



FOR THE FISCAL YEAR ENDED JUNE 30, 2017
**COMPREHENSIVE ANNUAL
FINANCIAL REPORT**



EMPLOYEES'
RETIREMENT SYSTEM
2017

A Pension Trust Fund of Fairfax County, Virginia

Table of Contents

Introductory Section (Unaudited)

Letter of Transmittal.....	1
Certificate of Achievement for Excellence in Financial Reporting.....	5
Public Pension Coordinating Council.....	6
Board of Trustees.....	7
Administrative Organization.....	8
Organization Chart.....	10

Financial Section

Report of Independent Auditor.....	11
Management's Discussion and Analysis (Unaudited).....	14
Summary Schedule of Plan Fiduciary Net Position.....	16
Summary Schedule of Additions and Deductions.....	17
Basic Financial Statements	
Statement of Fiduciary Net Position.....	19
Statement of Changes in Fiduciary Net Position.....	20
Notes to the Financial Statements.....	21
Required Supplementary Information (Unaudited)	
Schedule of Changes in Net Pension Liability and Related Ratios.....	37
Schedule of Net Pension Liability.....	38
Schedule of Money-Weighted Rate of Return.....	38
Schedule of Employer Contributions.....	38
Summary of Significant Changes to the Pension System.....	39
Other Supplementary Information	
Schedule of Investment and Consultant Expenses.....	40
Schedule of Administrative Expenses.....	40
Report on Internal Control.....	41

Investment Section (Unaudited)

Senior Investment Officer's Letter.....	43
Investments by Category and Investment Manager.....	46
Schedule of Ten Largest Equity and Fixed Income Holdings.....	51
Schedule of Brokerage Commissions.....	52
Investment Summary.....	53

Actuarial Section (Unaudited)

Actuary's Certification Letter.....	55
Summary of Valuation Results.....	57
Summary of Actuarial Assumptions and Methods.....	57
Long Term Assumptions.....	58
Analysis of Financial Experience.....	61
Schedule of Retirees and Beneficiaries Added To and Removed From Rolls.....	61
Solvency Test.....	61
Schedule of Active Member Valuation Data.....	62

Statistical Sections (Unaudited)

Schedule of Additions by Source.....	63
Schedule of Deductions by Type.....	63
Schedule of Benefit Payments by Type.....	64
Schedule of Retired Members by Benefit Type.....	64
Schedule of Average Monthly Benefit Amounts.....	64
Schedule of Average Monthly Benefit by Years of Service.....	65
Active Participants Count by Age/Service.....	66
Active Participants Total Salary by Age/Service.....	66
Retirees by Location.....	67



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

November 16, 2017

Dear Members of the Board of Trustees:

I am pleased to submit to you the annual report of the Fairfax County Employees' Retirement System (System) for the fiscal year ended June 30, 2017. This annual report is provided as an aid to understanding the structure and evaluating the status of the System. The System's management is responsible for the accuracy of financial information contained herein. The Management's Discussion and Analysis provides further detail to the financial statements.

History

The Fairfax County Supplemental Retirement System was established on July 1, 1955. On February 26, 2001, the name of the System was changed to the Fairfax County Employees' Retirement System. In previous years, Fairfax County Employees' Retirement System reported the plan as a cost-sharing multiple employer defined benefit plan. The System is considered as a single employer public employee retirement system providing defined benefit pension plan coverage to full-time and certain part-time Fairfax County and Fairfax County Public Schools employees who are not covered by the Fairfax County Police Officers Retirement System, the Fairfax County Uniformed Retirement System, the Educational Employees' Supplementary Retirement System of Fairfax County (ERFC) or the Virginia Retirement System (VRS). There were 13,986 active members, 745 in the Deferred Retirement Option Program (DROP), 2,207 terminated vested, and 8,603 retirees participating in the System as of June 30, 2017. For calculations surrounding the Total Pension Liability and its components, Cheiron, the System's actuary, used June 30, 2017, as the measurement date which coincides with the actuarial valuation date.

