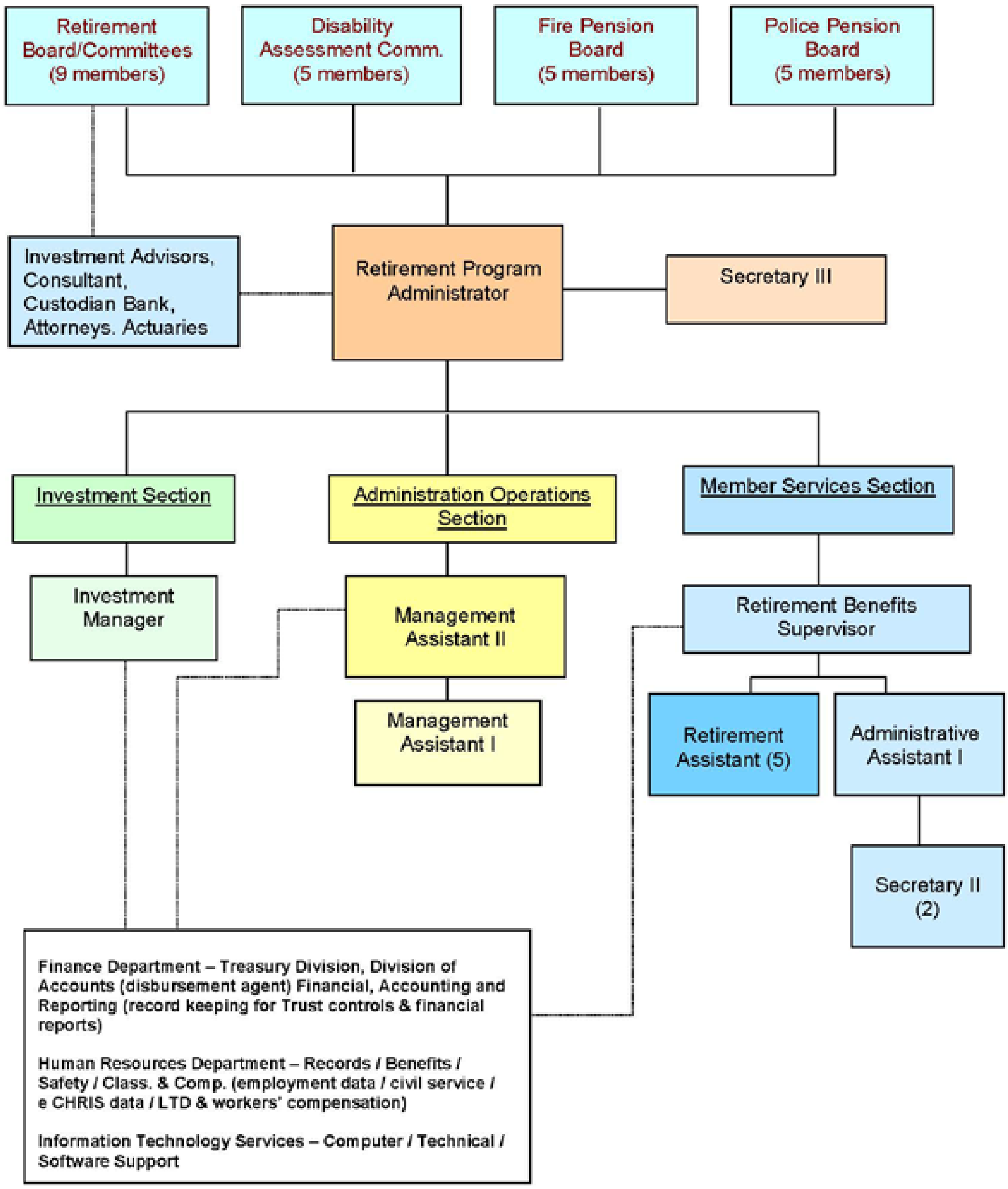
DENISE OLSON
Chief Financial Officer
City of Phoenix
Ex-Officio Board Member

Retirement Board Committees

Investment Committee	Charter Amendments/Policies & Procedures Committee
Kathleen Gitkin, Chairperson	Blair Johnson, Chairperson
John Hedblom	David Nieto
Denise Olson	Denise Olson
Susan Perkins	Tammy Ryan
Charlene Reynolds	
Tammy Ryan	

Legal Review Committee	Disability Assessment Committee
Toni Maccarone, Chairperson	Scott Miller, Chairperson
John Hedblom	Jon Brodsky
David Nieto	Leslie Dewar
Susan Perkins	Stanley Flowers
	Robert Jones, M.D.

Administrative Organization



Administrative Staff

Scott A. Miller	Retirement Program Administrator
Vanessa Castillo	Administrative Aide
Kyle Corbin	Administrative Assistant I
Trista Eaden	Management Assistant I
Jana Evans	Administrative Aide
Greg Fitchet	Investment Officer
Bobbie Gonzalez	Retirement Assistant
Marissa Hernandez	Retirement Assistant
Tim Jackson	Retirement Assistant
Josie Romero	Retirement Assistant
Michelle Ruiz	Retirement Assistant
Scott Steventon	Management Assistant II
Lollita Whitfield	Retirement Benefits Supervisor
Marcia Wilson	Secretary III

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 Certified Public Accountants under contract with the City Auditor

Brokerage

Elkins McSherry LLC	New York, NY

Investment Services

Refer to Investment Section, page 53

Legal Services

ICE Miller	Indianapolis, IN

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 16, 2016

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, 2016 and June 30, 2015. 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, Meketa, provided performance measurement and assisted the Board with analysis of investment issues. Meketa reports the COPERS' total fund net performance for the year ended June 30, 2016 was 0.6%. The annualized net return for the past three and five years was 5.9% and 5.5% respectively.

As reported by Meketa, the fair value of the Plan's assets decreased from $2.225 billion to $2.148 billion in the fiscal year ended June 30, 2016. The long-term returns of the Plan were negatively impacted by the continued slow pace of the economic recovery. The plan has now realized all of the losses from the 2007-2009 recession, however, and experienced a five-year net return of 5.5%.

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 is currently in the process of re-examining the plan’s asset allocation with the objective of maximizing its returns with the lowest possible risk.

The Board's actuarial consultant, Cheiron, Inc. (Cheiron), conducted the annual actuarial valuation as of June 30, 2016. Cheiron reports the funded ratio of the plan to be 57.3% an increase from the June 30, 2015 funded ratio of 55.4% 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.

COPERS has now made the necessary changes to fully implement the new Tier 3, stacked hybrid retirement plan, which went live in January of 2016. As of the end of the fiscal year, we had over 400 members in the new Tier 3 retirement plan. 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, 2015 and 2014 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
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 June 30, 2016 and 2015 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.

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

Grant Thornton

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 net position restricted for benefits as of June 30, 2016 and 2015 and changes therein for the years then ended, and its financial status as of June 30, 2016 and 2015 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 23, as well as the schedule of changes in net pension liability, schedule of employer contributions, and schedule of investments returns on pages 47 through 49, 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 inquires 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

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 16, 2016

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, 2016 and 2015. 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, 2016, $2,151,421 in Net Position Restricted for Pensions, as identified in the Statements of Fiduciary Net Position on page 24. This amount represents a decrease of 2.6% from June 30, 2015. 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, 2015 was $2,209,526 compared to $2,222,242 as of June 30, 2014. The decrease of 0.6% during 2015 was attributable to losses 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 25, for the fiscal year ended June 30, 2016 was $158,538 compared to $192,301 for fiscal year ended June 30, 2015 and $442,795 for fiscal year ended June 30, 2014. The decrease for the current year was attributable primarily to additional hiring done by the plan sponsor. The amount for the fiscal year ending June 30, 2016 includes employer and employee contributions of $149,367 and net investment income of $9,171. Fiscal year ended June 30, 2015 and June 30, 2014, employer and employee contributions were $145,152 and $144,059, respectively. The net investment income was $47,149 and $298,576 for fiscal years ended June 30, 2015 and June 30, 2014, respectively.

- The Statements of Changes in Fiduciary Net Position reported an increase in deductions in Plan net position of 5.7% from the fiscal year ended June 30, 2016. This compares to a 13.6% increase in deductions between June 30, 2015 and June 30, 2014. Deductions for fiscal year ended June 30, 2016 were $216,643 compared to $205,017 for fiscal year ended June 30, 2015 and $180,505 for fiscal year ended June 30, 2014. The increases in deductions as of June 30, 2016 and June 30, 2015 are attributable to an increase in the number of retirees and refunds of contributions.

- The recent Actuarial Valuation prepared as of June 30, 2016 reported the funded ratio to be 57.3%. The funded ratio for fiscal years June 30, 2015 and June 30, 2014 was 55.4% and 58.7%, respectively. A smoothed fair value of assets was used for the June 30, 2016, June 30, 2015 and June 30, 2014 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 24 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 24)
- Statements of Changes in Fiduciary Net Position (Page 25)
- Notes to the Financial Statements (Page 26)
- Required Supplementary Information (Page 47)
- Additional Supplementary Information (Page 50)

<ins>Statements of Fiduciary Net Position:</ins>

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.

<ins>Statements of Changes in Fiduciary Net Position:</ins>

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.

<ins>Notes to the Financial Statements:</ins>

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.

<ins>Required Supplementary Information (RSI):</ins>

The Schedule of Changes in Net Pension Liability and Related Ratios provides the Plan's funding progress for the last four 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.

<ins>Additional Supplementary Information:</ins>

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, 2016 was $2,151,421. This amount represents a decrease of 2.6% from Net Position Restricted for Pensions of $2,209,526 as of June 30, 2015. The Net Position Restricted for Pensions as of June 30, 2014 was $2,222,242. The Net Position Restricted for Pensions held Cash & Cash Equivalents as of June 30, 2016 of $19,231 compared to $50,557 for June 30, 2015 resulting in a decrease of $31,326. 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, 2016 of $278,082 compared to $331,414 for June 30, 2015. This change was attributable to the reduction of several large purchases of investments that were in process at prior fiscal year-end. The return on investments for fiscal years ended June 30, 2016, 2015 and 2014 was 0.9%, 2.64%, and 15.88%, respectively. The below chart outlines investment performance over the last three fiscal years.