Provisions

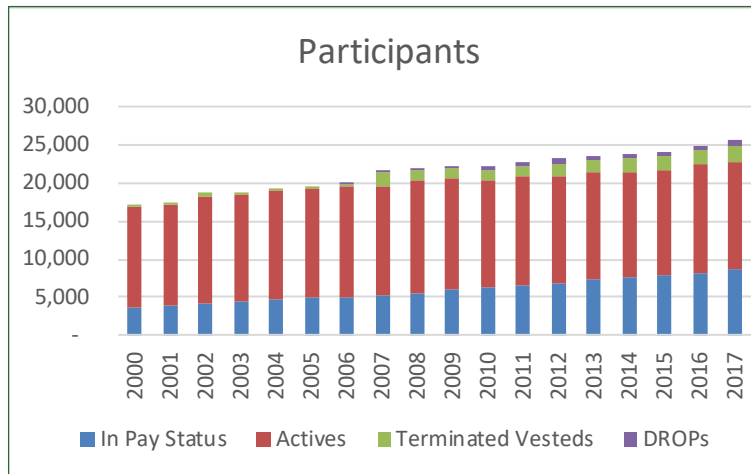
The benefit provisions of the System are established by County Ordinance. The System provides normal service retirement and early service retirement benefits for members who attain age or service requirements. Coverage for service-connected disability benefits is immediate upon membership in the System. Ordinary (non-service-related) disability benefits are provided after the attainment of five years of service. Members are vested after five years of service and are eligible for benefits at the early or normal service retirement date.

Capital Markets and Economic Conditions

In fiscal year 2017, the System's investment returns were challenged by market downturns in a number of asset classes. The System's portfolio investment return for the year was 7.48 percent (6.87 %, net of fees), slightly lagging the long term return target of 7.25%. This return placed in the 96th percentile of the BNY Mellon universe of public funds. However, over the long term, returns compared less favorably, with investment returns for the ten-year period at 5.9% per year, ranking the fund in the top 25th percentile of all other public funds in the BNY Mellon universe. Additional details on the markets and the System's investments are provided in the Investment Section.



Fairfax County Retirement Systems
 12015 Lee Jackson Memorial Hwy, Suite 350, Fairfax, VA 22033
 Phone: 703-279-8200 * 1-800-333-1633 * Fax: 703-273-3185
www.fairfaxcounty.gov/retirement/



Internal and Budgetary Controls

The System’s management is responsible for the financial information presented in this report in accordance with U.S. generally accepted accounting principles. Proper internal accounting controls exist to provide reasonable, but not absolute, assurance for both the safekeeping of assets and the fair presentation of the financial statements. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management.

Investment Policies and Strategies

The Board of Trustees has an adopted Statement of Investment Objectives and Policy. This Statement establishes the investment goals, guidelines, constraints and performance standards that the Board of Trustees uses when exercising its fiduciary duties to manage the investment assets of the System. The Board operates in conformity with the standard of care required in making investments as stated in the Code of Virginia §51.1-803. Please see Footnote 3 in the Financial Section of this report for a description of this standard of care and details on the System’s investment policies and strategies.

The Board receives quarterly reporting from staff to ensure compliance with its stated objectives and policy. Staff also monitors the performance of the System and its investment managers and updates the Board on a monthly basis throughout the year. Rate of return information is in the Investment Section prepared internally by staff using data from the System and investment managers.

Securities of the System, except for the pooled funds and the County’s pooled cash and temporary investments, are held in safekeeping, on the System’s behalf, by BNY Mellon Asset Servicing as agent. The BNY Mellon Financial Corporation, the parent company, carries Financial Institution bond insurance coverage including a Computer Crime Policy. An additional Excess Securities policy covers all risk of physical loss to securities.

Funded Status

An actuarial valuation of the System to determine funding requirements is performed annually. The System’s funding policy provides for periodic employer contributions at actuarially determined rates, which are calculated as a percentage of payroll, and are adjusted as necessary to accumulate sufficient assets to meet the costs of benefit payments when due. The valuation of the System performed as of June 30, 2017, indicated that the ratio of assets accumulated by the System to total actuarial accrued liabilities for benefits showed a decrease from 74.9% to 73.2%.

The actuarial section contains further information on the results of the June 30, 2017, valuation. For purposes of calculating the Net Pension Liability as of June, 30, 2017, in accordance with Governmental Accounting Standards Board's (GASB) Statement Number 67, the System's funded status was 69.9%.