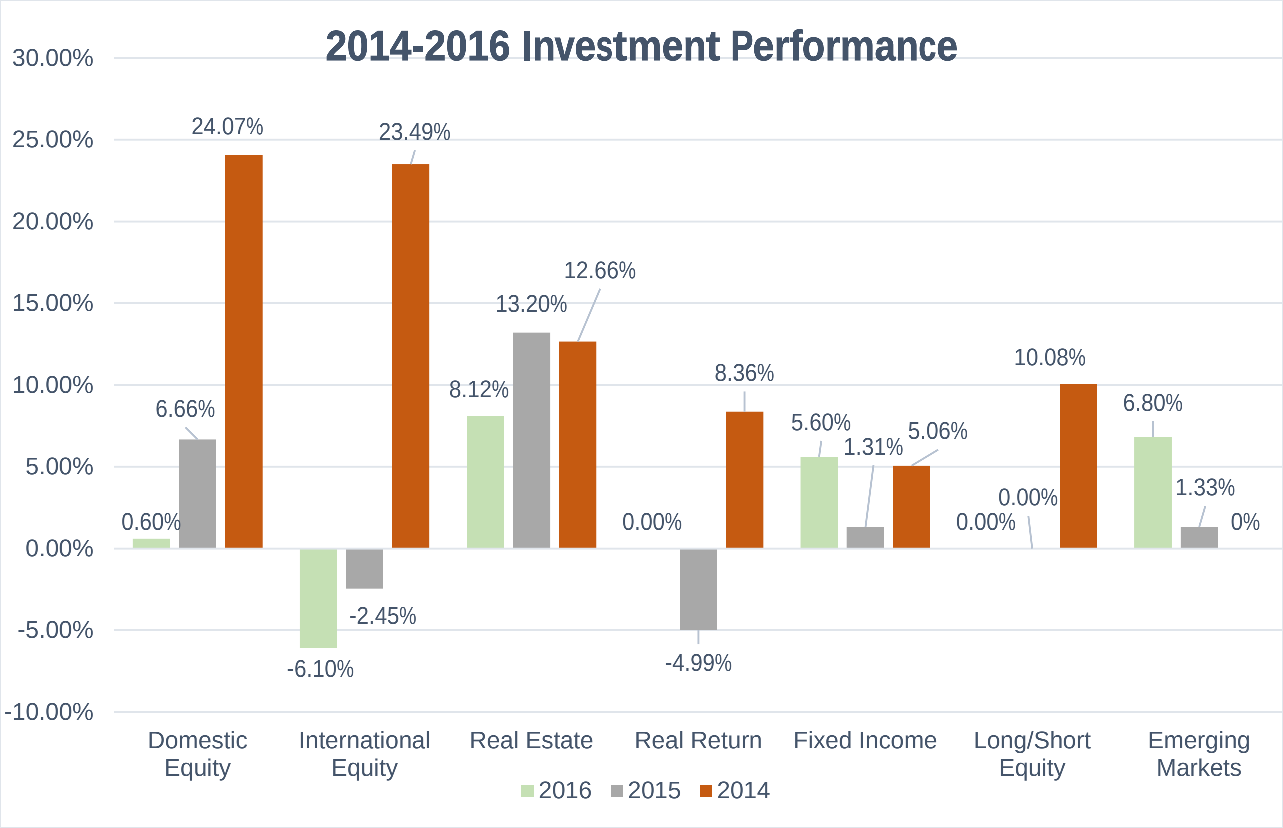


Table 1: COPERS Fiduciary Net Position for Benefits for June 30, 2016 and 2015 (in thousands)

	2016	2015	Change	% Change
Cash & Cash Equivalents	$ 19,231	$ 50,557	$ (31,326)	(62.0) %
Total Receivables	143,698	190,532	(46,834)	(24.6)
Total Investments	2,266,574	2,299,851	(33,277)	(1.4)
Total Assets	2,429,503	2,540,940	(111,437)	(4.4)
Total Liabilities	278,082	331,414	(53,332)	(16.1)
COPERS Net Position	**$ 2,151,421**	**$ 2,209,526**	**$ (58,105)**	**(2.6)**

Table 2: 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)**

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, 2016 was $9,171 (including securities lending). This compares to net investment income for June 30, 2015 and June 30, 2014 of $47,149 and $298,576, respectively. Employer contributions increased during the fiscal year due to the increase in the annual contribution rate and increased hiring to $119,844 for the fiscal year ended June 30, 2016 compared to $117,092 for the fiscal year ended June 30, 2015. Deductions increased by 5.7% over the prior fiscal year, primarily as a result of increases in benefit payments and the number of retirees. This compares to a 13.6% increase in deductions from June 30, 2014 to June 30, 2015. Benefit payments for the fiscal years ended June 30, 2016, 2015 and 2014 were $213,047, $201,178 and $177,447, 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, 2016, 2015 and 2014 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, 2016 and June 30, 2015 (in thousands)

	2016	2015	Change	% Change
Additions				
Employer Contributions	$ 119,844	$ 117,092	$ 2,752	2.4 %
Members' Contributions	29,306	27,861	1,445	5.2
Inter-System Transfers	217	199	18	9.0
Net Investment Income	8,919	46,978	(38,059)	(81.0)
Net Securities Lending Income	252	171	81	47.4
Total	**$ 158,538**	**$ 192,301**	**$ (33,763)**	**(17.6) %**
Deductions				
Benefit Payments	213,047	201,178	11,869	5.9 %
Refunds	3,047	3,004	43	1.4
Inter-System Transfers	315	421	(106)	(25.2)
Administrative Expense	234	414	(180)	(43.5)
Total	**$ 216,643**	**$ 205,017**	**$ 11,626**	**5.7 %**
Change in Net Position Restricted for Pensions	**(58,105)**	**(12,716)**	**(45,389)**	**356.9 %**
Ending Net Position Restricted for Pensions	**$ 2,151,421**	**$ 2,209,526**	**$ (58,105)**	**(2.6) %**

Table 4: 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
Net 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**	**(225,982)**	**(86.2)** %
Ending Net Position Restricted for Pensions	**$ 2,209,526**	**$ 2,222,242**	**$ (12,716)**	**(0.6)** %

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 as of June 30, 2016 and 2015 (in thousands)

	2016	2015
ASSETS		
Cash and Cash Equivalents	$ 19,231	$ 50,557
Receivables		
Due from the City of Phoenix	-	37
City of Phoenix Contributions	3,586	3,075
Member Contributions	822	671
Interest and Dividends	1,693	1,871
Unsettled Broker Transactions - Sales	57,500	109,963
Unsettled Broker Transactions - Foreign Exchange Sales	74,045	74,816
Other	6,052	99
Total Receivables	143,698	190,532
Investments, at Fair Value		
Temporary Investments from Securities Lending Collateral	83,249	84,164
Fixed Income	533,517	543,972
Domestic Equities and Other	492,950	410,654
International Equities	196,903	278,918
International Equities Commingled	403,499	441,301
Hedge Funds	239,666	259,383
Real Estate	316,790	281,459
Total Investments	2,266,574	2,299,851
Total Assets	2,429,503	2,540,940
Deferred Outflows of Resources		
Total deferred outflows of resources	-	-
LIABILITIES		
Payable for Securities Lending Collateral	83,249	84,164
Unsettled Broker Transactions - Purchases	118,927	154,181
Unsettled Broker Transactions - Foreign Exchange Purchases	73,929	73,862
Due to the City of Phoenix - Benefits	-	17,255
Due to the City of Phoenix - Other	98	276
Investment Management Fees Payable	1,755	1,564
Other Payables	124	112
Total Liabilities	278,082	331,414
Deferred Inflows of Resources		
Total deferred inflows of resources	-	-
Commitments and Contingencies	-	-
Net Position Restricted for Pensions	$ 2,151,421	$2,209,526

Statements of Changes in Fiduciary Net Position as of June 30, 2016 and 2015 (in thousands)

	2016	2015
ADDITIONS		
Contributions		
City of Phoenix	$ 119,844	$ 117,092
Member	29,306	27,861
Inter-System Transfers	217	199
Total Contributions	149,367	145,152
Net Investment Income		
From Investing Activities		
Net Appreciation/(Depreciation) in Fair Value of Investments	(14,314)	21,960
Interest	7,145	8,846
Dividends	20,404	23,166
Other	3,079	(1,042)
Total Income from Investing Activities	16,314	52,930
Less Investing Activities Expense	(7,395)	(5,952)
Net Income from Investing Activities	8,919	46,978
From Security Lending Activities		
Security Lending Gross Income	402	155
Less Security Lenging Activity		
Agent Fees	(108)	(73)
Broker Rebates/Collateral Management Fees	(42)	89
Total Security Lending Expenses, net	(150)	16
Net Income from Security Lending Activities	252	171
Total Net Investment Income	9,171	47,149
Total Additions	158,538	192,301
DEDUCTIONS		
Benefit Payments	213,047	201,178
Refunds of Contributions	3,047	3,004
Inter-System Transfers	315	421
Administrative Expenses	234	414
Total Deductions	216,643	205,017
NET (DECREASE) IN NET POSITION	(58,105)	(12,716)
Net Position Restricted for Pensions		
Beginning of Year	2,209,526	2,222,242
End of Year	$ 2,151,421	$2,209,526

The accompanying notes are in 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 fair 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 firefighters 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 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 an election held on August 25, 2015. New employees hired on or after January 1, 2016 were placed in Tier 3. The employee contribution rate for Tier 3 is based on 50% of the actuarially determined rate necessary to fully fund the Annual Required Contribution, with a maximum employee contribution rate of 11%.

d. Membership Data

	June 30	
	2016	**2015**
Current retirees, beneficiaries and survivors	6,734	6,541
Alternate payees	151	147
Terminated vested members	885	901
Active members:		
Tier 1	6,416	6,741
Tier 2	953	722
Tier 3	414	-
Total Members	15,553	15,052

Note 2 - Description of Plan (Continued)

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 and 3 employees. The below table outlines the benefits for each tier.

Tier 1	Tier 2	Tier 3
· Up to 32.5 yrs service @ 2.0%	· Less than 20 yrs service @ 2.10%	· Less than 10 yrs service@1.85%
· 32.5 to 35.5 yrs service @ 1.0%	· 20 yrs but less than 25 yrs service @ 2.15%	· 10 yrs but less than 20 yrs service @ 1.9%
· 35.5 yrs service & over @ 0.5%	· 25 yrs but less than 30 yrs service @ 2.20%	· 20 yrs but less than 30 yrs service @ 2.0%
	· 30 yrs or more @ 2.30%	· 30 yrs or more @ 2.1%

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 Tier 1 and Tier 2 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%.

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 3.75% for fiscal year 2016 (7.50% for fiscal year 2015) was granted by the Retirement Board to be applied at June 30, 2016 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.

Note 2 - Description of Plan (Continued)

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. 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 implemented 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 plan sponsors that are within the scope of Statement 68 are effective for fiscal years beginning after June 15, 2015. The City and COPERS implemented this Statement in fiscal year 2016.

GASB Statement No. 76, **The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments**, improves 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 implemented this Statement in fiscal year 2016.

Note 3 – Net Position Restricted for Pensions

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%. Effective with the election on August 25, 2015, the employee contribution for Tier 2 and 3 cannot exceed 11%. 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 (3.75% in fiscal year 2016 and 7.50% in fiscal year 2015). 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.

Note 3 – Net Position Restricted for Pensions (continued)

Following are the fiscal year-end reserve balances as of June 30, 2016 and 2015 respectively, based on amortized cost for fixed income investments and cost for equity investments (in thousands):

	2016	2015
Employees' Savings	$ 455,374	$ 445,722
Pension Accumulation	(951,996)	(732,747)
Pension Reserve	2,492,374	2,281,760
Pension Equalization Reserve	7,867	13,227
Convert to Fair Value	147,802	201,564
Total Based on Fair Value	$2,151,421	$2,209,526

Note 4 - Administrative Costs and Investment Fees (in thousands)

The 2016 administrative costs paid by the City and not recognized in COPERS' financial statements were $1,536. This compares to the 2015 administrative costs of $1,560. 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 $15,839 and $15,185 for the fiscal years ended June 30, 2016 and 2015, 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 (in thousands)

City of Phoenix contributions for the fiscal year ended June 30, 2016 were $119,844 which is equivalent to 25.29% of the estimated annual active member payroll, compared to $117,092 or 25.43% for the fiscal year ended June 30, 2015. Member contributions for the fiscal years ended June 30, 2016 and June 30, 2015 were $29,306 and $27,861, respectively, which represents the Tier 1 employee contribution rate of 5% and, effective July 2, 2014 and July 6, 2015, the Tier 2 employee contribution rate of 15.51% and 14.8%, respectively; and effective January 1, 2016 the Tier 2 and Tier 3 contribution rate of 11.0%.

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, 2016 and June 30, 2015 are detailed below.