Based on the June 30, 2015, actuarial valuation, the employer contribution rate for 2017 following the adopted corridor-based funding policy was 22.90%, an increase of 0.91% from the 2016 rate of 21.99%. This was done to improve the funded level of the plan, accomplished by raising the target unfunded liability amortization level from 95% to 97%, and to fund an increase in service connected disability benefits (discussed further below).

Major Initiatives

Working in concert with the County's Chief Financial Officer, the System's actuary (Cheiron), and other County staff, efforts continue to improve the funded status of the Plan. As a result of this work, and as referenced above, the County has increased the employer contribution rate above what was required by the adopted corridor-based funding policy for three consecutive years. This was accomplished by increasing the target amortization level for the unfunded liability from 90% in prior years to 97% 2017. This target was further increased to 98% for the County's 2018 adopted budget.

In an effort to improve financial transparency, staff began a major effort to account for all investment management and performance fees paid to investment management firms. While manager's investment performance has traditionally been evaluated net of these fees, the fees themselves were only previously reported for separately managed accounts.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to The Fairfax County Employees' Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2016. This was the seventh consecutive year that the System has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

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

Fairfax County Retirement Systems received the Public Pension Standards Award for the fiscal year ended June 30, 2017, from the Public Pension Coordinating Council (PPCC), in recognition of meeting the professional standards for plan funding as set forth in the Public Pensions Standards. The PPCC is a confederation of the National Association of the State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR).

Other Information

Independent Audit and Actuarial Certifications

Cherry Bekaert LLP performed an annual audit of the financial statements of the System to obtain reasonable assurance about whether the financial statements are free from material misstatements, whether due to fraud or error.

Introductory Section

Additionally, Cheiron performed an annual actuarial valuation to assess the plan's ability to meet future obligations. The report of independent auditor and certification from the actuary are included in this report.

Acknowledgments

This report is intended to provide complete and reliable information for determining the financial status of the System. It is being submitted to the Board of Supervisors and other interested parties and is available to the public via the County's website located at www.fairfaxcounty.gov/retirement/.

This annual report for the Employees' Retirement System is the result of the hard work of the system's Accounting team, as assisted by other members of the Retirement Systems team.

I am very thankful and feel privileged to lead the Retirement Systems team. These fine people work every day to provide the best-possible service and stewardship for the employees, retirees, and citizens of Fairfax County.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. K. Weiler". The signature is written in a cursive style with a large initial "J" and "K".

Jeffery K. Weiler
Executive Director



Government Finance Officers Association

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

Presented to

**Fairfax County
Employees' Retirement System
Virginia**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

June 30, 2016

Executive Director/CEO



Public Pension Coordinating Council

***Recognition Award for Funding
2017***

Presented to

***Fairfax County Police Officers
Retirement System***

In recognition of meeting professional standards for
plan funding 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)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

Ten members serve on the Fairfax County Employees' Retirement System Board of Trustees. Four of the members are citizens appointed by the Fairfax County Board of Supervisors. Three of the members are elected by Fairfax County Government employees, Fairfax County Public Schools employees, and Fairfax County retirees respectively. The Director of Human Resources, the Director of Finance, and the Director, Office of Benefit Services, Fairfax County Public Schools serve as Ex Officio members.

Board of Trustees



John M. Yeatman
Vice Chairman
 Elected Retiree Trustee
Term Expires: December 31, 2018



Robert C. Carlson
Chairman
 Board of Supervisors Appointee
Term Expires: August 30, 2017



Christopher J. Pietsch
Treasurer
 Fairfax County Director of Finance
Ex officio Trustee



Randy R. Creller
 Fairfax County Government
 Elected Member Trustee
Term Expires: June 30, 2021



De Hawley Brown
 Director, Office of Benefit Services
 Fairfax County Public Schools
Ex officio Trustee



Jon A. Miskell, Jr.
 Board of Supervisors Appointee
Term Expires: July 31, 2018



Catherine Spage
 Fairfax County
 Director of Human Resources
Ex officio Trustee



Thomas M. Stanners
 Board of Supervisors Appointee
Term Expires: July 31, 2020



David Swan
 Fairfax County Public Schools
 Elected Member Trustee
Term Expires: June 30, 2019



Gordon R. Trapnell, FSA
 Board of Supervisors Appointee
Term Expires: June 30, 2019

Administrative Organization

Administrative Staff

Jeffrey K. Weiler
Executive Director

Andrew J. Spellar
Senior Investment Officer

Professional Services

Actuary
Cheiron
Actuaries
McLean, VA

Auditor
Cherry Bekaert LLP
Certified Public Accountants
Tysons Corner, VA

Investment Managers

Aberdeen Asset Management Inc
Philadelphia, PA

AlphaSimplex
Boston, MA

AQR Capital Management
Greenwich, CT

Axiom International Small Cap
Greenwich, CT

BlackRock, Inc
San Francisco, CA

Brandywine Global Invest. Management, LLC
Philadelphia, PA

Bridgewater Associates, Inc
Westport, CT

Capstone
New York, NY

Cohen & Steers Capital Management, Inc
New York, NY

Czech Asset Management, LP
Old Greenwich, CT

DePrince, Race & Zollo
Winter Park, FL

Deutsche Asset Management
Chicago, IL

DoubleLine Capital, LP
Los Angeles, CA

Eagle Trading Systems, Inc
Princeton, NJ

Emerging Sovereign Group
New York, NY

First Eagle Investment Management
New York, NY

Investment Managers
(continued)

Hoisington Management Austin, TX	JP Morgan Investment Management, Inc New York, NY
Lazard Asset Management, LLC New York, NY	LSV Asset Management Chicago, IL
Mackay Shields, LLC New York, NY	Marathon Asset Management, LLP London, UK
Marathon Asset Management, LP New York, NY	Millennium Management, LLC New York, NY
Nicholas Company Milwaukee, WI	Neuberger Berman Group, LLC New York, NY
Parametric Portfolio Associates Edina, MN	PIMCO Newport Beach, CA
Post Advisory Group, LLC Los Angeles, CA	QMA Investment Management Newark, NJ 07102
QMS Capital Management, LP Durham, NC	Sands Capital Management, Inc Arlington, VA
Shenkman Capital Management, Inc Arlington, VA	Standish Mellon Asset Management Pittsburgh, PA
Stark Investments Milwaukee, WI	WCM Investment Management Laguna Beach, CA

Custodian Bank

BNY Mellon Asset Servicing
Pittsburgh, PA

Organization Chart



Board of Supervisors

Left to right: Daniel G. Storck, John C. Cook, Catherine M. Hudgins, Jeffrey C. McKay, Sharon Bulova (Chairman At-Large), Penelope A. Gross (Vice Chairman), John W. Foust, Kathy L. Smith, Linda Q. Smyth, Pat Herrity

Board of Trustees

(Ten Members – see page 7)

Robert C. Carlson, John M. Yeatman, Christopher J. Pietsch, Randy R. Creller, De Hawley Brown, Jon A. Miskell, Jr., Catherine Spage, Thomas M. Stanners, David Swan, Gordon R. Trapnell



Executive Director
Jeff Weiler



Senior Investment Officer
Andrew J. Spellar



Investment Operations Manager
Jennifer Snyder



Investment Analyst
Damien Lee, CFA



Retirement Systems Management Team

*Back left to right: Wendy Zhi, CPA, Retiree Services; Vicky Panlaqui, Accounting and Financial Reporting; Pamela Taylor, Technology
Front: John Prather, Membership Services; Carol Patterson, Communications*



Report of Independent Auditor

To Board of Supervisors
County of Fairfax, Virginia

To the Board of Trustees
Fairfax County Employees' Retirement System

Report on the Financial Statements

We have audited the accompanying basic financial statements of the Fairfax County Employees' Retirement System (the "System"), a pension trust fund of the County of Fairfax, Virginia, a pension trust fund of the County of Fairfax, Virginia, as of and for the year ended June 30, 2017, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2017, and the changes in fiduciary net position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of contributions, schedule of changes in net pension liability and related ratios, and schedule of investment returns be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The introduction section, summary of significant changes to the pension system, schedule of administrative expenses, schedule of investment expenses, schedule of professional service fees, investment section, actuarial section, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The summary of significant changes to the pension system, schedule of administrative expenses, schedule of investment expenses, and schedule of professional service fees are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the summary of significant changes to the pension system, schedule of administrative expenses, schedule of investment expenses, and schedule of professional service fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introduction section, investment section, actuarial section, and statistical section have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 15, 2017, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the System's internal control over financial reporting and compliance.