	2016	2015	2014
Actuarial Value of Assets	**$ 2,283,216**	**$ 2,202,923**	**$ 2,120,700**
Actuarial Liability			
Active Members	1,396,578	1,442,839	1,459,048
Retirees and Beneficiaries Currently Receiving Benefits	2,522,989	2,465,862	2,099,274
Terminated Members Not Yet Receiving Benefits	64,570	67,206	56,461
Total Actuarial Liability	3,984,137	3,975,908	3,614,784
Unfunded Actuarial Liability	**$ (1,700,921)**	**$ (1,772,985)**	**$ (1,494,084)**
Funded Ratio (actuarial value of assets to actuarial liability)	57.3%	55.4%	58.7%
Covered Payroll	**496,333**	**$ 484,853**	**$ 509,267**
UAL (as a percentage of covered payroll)	**342.7%**	**365.7%**	**293.4%**

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, 2016**	**June 30, 2015**
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 2-Year Phase In	20-Years, with 3-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%-10.1%
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.

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

The actuarial assumptions employed as of June 30, 2016 and 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 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, 2015 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 Meketa'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	22%	6.4%
Broad International Equity	19%	7.7%
Intermediate Duration Fixed Income	20%	2.6%
Emerging Markets Debt Hard	5%	5.1%
Real Estate	15%	6.3%
Diversified Hedge Funds	10%	4.3%
Private Equity	1%	7.3%
Diversified Inflation Strategies	8%	4.6%

Actual returns may be lower due to volatility of returns. The long-term expected rate of return is based on Meketa'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 and 3 member contributions are set equal to half of the total actuarially determined contribution rate, not to exceed 11 percent, 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 7.50%, as well as what the net pension liability would be if it were calculated using the discount rate that is 1.0% lower (6.50%) or 1.0% higher (8.50%) than the current rate at June 30, 2016. 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 1.0% decrease in the discount rate increases the TPL by approximately 11.0% and increases the NPL (Net Pension Liability) by approximately 21.1%. A 1.0% increase in the discount rate decreases the TPL by approximately 10.3% and decreases the NPL by approximately 22.4%. The table below shows the sensitivity of the NPL to the discount rate.

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

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

	1% Decrease	Discount Rate	1% Increase
	6.50%	7.50%	8.50%
Total Pension Liability	$4,476	$3,984	$3,575
Plan Fiduciary Net Position	2,151	2,151	2,151
Net Pension Liability	$2,324	$1,833	$1,423
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	48.1%	54.0%	60.2%

Note 7 - Funding Policy

As a condition of employment, COPERS members are required to contribute a percentage of their salary to COPERS as provided in Chapter XXIV, Section 27, of the City Charter. The below table outlines the contribution rates for Tiers 1, 2, and 3 for fiscal year 2015-2016.

Tier	Contribution Rate
Tier 1	5%
Tier 2	15.51% through December 31, 2016, then capped at 11%
Tier 3	Capped at 11%

Present members' accumulated contributions at June 30, 2016 were $455,374, including interest compounded annually, compared to $445,722 at June 30, 2015, and are included in the Employee Savings Account as discussed on page 30. 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 21.6% at fair value being invested in domestic common stocks as of June 30, 2016 or approximately 21.2% 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, 2016 approximately 26.3% was invested (at fair value) in international equity investments.

Note 8 - Investments (continued)

A summary of investments at June 30, 2016 and 2015 is as follows (in thousands):

	2016		2015	
	Fair Value	Amortized Cost	Fair Value	Amortized Cost
Temporary Investments from Securities Lending Collateral (Note 9)	$ 83,249	$ 83,249	$ 84,164	$ 84,164
Fixed Income	533,517	493,734	543,972	519,112
Domestic Equity and Other	492,950	454,211	410,654	367,059
International Equities	403,499	448,095	441,301	459,127
International Equities Commingled	196,903	177,144	278,918	232,714
Hedge Funds	239,666	222,780	259,383	222,500
Real Estate	316,790	239,559	281,459	213,611
Total Investments	**$2,266,574**	**$ 2,118,772**	**$2,299,851**	**$ 2,098,287**
Cash and Cash Equivalents	19,231	19,231	50,557	50,557
Total	**$2,285,805**	**$ 2,138,003**	**$2,350,408**	**$ 2,148,844**

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

Note 8 - Investments (continued)

The following schedule provides the categories of investments at June 30, 2016 and 2015 (in thousands):

Investment Categories	2016 Fair Value	2015 Fair Value
Cash	$ 2,506	$ 10,884
Short-Term Investment Fund	16,725	39,673
Cash and Cash Equivalents	$ 19,231	$ 50,557
Temporary Investments from Securities Lending Collateral	$ 83,249	$ 84,164
Fixed Income:		
Futures	$ 236	$ (24)
SWAPS	(4,689)	717
U S Government Guaranteed Securities	75,535	72,411
Government Agencies Securities	3,027	2,960
Mortgage Backed Securities-Residential	80,391	76,008
Asset Backed Securities	2,910	3,240
Municipal Bonds	4,365	5,607
Corporate Bonds	87,653	70,713
Corporate Bonds Commingled	5,276	5,418
Commingled Fixed Income	161,149	169,149
Foreign	17,345	34,472
Foreign Commingled	100,319	103,301
	$ 533,517	$ 543,972
Domestic Equities	$ 455,424	$ 402,704
Global Commingled	$ 403,499	$ 441,301
International Equities Comminged Funds	$ 196,903	$ 278,918
Private Equity	$ 37,526	$ 7,950
Hedge Funds	$ 239,666	$ 259,383
Real Estate Funds	$ 316,790	$ 281,459
Total with Securities Lending Collateral	$2,285,805	$2,350,408

Note 8 – Investments (continued)

Custodial Credit Risk - Deposits
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, 2016, COPERS did not realize any losses related to custodial credit risk for deposits.

Annual Money-Weighted Rate of Return

The rate of return for the year ended June 30, 2016, which is the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 0.6%. 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, 2016 and 2015, COPERS did not realize any losses due to custodial credit risk for investments or securities lending arrangements. Note 9 on page 42 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, 2016 and 2015, 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 17.9% of total Plan assets as of June 30, 2016. The fair value of COPERS' international commingled equity funds at June 30, 2016 was $196,903 managed by Baillie Gifford, GMO, and Mondrian, all of which was exposed to foreign currency risk. The fair value of COPERS' international commingled equity funds at June 30, 2015 was $278,918, managed by Baillie Gifford, MSCI ACW Ex US Index and Mondrian, all of which was exposed to foreign currency risk.

COPERS' investment policy includes a target of 5.0% of the Plan's total assets in emerging markets debt. The current actual emerging markets debt allocation is 4.7% of total Plan assets as of June 30, 2016. The fair value of these funds at June 30, 2016 was $100,319, which is managed by MFS Heritage Trust, all of which was exposed to foreign currency risk

Note 8 – Investments (continued)

Dollar denominated holdings and non-dollar denominated holdings accounted for 93.5% and 6.55%, respectively, of the foreign fixed income investments at June 30, 2016. 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.

Foreign Currency Exposure June 30, 2016 and 2015
(in thousands)

Currency	Fixed Income Currency Contracts 2016	Fixed Income Currency Contracts 2015
Australian Dollar	$ 621	$ 60
Brazilian Real	1,020	495
British Pound	708	15
Canadian Dollar	18	90
Chinese Reminbi	1,839	-
Euro	1,282	12,027
Indian Rupee	-	2,135
Japanese Yen	1,343	4,383
Malaysian Ringgit	187	-
Mexican Peso	2,182	1,571
Russian Ruble	1,658	-
Singapore Dollar	1,209	-
South Korean Won	3,208	-
Taiwan Dollar	364	-
Totals	$ 15,639	$ 20,776

Commitments (in thousands)

In connection with the purchase of various non-core real estate investments, COPERS had commitments totaling $516,666 as of June 30, 2016 and $207,000 as of June 30, 2015. Remaining unfunded commitments for real estate were $132,725 as of June 30, 2016 and $80,727 as of June 30, 2015. 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 Heritage Trust Company ("MFS"), 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 41 provides information relating to the credit risk for COPERS' fixed income investments as of June 30, 2016 and 2015.

Note 8 - Investments (continued)

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 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 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 41. 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)

		2016		2015	
	Credit Quality Ratings	Fair Value	Weighted Average Maturity (Years)	Fair Value	Weighted Average Maturity (Years)
Derivatives	Not Rated	$ (4,604)	20.372	$ 518	37.672
Derivatives	A	151	8.438	175	9.543
Total Derivatives		**(4,453)**		**693**	
U.S. Government Guaranteed Securities	Not Rated	$ 3,106	13.983	$ 933	6.910
U.S. Government Guaranteed Securities	AAA	71,781	16.518	71,478	14.510
U.S. Government Guaranteed Securities	A	11	25.937	-	-
U.S. Government Guaranteed Securities	BBB	637	6.248	-	-
Total U. S. Government Guaranteed		**75,535**		**72,411**	
Government Agency	AA	$ 3,027	5.931	$ 2,960	6.749
Total Government Agency		**3,027**		**2,960**	
Mortgage Backed	Not Rated	$ 61,324	29.425	$ 50,157	17.740
Mortgage Backed	AAA	12,501	26.123	16,177	26.477
Mortgage Backed	AA	1,728	11.976	2,214	9.129
Mortgage Backed	A	862	21.997	1,256	25.876
Mortgage Backed	BBB	634	17.603	1,091	19.621
Mortgage Backed	BB	661	24.323	1,066	24.135
Mortgage Backed	B	1,234	23.293	799	26.601
Mortgage Backed	CCC	939	19.727	2,394	23.500
Mortgage Backed	D	508	25.389	854	23.678
Total Mortgage Backed		**80,391**		**76,008**	
Asset Backed	AA	$ 805	22.592	$ 2,218	12.554
Asset Backed	A	1,128	20.460	247	26.582
Asset Backed	BB	468	13.301	-	-
Asset Backed	B	-	-	175	20.167
Asset Backed	CCC	509	28.286	600	28.448
Total Asset Backed		**2,910**		**3,240**	
Fixed Income Commingled	Not Rated	$ 161,149	7.000	$ 169,149	7.000
Total Fixed Income Commingled		**161,149**		**169,149**	
Municipal Bonds	Not Rated	$ -	-	$ 357	22.104
Municipal Bonds	AAA	393	21.101	-	-
Municipal Bonds	AA	3,434	23.450	2,350	25.274
Municipal Bonds	A	232	19.099	2,386	24.765
Municipal Bonds	BBB	306	25.523	-	-
Municipal Bonds	B	-	-	514	31.942
Total Municipal Bonds		**4,365**		**5,607**	

Note 8 – Investments (continued)

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

	Credit Quality Ratings	2016 Fair Value	2016 Weighted Average Maturity (Years)	2015 Fair Value	2015 Weighted Average Maturity (Years)
Corporate Bonds	Not Rated	$ 30,339	14.080	$ 20,837	5.399
Corporate Bonds	AAA	2,972	12.098	2,903	14.182
Corporate Bonds	AA	3,716	14.968	3,246	16.898
Corporate Bonds	A	14,700	9.348	16.898	8.791
Corporate Bonds	BBB	27,115	11.014	19,356	13.207
Corporate Bonds	BB	5,338	6.211	4,930	8.821
Corporate Bonds	B	2,790	16.019	2,160	24.143
Corporate Bonds	CCC	682	30.041	289	21.718
Corporate Bonds	D	-	-	94	31.896
Total Corporate Bonds		**87,653**		**70,713**	
Corporate Bonds Commingled	Not Rated	$ 5,276	11.376	$ 5,418	2.899
Total Corporate Bonds Commingled		**5,276**		**5,418**	
Foreign	Not Rated	$ 4,159	12.830	$ 7,781	13.889
Foreign	AAA	544	4.636	4,549	1.600
Foreign	AA	1,458	10.861	1,917	7.682
Foreign	A	2,184	12.635	2,404	10.224
Foreign	BBB	4,470	16.173	13,644	6.978
Foreign	BB	3,029	10.870	2,531	12.053
Foreign	B	1,249	6.896	816	3.240
Foreign	CCC	-	-	220	8.570
Foreign	CC	252	7.519	-	-
Foreign	C	-	-	610	0.649
Total Foreign		**17,345**		**34,472**	
Foreign Commingled	Not Rated	$ 100,319	9.200	$ 103,301	10.200
Total Foreign Commingled		**100,319**		**103,301**	
Total Fixed Investments by Maturity Date		$ 533,517		$ 543,972	

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 2016 and 2015, 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.