Tysons Corner, Virginia
November 15, 2017

Management's Discussion and Analysis (Unaudited)

This section presents management's discussion and analysis of the Fairfax County Employees' Retirement System's ("System" or "Plan") financial performance and provides an overview of the financial activities for the fiscal year ended June 30, 2017. The information in this section should be reviewed in conjunction with the Letter of Transmittal located in the Introductory Section

Overview of Financial Statements and Accompanying Information

The financial presentation is composed of four parts: (1) the financial statements; (2) notes to the financial statements; (3) required supplementary information and (4) other supplementary information. Below is the summary of the information provided in each of these sections.

Financial Statements. The System presents the Statement of Fiduciary Net Position as of June 30, 2017 and Statement of Changes in Fiduciary Net Position for the fiscal year ended June 30, 2017. The Statement of Fiduciary Net Position provides a snapshot of the financial position. It reports the assets, liabilities and resulting net position restricted for pension benefits. The Statement of Changes in Fiduciary Net Position presents the Plan's transactions under the categories of Additions and Deductions. Additions include contributions from the County and by participating employees, net appreciation in the fair value of investments, dividend and interest income. Investment income is reduced by investment-related expenses such as asset management fees, custody charges and consulting fees. Deductions includes outlays for monthly pension benefits, death benefits, refunds of contributions to employees and fees paid for professional services and administrative expenses.

Notes to the Financial Statements. The Notes to the Financial Statements are an integral part of the financial statements and include additional information and schedules to provide a better understanding of the fiduciary fund financial statements. The Notes to the Financial Statements include detailed information that are not readily evident in the financial statements such as the accounting policies, plan membership and benefits, and summary disclosures. Specifically:

- Note 1 Describes significant accounting policies.
- Note 2 Provides a description of the System, the funding policy, and member contributions and benefits.

- Note 3 Describes investments and disclosures on fair value hierarchy, interest rate, credit quality, foreign currency risk, derivatives disclosures, and security lending.
- Note 4 Describes the net pension liability, actuarial method and assumptions.
- Note 5 Explains the System's tax status.

Required Supplementary Information. This section consist of historical trend exhibits such as the Schedule of Changes in Net Pension Liability and Related Ratios, Schedule of Net Pension Liability, Schedule of Employer Contributions accompanied by the Notes to Schedule of Employer Contributions and Schedule of Money-Weighted Rate of Return. These schedules will be presented over 10 years as information becomes available. A Summary of Significant Changes to the Pension System is also included.

Other Supplementary Information. This section includes the Schedule of Administrative Expenses and the Schedule of Investment and Consultant Expenses. The Required Supplementary Information and Additional Supplementary notes are immediately following the Notes to the Financial Statements.

Financial Highlights

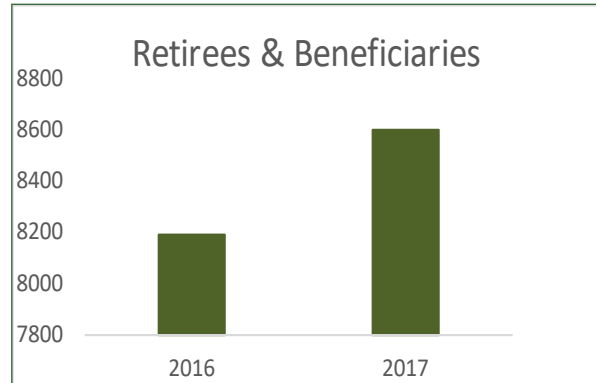
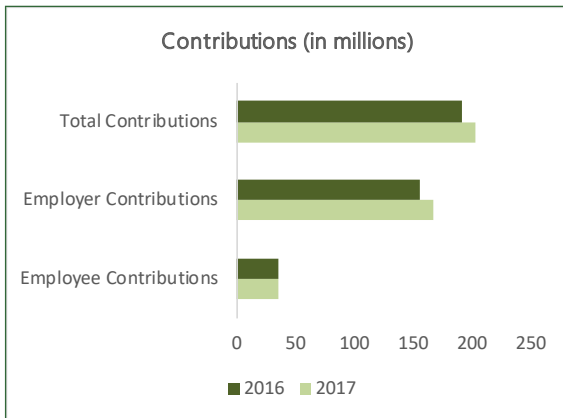
The net position restricted for pension benefits as of June 30, 2017, and June 30, 2016, were \$3,749.4 million and \$3,590.1 million, respectively. The net position representing assets available to pay for current and future member pension benefits, increased by \$159.3 million or 4.4 percent.