Note 9 – Securities Lending Program (continued)

During 2016 and 2015, 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 16 days and a weighted average life (WAL) of 117 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, 2016 were $83,249 and $81,286, respectively, and as of June 30, 2015 were $84,164 and $82,173, 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, a change in statute 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.

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 position.

Note 14 – Fair Value Measurements (in thousands)

Investment valuation

COPERS categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of assets. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

Investments

Investments, including derivative instruments that are not hedging derivatives, are measured at fair value on a recurring basis. Recurring fair value measurements are those that Governmental Accounting Standards Board (GASB) Statements require or permit in the statement of fiduciary net position at the end of each reporting period. Investments' fair value measurements are as follows at June 30, 2016 (in thousands).

Investments by fair value level	**6/30/2016**	**Level 1**	**Level 2**	**Level 3**
Cash and Cash Equivalents	$ 19,231	$ 16,725	$ 2,506	$ -
Domestic Equities	455,424	252,947	315	202,162
International Equities Commingled	196,903	-	-	196,903
Private Equity	37,526	-	-	37,526
Fixed Income				
Futures	236	-	236	-
SWAPS	(4,689)	-	(4,689)	-
US Government and Agency Securities	78,562	74,887	3,675	-
Mortgage Backed Securities - Residential	80,391	-	80,391	-
Asset Backed Securities	2,910	-	2,910	-
Municipal Bonds	4,365	-	4,365	-
Corporate Bonds	87,653	-	60,884	26,769
Corporate Bonds Commingled	5,276	-	-	5,276
Foreign	17,345	-	15,871	1,474
Foreign Commingled	100,319	-	-	100,319
Total fixed income securities	372,368	74,887	163,643	133,838
Subtotal	**1,081,452**	**344,559**	**166,464**	**570,429**

Note 14 – Fair Value Measurements (in thousands) (continued)

Investments by fair value level	6/30/2016	Level 1	Level 2	Level 3
Investments measured at the net asset value (NAV)				
Hedge Funds	239,666			
Commingled Fixed Income	161,149			
Global Commingled	403,499			
Real Estate Funds	316,790			
Subtotal	**1,121,104**			
Total	**$ 2,202,556**	**$ 344,559**	**$ 166,464**	**$ 570,429**

Certain investments are reported at the net asset values calculated by the investment manager. These investments, at June 30, 2016, detailed in the following table, are subject to capital calls and specific redemption terms:

	6/30/2016	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Hedge Funds	239,666	-	Not Applicable	-
Commingled Fixed Income	161,149	-	Daily	0 - 30 Days
Global Commingled	403,499	-	Daily	0 - 30 Days
Private Equity	37,526	129,000	Not Applicable	-
Real Estate Funds	316,790	132,725	Not Applicable	-

Debt and equity securities categorized as Level 1 are valued based on prices quoted in active markets for those debts and securities. Debt and equity securities categorized as Level 2 are valued using a matrix pricing techniques maintained by the various pricing vendors for these securities. Matrix pricing is used to value securities based on the relationship to benchmark quoted prices. Investment derivative instruments categorized as Level 2 are valued using market approaches that consider, as applicable, benchmark interest rates or foreign exchange rates. Debt and equity securities categorized as Level 3 are debt and securities whose stated market price is unobservable by the market place, many of these securities are priced by the issuers or industry groups for these securities. Mortgage-backed securities categorized as Level 3 are valued using discounted cash flow techniques. Collateralized debt obligations categorized as Level 3 are valued using consensus pricing. The fair value of commingled equity funds and related short-term investments classified in Level 3 represent the value of unit positions in funds that are not publicly traded on an exchange. Fair value of these securities can be impacted by redemption restrictions imposed by the fund managers. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

Alternative investments include hedge funds, private equity, real estate, opportunistic fixed income and infrastructure investments. These are investments for which exchange quotations are not readily available and are valued at estimated fair value, as determined in good faith by the General Partner (“GP”). These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP. The assets in our alternative investment program are classified as Level 3 assets. A more detailed explanation of the Level 3 valuation methodologies follows:

Note 14 – Fair Value Measurements (in thousands) (continued)

Investments in non-public equity securities are valued by the GP using one or more valuation methodologies outlined in ASC 820, depending upon the availability of data required by each methodology. In some cases, the GP may use multiple approaches to estimate a valuation range. For the immediate time period following a transaction, the determination of fair value for equity securities, in which no liquid trading market exists, can generally be approximated based on the transaction price (absent any significant developments). Thereafter, or in the interim, if significant developments relating to such portfolio company or industry occur which may suggest a material change in value, the GP should value each investment by applying generally accepted valuation methods including: (1) the market approach (such as market transaction and comparable public company multiples, which are based on a measurement of the company's historical and projected financial performance with typical metrics including enterprise value/latest 12 months EBITDA or projected fiscal year EBITDA) or (2) the income or discounted cash flow approach.

In the market approach, valuation multiples that are relevant to the industry and company in the investments held should be considered and relied upon. Valuation multiples should be assessed and may be adjusted on a go-forward basis based on the business risk associated with the subject company in which the investment is held. In addition, the implied entry multiples should be considered as benchmarks in valuing unlisted equity. In circumstances where no financial performance metrics are available, the GP should rely on other non-financial related metrics applicable to relevant progress from the original investment date to the valuation date. In the income or discounted cash flow approach, forecasted cash flows that may be generated by the subject company are discounted to present value at an appropriate discount rate. These methodologies can be utilized to determine an enterprise value ("Enterprise Valuation Methodologies") from which net debt is subtracted to estimate equity value. The determination of fair value using these methodologies should take into consideration a range of factors, including, but not limited to, the price at which the investment was acquired, the nature of the investment, local market conditions, trading values on public exchanges for comparable securities, current and projected operating performance and financing transactions subsequent to the acquisition of the investment. Because of the subjective nature of estimated fair value of the private investments, such value may differ significantly from the values that would have been used had a ready market existed for these investments. These financial instruments have been classified as Level 3 in the fair value hierarchy.

Note 15 – Subsequent Events

The Plan has evaluated events subsequent to June 30, 2016 through the filing of this Report. No events occurred requiring disclosure.

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	2016	2015	2014
Service cost (MOY)	$ 80,757	$ 75,310	$ 78,331
Interest (includes interest on service cost)	293,206	266,355	257,219
Changes of benefit terms	(3,229)	-	-
Differences between expected and actual experience	(76,891)	(31,009)	(20,336)
Changes of assumptions	(69,420)	254,870	-
Benefit payments, including refunds of member contributions	(216,193)	(204,403)	(179,877)
Net change in pension liability	**$ 8,230**	**$ 361,123**	**$ 135,337**
Total Pension liability - beginning	**3,975,907**	**3,614,784**	**3,479,447**
Total Pension liability - ending	**3,984,137**	**3,975,907**	**3,614,784**
Plan Fiduciary Net Position			
Contributions - employer	$ 119,844	$ 117,092	$ 110,629
Contributions - member	29,523	27,861	27,760
Net investment income	9,171	47,148	298,736
Benefit payments, including refunds of member contributions and transfer outs	(216,409)	(204,403)	(179,877)
Administrative Expenses	(234)	(414)	(628)
Net change in plan fiduciary net position	**$ (58,105)**	**$ (12,716)**	**$ 256,620**
Plan fiduciary net position - beginning	**$ 2,209,526**	**$ 2,222,242**	**$ 1,965,622**
Plan fiduciary net position - ending	**$ 2,151,421**	**$ 2,209,526**	**$ 2,222,242**
Net Pension Liability	**$ 1,832,716**	**$ 1,766,381**	**$ 1,392,543**
Plan fiduciary net position as a percentage of the total pension liability	54.00%	55.57%	61.48%
Covered employee payroll	$ 473,974	$ 460,441	$ 485,227
Net pension liability as a percentage of covered employee payroll	386.67%	383.63%	286.99%

Required Supplementary Information (continued)

Schedule of Employer Contributions – Last 10 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 Empoyee Payroll
2015-16	$ 119,844	$ 119,844	$ -	$ 473,974		25.29%
2014-15	117,092	117,092	-	484,309	*	24.18%
2013-14	110,629	110,629	-	518,746	*	21.33%
2012-13	115,244	115,244	-	524,648		21.97%
2011-12	114,709	114,709	-	540,792		21.21%
2010-11	105,682	105,682	-	541,388		19.52%
2009-10	90,965	90,965	-	578,327		15.73%
2008-09	86,241	86,241	-	587,171		14.69%
2007-08	66,383	66,383	-	580,207		11.44%
2006-07	64,198	64,198	-	538,211		11.93%

*For fiscal years 2013-14 and 2014-15, the Plan's actuary was calculating covered employee payroll based of their assumption this was an estimated amount. For this report, the actuary began using actual amounts which slightly changed the amounts previously reported.

Schedule of Investment Returns for Year Ended June 30, 2016

	2016	2015	2014
Annual money-weighted rate of return, net of investment expenses	0.60%	2.19%	15.42%

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

Notes to the Required Supplementary Information (continued)

In August 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. Pension Equalization Reserve (PER) was valued for future benefits payable through the PER as a 1.5% annual compound cost-of-living adjustment (COLA). 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.
2. 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. 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.
4. 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, 2016 and 2015 (in thousands)

Payee	Fees 2016	Fees 2015	Nature of Services
Meketa Investments	$ 168,750	$ -	Investment Consultant - General
RV Kuhns & Associates	71,250	196,696	Investment Consultant - Real Estate
BNY Mellon Bank	246,325	94,133	Master Custodian
Elkins McSherry	10,000	10,000	Brokerage Services
Aberdeen/Artio Global Investors	453,572	468,756	Investment Management
Cadence Capital	-	133,703	Investment Management
Cramer Rosenthal McGlynn	447,421	510,236	Investment Management
Eagle Asset	237,959	311,861	Investment Management
FTSE RAFI DV EX US	55,398	-	Investment Management
FTSE RAFI US LOW VOL	77,366	-	Investment Management
J P Morgan	965,458	889,490	Investment Management
MFS	509,546	524,934	Investment Management
Mondrian	390,751	403,734	Investment Management
MSCI ACWI ex US Index Fund	-	69,486	Investment Management
S&P 500	-	40,948	Investment Management
Total	$ 3,633,796	$ 3,653,977	