Total additions to net position increased by 156.9 percent from \$173.7 million in 2016 to \$446.3 million in 2017 primarily due to positive investment performance this year versus 2016.

Net investment income increased by nearly 1500 percent from -\$17.3 million in 2016 to 242.6 million in 2017. The net money-weighted rate of return on investments on a fair value basis was approximately 6.9 percent in fiscal year 2017, and has increased from -0.4 percent in fiscal year 2016.

Management’s Discussion and Analysis
(continued)

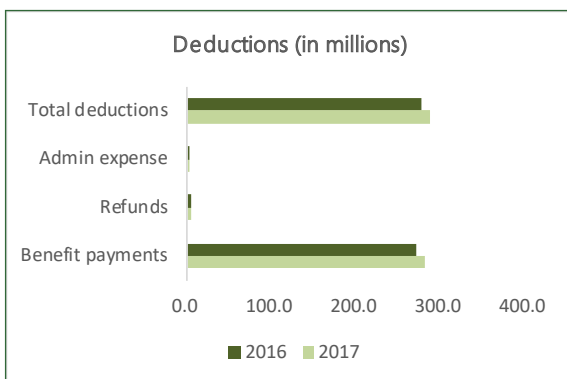
Employer and employee contributions received totaled \$202.8 million, an increase of 6.5 percent or \$12.4 million compared to 2016 received contributions of \$190.4 million. The total employer contributions increased from \$155.8 million in fiscal year 2016 to \$167.3 million in fiscal year 2017.



The net pension liability as calculated per GASB 67 as of June 30, 2017, and June 30, 2016, was \$1,618.3 million and \$1,526.3 million, respectively. The net position as a percentage of total pension liability as of June 30, 2017, and June 30, 2016, was 69.9 percent and 70.2 percent, respectively. The net pension liability as a percentage of covered payroll has increased from 215.5 percent in 2016 to 221.5 percent in fiscal year 2017. The covered employee payroll increased from \$708.4 million in 2016 to \$730.6 million in 2017.

Total deductions from fiduciary net position increased nearly \$10.0 million from \$277.0 million in 2016 to \$287.0 million in 2017. Member retirement benefit payments of \$281.3 million in 2017 make up the majority of total deduction and increased by \$10.5 million or 3.9 percent from \$270.8 million in 2016. The number of retired members and beneficiaries receiving a benefit payment increased 5.1 percent from 8,189 to 8,603 payees as of June 30, 2017.

	2017	2016
Net Pension Liability (in millions)	\$1,618.3	\$1,526.3
Net Pension as Percent of TPL	69.9%	70.2%
Covered Employee Payroll (in millions)	\$730.6	\$708.4
Net Pension Liability as Percentage of Covered Employee Payroll	221.5%	215.5%



Plan Net Position. When viewed over time, increases or decreases in plan net position can be used to measure the financial condition of a pension plan.

For fiscal year 2017, the net position of the Employees’ Retirement System increased 4.4 percent, resulting in a total net position value of \$3,749.4 million, reflecting an increase of \$159.3 million over fiscal year 2016.

Total assets as of June 30, 2017, were \$4,164.7 million, representing an increase of \$96.0 million, or 2.4 percent over the previous fiscal year. The main component of the increase was due to favorable market conditions that resulted in total cash and investment of \$3,717.2 million in fiscal year 2017 as compared to \$3,629.4 million in fiscal year 2016.

Management's Discussion and Analysis

(continued)

The table below details the Employees' Retirement System's net position for the current and prior fiscal year.