Payee (1)	Fees 2016	Fees 2015	Nature of Services
Artisan Partners	$ 1,016,496	$ 660,177	Investment Management
Baillie Gifford	514,536	488,650	Investment Management
Carlson Capital	754,052	679,472	Investment Management
Fir Tree	489,694	608,662	Investment Management
GMO	784,814	927,691	Investment Management
HSI Real Estate V	-	-	Investment Management
JDM Partners	241,689	241,689	Investment Management
Morgan Stanley	766,053	741,861	Investment Management
Neuberger	474,833	147,813	Investment Management
Northwood GP, LLC IV	736,743	587,173	Investment Management
Northwood Series V	678,349	155,900	Investment Management
PAAMCO	1,285,162	1,339,093	Investment Management
PIMCO All Asset	1,329,844	1,462,600	Investment Management
PIMCO Total Return	439,902	464,994	Investment Management
RECAP II	-	32,215	Investment Management
RECAP III	226,915	254,266	Investment Management
RECAP IV	337,500	375,000	Investment Management
Robeco Investment Management	488,030	525,842	Investment Management
TA Associates	71,805	102,462	Investment Management
The Boston Company	295,027	340,115	Investment Management
Western Asset	244,587	252,910	Investment Management
Wheelock I	183,664	249,049	Investment Management
Wheelock II	450,000	450,000	Investment Management
Wrightwood Capital	6,921	22,069	Investment Management
Total	$ 11,816,616	$ 11,109,703	

(1) Fees for these managers are not paid separately as are fees to other fund managers; they are not included in the investment expenses report 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 Expenses for the Fiscal Years Ended June 30, 2016 and 2015 (in thousands)

Payee	Fees Paid 2016	Fees Paid 2015	Nature of Services
Cheiron, Inc	$ 141,583	$ 163,950	Actuarial Services
City of Phoenix Law Department	85,065	104,931	Legal Services
Dr. Laura Don	-	1,918	Medical Services
ICE Miller	10,840	13,885	Legal Services
Levi Ray & Shoup	151,393	136,098	Computer Services
Total	$ 388,881	$ 420,782	

Schedule of Administrative Expenditures and Encumbrances (Non-GAAP Budgetary Basis) Paid by the City of Phoenix for the Fiscal Years Ended June 30, 2016 and 2015

	2016		2015	
	Original Budget	Plan Actual	Original Budget	Plan Actual
Personal Services				
Staff Salaries and Benefits	$ 983,501	$ 848,777	$ 966,955	$ 883,844
Insurance	200,185	165,720	192,279	162,506
Social Security and Medicare	72,669	59,995	71,331	62,353
Retirement Contributions	234,714	206,449	224,369	201,898
Total Personal Services	**$ 1,491,069**	**$ 1,280,941**	**$ 1,454,934**	**$ 1,310,601**
Professional Services				
Consultants	$ 500	$ 137	$ 285	$ 305
Audit and Accounting	139,053	89,262	117,074	203,800
Medical Advisors	-	3,717	-	-
Computer Services	-	88,197	-	-
Total Professional Services	**$ 139,553**	**$ 181,313**	**$ 117,359**	**$ 204,105**
Communications				
Printing	$ 11,000	$ 7,691	$ 12,468	$ 16,414
Postage and Mailing	13,400	11,600	13,736	8,903
Telephone	1,127	1,622	787	1,185
Subscriptions and Memberships	2,220	1,276	5,200	2,765
Total Communications	**$ 27,747**	**$ 22,189**	**$ 32,191**	**$ 29,267**
Miscellaneous				
Supplies	$ 9,250	$ 5,585	$ 14,500	$ 8,624
Computer Equipment	-	1,042	4,500	712
Other	16,680	44,569	2,103	6,623
Total Miscellaneous	**$ 25,930**	**$ 51,196**	**$ 21,103**	**$ 15,959**
Total Administrative Expenditures and Encumbrances	**$ 1,684,299**	**$ 1,535,639**	**$ 1,625,587**	**$ 1,559,932**

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.

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

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LONDON UK

December 16, 2016

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

Dear Board Members:

Fiscal 2016 Recap

The 2016 fiscal year began as a very difficult environment for investors. Global markets were experiencing significant volatility from a variety of factors, including China's currency devaluation, speculation of a September Federal Reserve interest rate hike, and a commodity price decline. When the third calendar quarter of 2015 ended, only one public market asset class (high quality fixed income) had positive returns. Global growth was slowing and the International Monetary Fund ("IMF") lowered their 2015 global growth projections to 3.1%, which was a 0.2% decrease. Within the U.S., unemployment continued to decline (5.1% as of September 2015), consumer spending was strong, and 12-month trailing real GDP was +2.1%. However, U.S. corporate earnings growth had slowed, impacted by declining earnings in the energy sector and a strengthening U.S. dollar. Alternatively, inflation continued to remain a non-factor, as CPI was 0.0% over the trailing 12 months.

Global macroeconomic issues continued to weigh on markets as the 2015 calendar year came to an end and 2016 began. In December 2015, in what was considered a signal of a coming Yuan devaluation, China removed the Yuan's peg to the U.S. dollar, instead choosing to use a "reference basket" of global currencies. While the U.S. dollar was the largest component in the basket (roughly 26%), each of the other components had declined significantly versus the dollar over the previous 18 months. Also in December, the Federal Reserve approved a 0.25% interest rate increase, the first increase in nearly a decade, and commodity prices continued their downward spiral, ending the calendar year down 24.7%. 2016 began with one of the worst calendar year starts for domestic equity markets in history. During the first ten trading days of 2016, the S&P 500 had declined more than 1% during six individual days and lost over 2% three times. Global equity markets declined 8% to 11% over the first half of January. However, markets reversed course and rallied throughout February and March. By the end of the first calendar quarter of 2016, year-to-date returns for domestic equities were slightly positive, emerging markets were up nearly 6%, and international developed markets were down only 3%.

5796 ARMADA DRIVE SUITE 110   CARLSBAD CA 92008
760 795 3450   fax 760 795 3445   www.meketagroup.com

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The final three months of the 2016 fiscal year were rather uneventful, with one notable exception. On June 23rd, British citizens voted to leave the European Union ("Brexit") by a 51.9% to 48.1% margin. Global capital markets, which had steadily been pricing in a victory for the "remain" camp in the days leading up to the referendum, experienced a jarring reversal. On the day following the vote, the British Pound collapsed to 30-year lows and global equity markets fell anywhere from -2% to -8%. Within just a few short weeks after the Brexit vote, global equity markets would recover their losses; the British Pound, however, would continue to depreciate.

As fiscal year 2016 concluded, many of the same macroeconomic themes occurring throughout the year remained at the forefront. Oil prices, despite recent increases, remained low from a historical perspective. Monetary stimulus campaigns persisted as developed market central banks continued asset purchase programs (quantitative easing), though the U.S. ended their program several years ago. Interest rates remained at record lows, and were even negative in several countries, as developed and emerging market central banks attempted to stimulate growth. In the U.S., the Federal Reserve had yet to raise rates since December 2015, despite an improving unemployment rate (4.9% as of June 2016) and relatively stable prices.

Fiscal 2016 Market Returns

Over the full fiscal year, U.S. equities had moderately positive returns, which were in stark contrast to the negative double digit returns from international equities. The Russell 3000 returned +2.1% for the fiscal year, while the MSCI EAFE and MSCI ACWI (ex. U.S.) each returned -10.2%, and MSCI Emerging Markets returned -12.1%. Fixed income was mostly positive for the year, with Barclays Aggregate returning +6.0%, Barclays U.S. TIPS returning +4.4%, Barclays High Yield returning +1.6%, Barclays Global Aggregate returning +8.9%, and JPM GBI-EM Global Diversified (unhedged emerging market bonds) returning +2.0%.

Alternative asset classes, boosted by improving commodity prices during the second half of the fiscal year, recovered significantly from their poor first half. For the full fiscal year, the Bloomberg Commodity Index returned -13.3% (-23.5% during first half), Dow Jones Brookfield Global Infrastructure returned +3.2% (-11.2% during first half), and S&P Global Natural Resources returned -8.9% (-22.1% during first half). Real estate and private equity continued to provide strong returns as the National Council of Real Estate Fiduciaries ("NCREIF") Property Index returned +10.6%, and the Cambridge Associates Private Equity Composite returned +6.9% for the fiscal year[1].

1 Returns for real estate and private equity benchmarks are lagged one quarter due to the availability of data.

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Fiscal 2017 Outlook

Looking forward, Meketa Investment Group continues to believe that three key issues are of primary concern, several of which have remained unchanged over the last few years: 1) declining growth in China, along with uncertain fiscal and monetary policies; 2) continued economic sluggishness in Europe, and risks related to the U.K.'s approved referendum to exit the European Union; 3) divergent growth in emerging economies.

China's recent policies to support its equity markets, and then to devalue its currency, created heightened volatility in global markets. The process of transitioning from a growth model based on fixed asset investment by the government to a model of consumer-based growth will be difficult. Similar government intervention responses to slowing growth or to support stock prices could prove disruptive and decrease confidence in China's government. China's abandonment of its support of the Yuan, and a resulting major devaluation of the currency, could prove particularly disruptive to global markets and trade.

The recent decision by the U.K. to leave the European Union further weighs on the fragile recovery in Europe. Going forward, the U.K.'s negotiation of trade deals will be a key issue with a wide range of potential outcomes. Uncertainty related to the outcome of negotiations should weigh on foreign investment and consumption. Any additional moves to leave the European Union or the Eurozone could be disruptive to markets and growth.

Slowing growth globally and the eventual increase of interest rates could weigh on economic activity in the U.S. Corporate profits remain vulnerable after a period where companies increased margins by cost cutting and share repurchases. The dollar strengthened recently after the "Brexit" vote. Continued dollar strength should particularly weigh on multinational companies and domestic exporters.

Growth in emerging market economies is likely to remain uneven, with commodity export-dependent economies particularly hurt by a sustained slowdown in global growth and prices. Emerging markets also faces a potential flight of capital, should the U.S. Federal Reserve decide to increase interest rates further. Despite varied headwinds, there are bright spots within emerging markets, including India, where the economic growth rate has surpassed China's.

Retirement System Investment Results and Asset Allocation

The fair value of the City of Phoenix Employees' Retirement System was $2.225 billion as of June 30, 2016. This was a decrease of $76.3 million from June 30, 2015 due to $88.7 million in net cash outflows, offset by positive investment performance. The System's net of fees return was +0.6% over the fiscal year, +5.9% over three years, +5.5% over five years, and +4.2% over ten years[1]. The System's current actuarial assumed rate of return is 7.5%.

[1] Returns over one-year are annualized.

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As of June 30, 2016, the System's assets were allocated to U.S. equities (24.4%), international equities (17.9%), fixed income assets (22.6%), real return assets (7.4%), private equity assets (1.7%), real estate assets (14.6%), absolute return assets (11.2%), and cash (0.2%). The System's allocation to private equity is relatively new within the System and grew substantially over the fiscal year as nearly $28 million in capital was called.

Over the past few years, the Board has prudently diversified the System through the introduction of additional asset classes. We are looking forward to continuing our work with Staff and the Board and progressing further toward achieving the long-term target return so that the Retirement System can continue to meet its obligations to participants.

Sincerely,

Larry Witt, CFA
Senior Vice President

Stephen P. McCourt, CFA
Managing Principal

Laura B. Wirick, CFA, CAIA
Principal

LW/PO/mps

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

1. COPERS' asset allocation targets (at fair value) as of June 30, 2016 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, 2016, the total payments received from the directed brokerage commissions program under SSGM were $7,690.

Investment Services Under Contract (as of June 30, 2016)

Equity Managers

Artisan Partners	Ting Rattanaphasouk	San Francisco, CA
Baillie Gifford	Kathrin Hamilton	Edinburgh, Scotland
Cramer Rosenthal McGlynn	Clair Componi	New York, NY
Eagle Asset Management	Clay Lindsey	St. Petersburg, FL
GMO	Ryan Dawley	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	Christopher Hawkins	San Francisco, CA
Hemisferio Sul Investments	Diogo Bustani	Sao Paulo, BRA
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 Real Estate	Lawrence Settanni	Greenwich, CT
Wrightwood Financial	Jennifer Naylor	Chicago, IL

Real Return Managers

Research Affiliates LLC	Brian Ralph	Newport Beach, CA

Investment Consultant

Meketa Investment Group	Laura Wirick	Carlsbad, CA
	Larry Witt	Carlsbad, CA

Schedule of Investment Results
For the Fiscal Years Ended June 30, 2016

		Annualized	
	1-Year	3-Years	5-Years
TOTAL PORTFOLIO:			
COPERS	0.9 %	6.3	6.0 %
Policy Benchmark	2.4	7.1	6.6
Meketa All Pension Plans > $1B median	(0.5)	6.0	6.0
EQUITY FUNDS:			
Baillie Gifford	(6.9)	4.2	3.4
MSCI ACWI Ex USA	(10.2)	1.2	0.1
Cramer Rosenthal McGlynn	(1.4)	9.0	8.3
Russell 2000 Value Index	(2.6)	6.4	8.1
Eagle Asset Management	(5.3)	8.2	8.6
Russell 2000 Growth Index	(10.8)	7.7	8.5
GMO (1)	(6.1)	-	-
MSCI ACWI	(3.7)	-	-
Mondrian Investment Partners	(2.6)	5.1	4.6
MSCI World Small Cap Index	(3.3)	6.3	3.6
Robeco Investment Management (2)	(3.2)	8.2	-
Russell 1000 Value Index	2.9	9.9	-
SSgA FTSE RAFI US Low Vol (3)	-	-	-
FTSE RAFI USD Lo Vol Index	-	-	-
Artisan Global Opportunities (4)	(0.4)	-	-
MSCI ACWI Ex US Index	(3.7)	-	-
The Boston Company	(9.1)	7.4	9.3
Russell Midcap Index	3.2	11.0	11.7
FIXED INCOME FUNDS:			
Aberdeen	6.2	4.1	4.1
Barclays US Aggregate Bond Index	6.0	4.1	3.8
MFS Heritage Trust (5)	6.9	6.1	-
JPMorgan EMBI Global Dvf'd	9.8	7.2	-
Western Asset Management	6.0	5.1	5.1
Barclays Aggregate	6.0	4.1	3.8
PIMCO Total Return	5.1	3.3	3.7
Barclays Aggregate	6.0	4.1	3.8
HEDGE FUND OF FUNDS:			
Carlson (6)	(1.8)	-	-
PAAMCO (7)	(7.0)	-	-
Fir Tree International (8)	(14.7)	-	-
PRIVATE EQUITY FUNDS:			
Neuberger Berman Sonoran (9)	4.7	-	-
REAL ESTATE FUNDS:			
J P Morgan	11.1	12.8	12.9
JDM Partners	2.3	1.5	3.6
Morgan Stanley	12.7	14.9	15.3
NCREIF ODCE Index	11.8	13.0	12.7
Northwood RE IV (10)	17.2	-	-
Northwood RE V (11)	5.5	-	-
RECAP II	252.7	37.9	26.1
RECAP III (112)	(2.8)	7.2	-
RECAP IV (13)	(4.6)	-	-
TA Associates Realty	13.6	16.2	14.2
Wheelock (14)	17.7	30.2	-
Wheelock II (15)	22.0	-	-
Wrightwood	10.7	13.5	15.4
REAL RETURN FUND			
PIMCO All Asset (16)	0.9	-	-
All Asset Index	2.4	-	-

Schedule of Investment Results (Continued)

(1) 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.
(2) 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.
(3) 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.
(4) Artisan Global Opportunities was added as an equity manager effective December 1, 2014. Performance figures would not be representative of the benchmark index.
(5) MFS Heritage Trust added as a core plus fixed income manager effective February 1, 2013. Performance figures would not be representative of the benchmark index.
(6) Carlson was added as a hedge fund manager effective August 1, 2014. Performance figures would not be representative of the benchmark index.
(7) 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.
(8) Fir Tree International was added as a hedge fund manager effective August 1, 2014. Performance figures would not be representative of the benchmark index.
(9) Neuberger Berman Sonoran was added as a private equity manager on April 1, 2015. Performance figures would not be representative of the benchmark index.
(10) Northwood IV was added as an opportunistic real estate manager on February 1, 2014. Performance figures would not be representative of the benchmark index.
(11) Northwood V was added as an opportunistic real estate manager on February 1, 2015. Performance figures would not be representative of the benchmark index.
(12) RECAP III was added as an opportunistic real estate manager of February 13, 2012. Performance figures would not be representative of the benchmark index.
(13) RECAP IV was added as an opportunistic real estate manager of February 1, 2015. Performance figures would not be representative of the benchmark index.
(14) Wheelock was added as an opportunistic real estate manager of May 24, 2012. Performance figures would not be representative of the benchmark index.
(15) Wheelock II was added as an opportunistic real estate manager of September 1, 2014. Performance figures would not be representative of the benchmark index.
(16) 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 fair value. Non-core real estate performance is calculated as an IRR.

Asset Allocation by Manager
As of June 30, 2016

Manager	Style	Management (in thousands)	% of Portfolio
CASH AND CASH EQUIVALENTS FUNDS			
The Boston Company	Mid Cap Value	$ 593	0.03 %
COPERS Cash Account	Short Term Income Fund	4,540	0.21
PIMCO Total Return	Core Plus Fixed Income	2,863	0.13
Cramer Rosenthal McGlynn	Small Cap Value	3,041	0.14
Eagle Asset Management	Small Cap Growth	1,303	0.06
MS Prime Property	Core Plus Fixed Income	919	0.04
Robeco Investment Management	Large Cap Value	5,664	0.26
Western Asset Management	Core Plus Fixed Income	308	0.01
TOTAL CASH & CASH EQUIVALENT FUNDS		19,231	0.88
DOMESTIC EQUITIES FUNDS			
The Boston Company	Mid Cap Value	39,992	1.82
Cramer Rosenthal McGlynn	Small Cap Value	46,028	2.09
Eagle Asset Management	Small Cap Growth	47,770	2.17
FTSE RAFI DV EX US	Large Cap Core	64,279	2.92
FTSE RAFI US Low Vol	Large Cap Core	137,883	6.26
Robeco Investment Management	Large Cap Value	119,157	5.41
Western Asset Management	Large Cap Value	315	0.01
TOTAL DOMESTIC EQUITIES FUNDS		455,424	20.67
FIXED INCOME FUNDS			
Aberdeen/Artio Global Investors	Core Plus Fixed Income	161,149	7.32
PIMCO Total Return	Core Plus Fixed Income	186,234	8.46
MFS Emerging Markets Debt	Emerging Markets Debt	100,319	4.55
Western Asset Management	Core Plus Fixed Income	85,815	3.90
TOTAL FIXED INCOME FUNDS		533,517	24.23
INTERNATIONAL EQUITIES COMMINGLED FUNDS			
Artisan Partners	International	122,078	5.54
GMO	International	122,495	5.56
PIMCO All Asset Custom Index	International	158,926	7.21
TOTAL INTERNATIONAL EQUITIES COMMINGLED FUNDS		403,499	18.31 %

Asset Allocation by Manager
As of June 30, 2016 (Continued)

Manager	Style	Management (in thousands)	% of Portfolio
INTERNATIONAL EQUITIES FUNDS			
Baillie Gifford	International	$ 143,747	6.53 %
Mondrian Investment Partners	International	53,156	2.41
TOTAL INTERNATIONAL EQUITIES FUNDS		196,903	8.94
REAL ESTATE FUNDS			
Cramer Rosenthal McGlynn	Non-Core Real Estate	1,766	0.08
Eagle Asset Management	Non-Core Real Estate	1,462	0.06
HSI Real Estate V	Non-Core Real Estate	990	0.04
JDM Partners	Non-Core Real Estate	26,204	1.19
J P Morgan Investment Management	Core Real Estate	103,205	4.69
Morgan Stanley	Core Real Estate	94,645	4.29
Northwood IV	Non-Core Real Estate	16,499	0.75
Northwood V	Non-Core Real Estate	17,549	0.79
RECAP II	Non-Core Real Estate	49	0.01
RECAP III	Non-Core Real Estate	14,183	0.64
RECAP IV	Non-Core Real Estate	8,297	0.37
TA Realty Associates	Non-Core Real Estate	6,846	0.31
Wheelock Street Partners	Non-Core Real Estate	8,205	0.37
Wheelock Street Partners II	Non-Core Real Estate	16,889	0.76
Wrightwood Financial	Non-Core Real Estate	1	0.04
TOTAL REAL ESTATE FUNDS		316,790	14.39
PRIVATE EQUITY FUNDS			
Neuberger	Private Equity	37,526	1.70
TOTAL PRIVATE EQUITY FUNDS		37,526	1.70
HEDGE FUNDS			
Carlson	Hedge Fund of Funds	60,039	2.73
Fir Tree International	Hedge Fund of Funds	53,141	2.41
PAAMCO	Hedge Fund of Funds	126,486	5.74
TOTAL HEDGE FUNDS		239,666	10.88
Total Portfolio Before Securities Lending		$ 2,202,556	100.00 %
Securities Lending		83,249	
TOTAL INVESTMENTS		$ 2,285,805	

List of Largest Assets Held

As of June 30, 2016 (dollars in thousands)

Ten Largest Bond Holdings (Fair Value)

Par Value	Description	Interest Rate	Due	Rating	Fair Value
$ 14,200	US Treasury Note	1.75	5/15/2022	AA+	$ 14,673
13,000	FNMA	3.50	8/1/2046	AA+	13,700
12,000	FNMA	4.00	8/1/2046	AA+	12,854
7,300	US Treasury Bond	2.75	11/15/2042	AA+	8,030
6,200	US Treasury Bond	2.50	2/15/2045	AA+	6,455
5,749	US TIPS	0.38	7/15/2025	AA+	5,920
5,000	FNMA	4.50	8/1/2046	AA+	5,454
3,768	US TIPS	1.75	1/15/2028	AA+	4,405
3,231	US TIPS	2.50	1/15/2029	AA+	4,094
3,000	FNMA	3.00	8/1/2046	AA+	3,107

Ten Largest Stock Holdings (Fair Value)

Shares	Stock	Fair Value
40,729	Berkshire Hathaway Inc	$ 5,897
48,542	Johnson & Johnson	5,888
79,513	JP Morgan Chase & Co	4,940
54,517	Merck & Co Inc	3,140
37,611	Occidental Petroleum Corp	2,841
50,037	Verizon Communications Inc	2,794
14,172	McKesson Corp	2,645
198,893	Bank of America Corp	2,639
18,563	Raytheon Co	2,523
31,694	Phillips 66	2,514