Summary Schedule of Plan Fiduciary Net Position				
	<u>2017</u>	<u>2016</u>	<u>Difference</u>	<u>Percentage of Change</u>
Assets				
Total cash and investments	\$3,717,230,068	\$3,629,372,588	\$87,857,480	2.4%
Cash collateral, securities lending	222,297,561	301,316,481	(\$79,018,920)	-26.2%
Capital assets, net	0	1,269	(1,269)	-100%
Total receivables	<u>225,135,926</u>	<u>138,028,693</u>	<u>87,107,233</u>	63.1%
Total assets	4,164,663,555	4,068,719,031	95,944,524	2.4%
Liabilities				
Purchase of investments	(183,752,985)	(169,419,443)	(14,333,542)	8.5%
Cash collateral, securities lending	(222,297,561)	(301,316,481)	79,018,920	-26.2%
Accounts payable and others	<u>(9,228,393)</u>	<u>(7,900,878)</u>	<u>(1,327,515)</u>	16.8%
Total liabilities	<u>(415,278,939)</u>	<u>(478,636,802)</u>	<u>63,357,863</u>	-13.2%
Net position restricted for pension	<u>\$3,749,384,616</u>	<u>\$3,590,082,229</u>	<u>\$159,302,387</u>	<u>4.4%</u>

Net Position for Current and Prior Fiscal Year			
Fiscal Year	Ending Balances (millions)	Net change in dollars (millions)	Net Change in Percent
2017	3,749.4	159.3	4.4%
2016	3,590.1	-103.3	-2.8%

Receivables increased by \$87.1 million or 63.1 percent due to the timing of investment for settled trades that occurred near year end.

Securities lending cash collateral decreased by \$79.0 million or -26.2 percent due to a decrease in activities in the securities lending program.

Total liabilities as of June 30, 2017, were \$415.3 million, representing a decrease of \$63.4 million, or -13.2 percent, over the previous year. The downturn in total liabilities is the result of a decreased level of securities lending activity resulting in a decrease in cash collateral received for securities on loan. Accrued liabilities has increased by 42.5 percent due to year end accrual for management fees.

The Plan's investments are exposed to various risks including interest rate, market and credit risks. These risks may be influenced by changes in economic conditions and market conditions. Therefore, it is reasonable to assume that there will be changes in the values of the investments held in trust which could materially affect the amounts reported in the financial statements. Detailed information on investment results are in the Investment Section of this report.

	2017	2016	Difference	Percent of Change
Accrued Liabilities	\$4,140,374	\$2,905,896	\$1,234,478	42.5%

Management's Discussion and Analysis

(continued)

Summary of Additions and Deductions

Additions	2017	2016	Difference	Percentage of Change
Employer contributions	\$167,311,608	155,780,373	\$11,531,235	7.4%
Plan Member contributions	35,476,023	34,627,061	848,962	2.5%
Net income from investments	242,629,189	(17,335,793)	259,964,982	1499.6%
Net income from securities lending	<u>866,988</u>	<u>667,506</u>	<u>199,482</u>	29.9%
Total Additions	446,283,808	173,739,147	272,544,661	156.9%
Deductions				
Benefit payments	281,258,687	270,800,630	10,458,057	3.9%
Refunds	3,671,886	4,101,311	(429,425)	-10.5%
Administrative expense	<u>2,050,848</u>	<u>2,112,595</u>	<u>(61,747)</u>	-2.9%
Total deductions	<u>286,981,421</u>	<u>277,014,536</u>	<u>9,966,885</u>	3.6%
Net increase/(decrease)	<u>\$159,302,387</u>	<u>(\$103,275,389)</u>	<u>\$262,577,776</u>	<u>254.3%</u>

Additions and Deductions. Total additions to the retirement fund consist of contributions from employers and active members and changes in the value of assets. Total additions increased by \$272.5 million or 156.9 percent in fiscal year 2017 attributed primarily due to \$260.0 million or nearly 1500 percent appreciation in the fair value of the investments. This is clearly a substantial growth compared to previous year's investment performance due to the favorable market environment in fiscal year 2017.

Total contributions for the fiscal year ended June 30, 2017, amounted to \$202.8 million. This was an increase of \$12.4 million when compared with the activity of fiscal year 2016. The employer contributions for fiscal year 2017 increased by 7.4 percent due primarily to an increase in the employer contribution rate from 21.99 percent to 22.90 percent of salary. Employee contributions increased by 2.5 percent, due to merit and 1.0 percent COLA increases.