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

Schedule of Investment Related Fees
For the Fiscal Year Ended June 30, 2016

	Management (in thousands)	Fees (1)
CASH AND CASH EQUIVALENTS FUNDS		
The Boston Company	$ 593	$ -
COPERS Cash Account	4,540	-
PIMCO Total Return	2,863	-
Cramer Rosenthal McGlynn	3,041	-
Eagle Asset Management	1,303	-
MFS Emerging Markets Debt	-	
MS Prime Property	919	-
Robeco Investment Management	5,664	-
Western Asset Management	308	-
TOTAL CASH & CASH EQUIVALENT FUNDS	19,231	-
DOMESTIC EQUITIES FUNDS		
The Boston Company	39,992	295,027
Cramer Rosenthal McGlynn	46,028	447,421
Eagle Asset Management	47,770	273,959
FTSE RAFI DV EX US	64,279	55,398
FTSE RAFI US LOW VOL	137,883	77,366
Robeco Investment Management	119,157	488,030
Western Asset Management	315	-
TOTAL DOMESTIC EQUITIES FUNDS	455,424	1,637,201
FIXED INCOME FUNDS		
Aberdeen/Artio Global Investors	161,149	453,572
PIMCO Total Return	186,234	439,902
MFS Emerging Markets Debt	100,319	509,546
Western Asset Management	85,815	244,587
TOTAL FIXED INCOME FUNDS	533,517	1,647,607
GLOBAL COMMINGLED FUNDS		
Artisan Partners	122,078	1,016,496
GMO	122,495	784,814
PIMCO All Asset Custom Index	158,926	1,329,844
TOTAL GLOBAL COMMINGLED FUNDS	$ 403,499	$3,131,154

Schedule of Investment Related Fees
For the Fiscal Year Ended June 30, 2016 (Continued)

Manager	Management (in thousands)	Fees (1)
INTERNATIONAL EQUITIES FUNDS		
Baillie Gifford	$ 143,747	$ 514,536
Mondrian Investment Partners	53,156	390,751
TOTAL INTERNATIONAL EQUITIES	196,903	905,287
REAL ESTATE FUNDS		
Cramer Rosenthal McGlynn	1,766	-
Eagle Asset Management	1,462	-
HSI Real Estate V	990	-
JDM Partners	26,204	241,689
JP Morgan Strategic Property	103,205	965,458
Morgan Stanley Prime Property	94,645	766,053
Northwood GP LLC IV	16,499	736,743
Northwood Series V	17,549	678,349
RECAP II	49	-
RECAP III	14,183	226,915
RECAP IV	8,297	337,500
TA Realty Associates	6,846	71,805
Wheelock Street Partners	8,205	183,664
Wheelock Street Partners II	16,889	450,000
Wrightwood Capital	1	6,921
TOTAL REAL ESTATE	316,790	4,665,097
HEDGE FUNDS		
Carlson Capital	60,039	754,052
Fir Tree Partners	53,141	489,694
PAAMCO	126,486	1,285,162
TOTAL HEDGE FUNDS	239,666	2,528,908
PRIVATE EQUITY		
Neuberger Berman	37,526	474,833
TOTAL PRIVATE EQUITY FUNDS	37,526	474,833
Total before Securities Lending	2,202,556	14,990,087
Securities Lending **(2)**	83,249	
TOTAL	$ 2,285,805	$14,990,087
Other Investment Service Fees		
Cheiron (Consultant)		141,583
BNY Mellon (Custodian)		246,325
Elkins McSherry (Brokerage)		10,000
Meketa Investments (Consultant)		168,750
RV Kuhns & Associates (Consultant)		71,250
TOTAL OTHER INVESTMENT SERVICE FEES		637,908
TOTAL INVESTMENT RELATED FEES		**$15,627,995**

(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, 2016

Type of Investment	Fair Value (in thousands)	Percent of Total Fair Value
Fixed Income:		
Asset Backed	$ 2,910	0.13 %
Commingled Fixed Income	161,149	7.32
Corporate Bond	91,288	4.14
Corporate Bonds Commingled	1,595	0.07
Derivatives	(4,251)	(0.19)
Energy Related	45	-
Foreign Bond	17,143	0.78
Foreign Bonds Commingled	100,319	4.55
Government Agency	3,027	0.14
Mortgage Backed	80,391	3.65
Municipal Bonds	4,365	0.20
US Government Guaranteed	75,535	3.43
Total Fixed Income	533,516	24.22
Domestic Equities:		
Basic Materials	10,364	0.47
Commingled	137,883	6.26
Consumer Discretionary	6,592	0.30
Consumer Goods	8,250	0.37
Consumer Services	29,818	1.35
Energy Related	6,731	0.31
Financials	54,790	2.49
Health Care	39,893	1.82
Industrials	46,485	2.11
Information Technology	13,863	0.63
International Equity	64,279	2.92
Oil and Gas	12,092	0.55
Technology	24,385	1.11
Total Domestic Equities	455,424	20.69
Real Estate:		
Asset Backed	197,851	8.98
Private Equity	46,773	2.12
Limited Partnership	29,431	1.34
Real Estate Fund	42,734	1.94
Total Real Estate	316,790	14.38
Hedge Funds:		
Corporate Bonds	126,486	5.74
Other	113,180	5.14
Total Hedge Funds	239,666	10.88
International Equities:		
Asset Backed	196,903	8.94
Global Commingled:		
Global Commingled	403,499	18.32
Private Equity:		
Private Equity	37,526	1.70
Cash and Cash Equivalents:		
Cash & Cash Equivalents	19,231	0.87
Total before Securities Lending	$ 2,202,556	100.00 %
Securities Lending	83,249	
Total Investments	$ 2,285,805	

Schedule of Commissions
For the Fiscal Year of June 30, 2016

Brokerage Firm	Number of Shares Traded	Total Commissions	Commissions Per Share
J.P. Morgan Securities Inc.	838,135	16,894.51	0.020
Jeffries & Co. Inc.	501,880	11,488.06	0.023
Goldman Sachs & Co	451,623	11,411.58	0.025
All Other Brokers (1)	5,051,614	123,755.69	1.556
Total	**6,843,252**	**$ 163,549.84**	

(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

November 10, 2016

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, 2016. 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, 2016 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

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Board of Retirement
November 10, 2016
Page 2

actuarial assumptions used for funding purposes are the same as those used for financial reporting purposes.

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, 2015. The end-of-year Total Pension Liability is based on the actuarial valuation as of June 30, 2016. Please refer to *Section VI, Accounting and Financial Reporting Under GASB 67 and 68,* of the June 30, 2016 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, 2016 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;
- Schedule of Employer Contributions; 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

CHEIRON

Board of Retirement
November 10, 2016
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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 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, ASA, EA, FCA, MAAA
Consulting Actuary

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

Enclosures

CHEIRON

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

Supporting Schedules (continued)

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.

Asset Valuation Method for Actuarial Purposes

A smoothed fair value of assets was used for the June 30, 2016 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 fair 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% annually, compounded per annum. Considering other financial assumptions, the 7.5% rate translates to an assumed real rate of return of 3.5% over inflation and 3.0% 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% is based on the expected return on assets. For stochastic projections, a standard deviation of 10.5% 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.

Supporting Schedules (continued)

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.

Changes Since Last Valuation

The member contribution crediting rate was updated for the June 30, 2016 actuarial valuation to reflect the provisions of the ballot measure that passed in August, 2015.

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 September 2013. For sample ages, the following table describes annual increase percents:

Age	Price Inflation	Real World 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

Supporting Schedules (continued)

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. Half of active member deaths are assumed to be duty related. 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)

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	0.0400%	0.0002%	0.0310%	0.0220%	0.9553%	0.2563%
30	0.0520%	0.0265%	4.1000%	0.0300%	0.8233%	0.2876%
35	0.0605%	0.0372%	0.0640%	4.9000%	97.4900%	0.4139%
40	7.9600%	0.0531%	0.1170%	0.0970%	1.3126%	0.6492%
45	0.1126%	0.0754%	0.2410%	21.2000%	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%	4.9120%
80	1.3394%	1.0363%	5.2760%	3.6950%	9.4261%	7.2590%
85	9.4290%	6.6750%	9.4290%	6.6750%	13.7102%	10.8498%
90	16.1860%	12.3350%	16.1860%	12.3350%	20.4562%	15.8639%
95	25.3150%	20.8530%	23.3150%	20.8530%	27.9623%	22.6687%

Rates of Disability

The disability incidence rates are 0.960 times the CalPERS Public Agency Miscellaneous Ordinary Disability Incidence table for Males. Half of the disabilities are assumed to be duty related. Sample disability rates of active members are provided in the table below. These rates apply to both male and female COPERS members.

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

Retirement

Rates of retirement are based on age according to the following table.

Supporting Schedules (continued)

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%	27.50%	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 based on past experience.

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 younger, and spouses of female members are assumed to be three years older.

Supporting Schedules (continued)

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%

Actuarial Valuation Data - Active Members

Valuation Year	Number of Members	Annual Payroll (in thousands)	Average Pay	% Increase/(Decrease) in Average Pay
2016	7,783	$ 496,333	$ 63,772	(1.8)%
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

Supporting Schedules (continued)

Schedule of Retirees and Beneficiaries Added To and Removed From Rolls
(in thousands)

	Added to Rolls Annual Pensions			Removed		Rolls End of Year			
Year Ended	No.	New	PER (a)	No.	Annual Pensions	No.	Annual Pensions	Average Annual Pensions	% Increase in Annual Pensions
2016	375	11,253	$ 320	182	$ 4,329	6,734	$ 213,061	$ 31,640	3.50%
2015	578	20,077	2,406	192	4,225	6,541	205,816	31,466	9.70%
2014	597	20,138	1,810	145	3,232	6,155	187,559	30,473	11.10%
2013	426	12,574	-	201	3,996	5,703	168,843	29,606	5.40%
2012	448	14,488	-	161	4,174	5,478	160,294	29,256	6.90%
2011	444	15,251	-	184	3,574	5,191	149,950	28,887	8.40%
2010	432	15,139	120	170	3,206	4,931	138,273	28,042	9.50%
2009	426	14,195	1,594	174	3,002	4,669	126,220	27,034	11.30%
2008	348	10,935	2,874	148	2,732	4,417	113,433	25,681	10.80%
2007	290	8,205	1,519	142	2,165	4,217	102,356	24,272	8.00%

(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.

Solvency Test (in thousands)

	Actuarial Accrued Liability for				Portion of Actuarial Liability Covered by Assets		
Valuation Date	**(1) Active Member Contributions**	**(2) Retirees and Beneficiaries**	**(3) Remaining for Active Members**	**Valuation Assets**	**(1)**	**(2)**	**(3)**
6/30/2016	$ 393,626	$ 2,522,989	$1,067,522	$2,283,216	100%	75%	0%
6/30/2015	383,029	2,465,862	1,127,017	2,202,923	100%	74%	0%
6/30/2014	393,754	2,099,274	1,121,756	2,120,700	100%	82%	0%
6/30/2013	396,583	1,881,123	1,201,741	1,962,533	100%	83%	0%
6/30/2012	443,964	1,525,152	970,258	1,827,528	100%	91%	0%
6/30/2011	446,456	1,431,877	874,576	1,834,620	100%	97%	0%
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%

Supporting Schedules (continued)

Analysis of Financial Experience (in thousands)

	Derivation for Year Ended June 30,				
	2016	**2015**	**2014**	**2013**	**2012**
(1) UAL at Start of Year	1,772,985	1,494,084	1,516,915	1,111,845	918,289
(2) Normal cost for year	80,757	75,679	78,331	71,828	77,366
(3) Contributions for year	(178,288)	(157,683)	(153,885)	(143,502)	(133,822)
(4) Assumed Investment Income Accural on (1), (2) and (3)	129,383	109,037	110,987	86,136	71,248
(5) Expected UAL Before Changes	1,804,836	1.521,117	1,552,347	1,126,307	933,081
(6) Effect of Assumption/Method Changes	(69,420)	254,870	-	423,247	-
(7) Effect of Benefit Changes	(3,229)	-	-	-	-
(8) Expected UAL After Changes	1,732,187	1,775,987	1,552,347	1,549,554	933,081
(9) Actual UAAL	1,700,921	1,772,985	1,494,084	1,516,915	1,111,845
(10) Gain (loss) (8) - (9)	31,266	3,002	58,265	32,639	(178,764)
(11) As % of AL at Start of Year	0.8%	0.1%	1.7%	1.1%	-6.5%

	2011	**2010**	**2009**	**2008**	**2007**
(1) UAL at Start of Year	829,195	622,946	504,950	349,611	373,605
(2) Normal cost for year	80,099	78,731	83,089	72,806	66,246
(3) Contributions for year	(119,613)	(116,482)	(98,157)	(95,435)	(88,358)
(4) Assumed Investment Income Accural on (1), (2) and (3)	64,652	48,228	39,755	27,005	29,004
(5) Expected UAL Before Changes	854,333	633,424	529,637	353,987	380,496
(6) Effect of Assumption/Method Changes	-	-	-	94,539	-
(7) Effect of Benefit Changes	-	-	-	-	-
(8) Expected UAL After Changes	854,333	633,424	529,637	448,526	380,496
(9) Actual UAAL	918,289	829,195	622,946	504,950	349,611
(10) Gain (loss) (8) - (9)	(63,956)	(195,771)	(93,309)	(56,424)	30,885
(11) As % of AL at Start of Year	-2.4%	-7.8%	-3.9%	-3.5%	1.5%

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 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 8 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 but before January 1, 2016, 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 between July 1, 2013 and December 31, 2015, who are not Tier 1 members, are Tier 2 members. Members hired into employment with the City on or after January 1, 2016 who are not Tier 1 members or Tier 2 members are Tier 3 members.

Final Average Compensation

Tier 1/Tier 2
The average of annual compensation for the period of three consecutive years producing the highest average contained within the last 10 years immediately preceding retirement.

Tier 3
The average of annual compensation for the period of five consecutive years producing the highest average contained within the last 10 years immediately preceding retirement. Annual compensation will be limited to the first $125,000 of compensation, indexed to inflation (CPI-U) each January 1, beginning January 1, 2017.

Summary of Plan Provisions (continued)

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 the result of combining two different calculations. First, unused sick leave is transferred into service credit and multiplied by 2 percent. Added to that is a member's FAC times the credit services times the following 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.

An active member may retire with Tier 2/3 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 2/3 benefits are the result of combining two different calculations. First, unused sick leave is transferred into service credit and multiplied by 2 percent. Added to that is a member's FAC times the credit services times the following corresponding accrual rate:

Years of Service	Accrual Rate
0 < Service $\leq$ 20	2.10%
20 < Service $\leq$ 25	2.15%
25 < Service $\leq$ 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

Summary of Plan Provisions (continued)

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.

Tiers 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.

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

Summary of Plan Provisions (continued)

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.

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 Tier 1 and Tier 2 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. Tier 3 members are not eligible for a 13th Check.

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 Tier 1 and Tier 2 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). Tier 3 members are not eligible for this program.

Summary of Plan Provisions (continued)

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)

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.

Tier 3 Cost of Living Adjustment Option

Tier 3 members can elect a retirement benefit option that provides a built-in Cost of Living Adjustment in exchange for a reduced initial pension amount.

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 up to a maximum of 11 percent of their covered compensation. 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 up to a maximum of 3.75 percent. The Board adopted a 3.75 percent interest rate for June 30, 2016.

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 48 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 section provides financial and demographic data pertaining to COPERS.

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

	2016	2015	2014	2013	2012
ADDITIONS					
Member Contributions	$ 29,306	$ 27,861	$ 28,815	$ 27,738	$ 28,140
Employer Contributions	119,844	117,092	115, 244	110,094	105,682
Funds from Other Systems	217	199	160	105	4,030
Net Investment Income (Loss)	9,171	47,149	298, 576	195,305	(5,664)
Total Additions to Fiduciary Net Position	$ 158,538	$192,301	$ 442,795	$ 333,242	$ 132,188
DEDUCTIONS					
Benefit Payments	213,047	201,178	177,447	165,521	156,679
Refunds of Contributions	3,047	3,004	2,192	2,464	2,333
Funds to Other Systems	315	421	238	606	1,365
Administrative Expenses	234	414	628	389	328
Total Deductions from Fiduciary Net Position	216,643	205,017	180, 506	168,980	160,705
CHANGE IN NET POSITION RESTRICTED FOR PENSIONS	$ (58,105)	$ (12,716)	$ 262,290	$ 164,262	$ (28,517)

	2011	2010	2009	2008	2007
ADDITIONS					
Member Contributions	$ 28,648	$ 30,240	$ 31,774	$ 31,237	$ 30,207
Employer Contributions	90,965	86,241	66,383	64,198	58,151
Funds from Other Systems	4,999	4,619	2,411	4,755	4,507
Net Investment Income (Loss)	315,936	143,016	(375,388)	(106,022)	272,051
Total Additions to Fiduciary Net Position	$ 440,548	$264,116	$ (274,820)	$ (5,832)	$ 364,916
DEDUCTIONS					
Benefit Payments	145,922	133,522	121,484	109,308	100,366
Refunds of Contributions	2,470	2,877	2,812	2,623	2,770
Funds to Other Systems	2,872	1,699	1,518	2,103	1,798
Administrative Expenses	251	402	477	-	-
Total Deductions from Fiduciary Net Position	151,515	138,500	126,291	114,034	104,934
CHANGE IN NET POSITION RESTRICTED FOR PENSIONS	$ 289,033	$125,616	$ (401,111)	$(119,866)	$ 259,982

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	Disability Beneftis Retirees Death In Service	Duty	Non-Duty	Survivors	Deferred	Child	Alternate Payee	Total Benefits
2015-2016	$ 186,802	$ 3,324	$ 686	$ 3,273	$14,150	$ 2,721	$ 62	$ 2,029	$213,047
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
2015-2016	$ 589	$ 2,413	$ 3,047
2014-2015	725	2,279	3,004
2013-2014	515	1,677	2,192
2012-2013	821	1,644	2,464
2011-2012	437	1,896	2,333
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

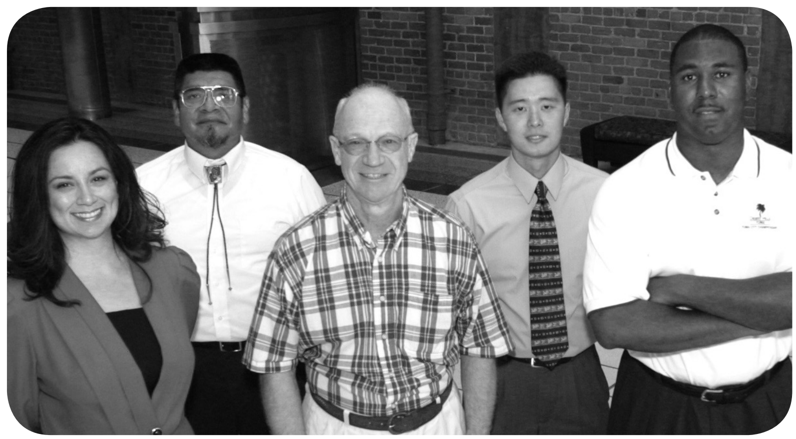
Schedule of Retired Members by Type of Benefit
As of June 30, 2016

		Type of Retirement						
Monthly Benefit	Number of Retirees	Deferred	Normal or Voluntary	Duty Disability	Non-Duty Disability	Survivor Payment	Death Benefit	Alternate Payee
Deferred	$ 885	$ 885	$ -	$ -	$ -	$ -	$ -	$ -
$1 - 300	98	-	45	1	-	13	26	13
301 – 400	144	-	94	6	2	31	3	8
401 – 500	139	-	89	9	2	29	1	9
501 – 600	137	-	90	4	7	24	4	8
601 – 700	173	-	96	3	11	48	6	9
701 – 800	178	-	98	2	10	42	11	15
801 – 900	193	-	122	5	22	31	8	5
901 – 1,000	175	-	91	2	15	49	6	12
1,001 – 1,100	199	-	118	5	10	46	11	9
1,101 – 1,200	195	-	130	1	16	29	8	11
1,201 – 1,300	161	-	114	1	12	23	3	8
1,301 – 1,400	176	-	112	-	13	34	8	9
1,401 – 1,500	179	-	129	2	7	29	10	2
1,501 – 2,000	799	-	618	15	35	81	32	18
2,001 – 2,500	854	-	737	1	12	85	11	8
2,501 – 3,000	747	-	679	-	9	45	11	3
3,001 – 4,000	1,089	-	1,019	-	7	50	12	1
4,001 – 5,000	613	-	587	-	2	18	5	1
Over 5,001	636	-	608	-	-	23	3	2
Totals	$ 7,770	$ 885	$ 5,576	$ 57	$ 192	$ 730	$ 179	$ 151

		Option Selected						
			Option A		Option B			
Monthly Benefit	Total	Life	Standard	Pop-Up	Standard	Pop-Up	Option C	Child Benefit
Deferred	$ 885	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$1 – 300	98	41	20	7	-	-	4	26
301 – 400	144	91	34	7	1	4	7	-
401 – 500	139	85	40	7	-	1	6	-
501 – 600	137	81	23	17	3	3	10	-
601 – 700	173	102	37	20	3	3	8	-
701 – 800	178	117	31	13	3	3	11	-
801 – 900	193	93	49	23	5	10	13	-
901 – 1,000	175	111	27	16	6	7	8	-
1,001 – 1,100	199	124	41	20	3	5	6	-
1,101 – 1,200	195	99	61	16	3	10	6	-
1,201 – 1,300	161	81	43	25	3	7	2	-
1,301 – 1,400	176	95	43	14	6	10	8	-
1,401 – 1,500	179	96	43	15	5	14	6	-
1,501 – 2,000	799	360	227	95	23	54	40	-
2,001 – 2,500	854	367	263	102	30	62	30	-
2,501 – 3,000	747	316	196	105	33	64	33	-
3,001 – 4,000	1,089	427	350	127	42	94	49	-
4,001 – 5,000	613	221	204	76	30	59	23	-
Over 5,001	636	258	213	62	25	48	30	-
Totals	$ 7,770	$ 3,165	$ 1,945	$ 767	$ 224	$ 458	$ 300	$ 26

Schedule of Average Benefit Payment Amounts
By Year of Retirement

Retirement Effective Dates	Years of Credited Service					
For Fiscal Years Ending June 30:	5-9	10-14	15-19	20-24	25-29	30+
2016						
Average Monthly Benefit	$ 736.45	$1,275.96	$ 1,669.03	$2,597.60	$3,613.86	$4,779.84
Mean Monthly Final Average Compensation	4,573.73	5,203.89	5,076.77	5,891.97	6,582.60	7,289.30
Number of Active Retirees	25.00	42.00	44.00	50.00	88.00	43.00
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	41.00	62.00	66.00	95.00	206.00	136.00
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	31.00	43.00	47.00	82.00	148.00	58.00
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	41.00	41.00	28.00	54.00	94.00	48.00
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	30.00	35.00	32.00	64.00	118.00	62.00
From July 1, 2012 to June 30, 2016						
Average Monthly Benefit	$ 624.67	$1,197.57	$ 1,846.11	$2,688.84	$3,738.81	$4,688.10
Mean Monthly Final Average Compensation	4,348.89	4,973.94	5,452.03	5,998.45	6,696.69	7,093.87
Number of Active Retirees	33.60	44.60	43.40	69.00	130.80	69.40



Back Cover
- Petrolgyphs on a desert trail
- Scorpion Gulch at South Mountain
- Sculpture at downtown CityScape
- Phoenix has a diverse workforce
- Public Works Department
- Central Avenue and Portland

Front Cover
- Water Services Department
- Phoenix Convention Center
- Phoenix Fire Department
- Phoenix Police Department
- Phoenix Municipal Stadium