The System experienced a nearly 30 percent increase in net income from securities lending as a result of an upturn in lending activities during the year. Investment returns were higher for fiscal year 2017 than 2016 reflecting favorable returns in the capital markets. Net investment income rose from -\$17.3 million in fiscal year 2016 to \$242.6 million in fiscal year 2017, which is consistent with the increase in the net money-weighted investment rate

of return from -0.4 percent for fiscal year 2016 to 6.9 percent for fiscal year 2017.

Total deductions of the System consist of the payments of benefits to retirees and beneficiaries, the refund of contributions to former members, and the cost of administering the System. The total deductions for fiscal year 2017 were \$287.0 million, an increase of \$10.0 million, or 3.6 percent, over fiscal year 2016. Regular pension benefit payments increased as the number of retirees and beneficiaries receiving benefit payments climbed to 8,603 from 8,189 in fiscal year 2016. Benefit payments also increased due to a cost-of-living increase of 1.0 percent and higher average benefits for new retirees. Refunds reflected a -10.5 percent decrease due to lower employee turnover and separation in the current fiscal year, less employees asking for refunds or lower balance of refunded amount.

Participant Count	2017	2016
Actives	13,986	14,171
DROP members	745	691
Terminated vesteds	2,207	1,858
Retirees in payment status	<u>8,603</u>	<u>8,189</u>
Total	<u>25,541</u>	<u>24,909</u>

Management's Discussion and Analysis

(continued)

An actuarial valuation is performed annually by Cheiron. The actuarial value of assets as of the last valuation on June 30, 2017, was \$3,930.9 million while actuarial liabilities as of the same period were \$5,367.7 million. As of June 30, 2017, the date of the most recent actuarial valuation, the funded ratio of the system was 73.2 percent. This was a decrease of 1.7 percent from the July 1, 2016, valuation funded ratio of 74.9 percent. The combination of liabilities, investment results, and member and employer contributions over the last year led the funding ratio to decrease. Under GASB 67 calculation, using the December 31, 2016, data rolled forward to June 30, 2017, the plan fiduciary net position as a percentage of the total pension liability was 69.9 percent. It decreased from 70.2 percent in fiscal year 2016 primarily as a result of lagging growth in the plan fiduciary net position. In addition, the Total Pension Liability as of June 30, 2017, and June 30, 2016, was \$5,367.7 million and \$5,116.4 million, respectively.

Investment Management Fees

Investment management fees appear to be higher than the prior year due to a reclassification of management fees associated with commingled funds. In an effort to provide a greater level of transparency, investment managers for commingled funds were requested to provide the management fees, rather than netting the management fees against investment activities. The fees have not suddenly and significantly increased. This reclassification did not affect the net investment performance.

Contacting the System's Financial Management

This financial report is designed to provide our membership, the Board of Trustees and the County's Board of Supervisors with a general overview of the System's financial condition. If you have any questions about this report or need additional information, contact the Fairfax County Retirement System, 112015 Lee Jackson Memorial Highway, Fairfax VA 22030. This report can also be found on the County's internet site at

www.fairfaxcounty.gov/retirement/

(Dollars in millions)	2017	2016
Actuarial Accrued Liability	\$5,367.7	\$5,116.4
Actuarial Value of Asset	<u>3,930.9</u>	<u>3,831.2</u>
Unfunded Actuarial Liability	<u>\$1,436.8</u>	<u>\$1,285.2</u>
Funding Ratio	73.2%	74.9%
Total Pension Liability	\$5,367.7	\$5,116.4
Plan Fiduciary Net Pension	<u>3,749.4</u>	<u>3,590.1</u>
Net Pension Liability	<u>\$1,618.3</u>	<u>\$1,526.3</u>
Funding Ratio	69.9%	70.2%

Basic Financial Statements

Statement of Fiduciary Net Position

As of June 30, 2017

Assets

Cash and short-term investments

Equity in County's pooled cash and temporary investments	\$6,438,347	
Cash collateral received for securities on loan	222,297,561	
Short-term investments	<u>263,674,511</u>	
Total cash and short-term investments		\$492,410,419

Receivables

Accounts receivable	8,530,817	
Accrued interest and dividends	12,333,378	
Investment proceeds and other receivables	<u>204,271,731</u>	
Total receivables		225,135,926

Investments, at fair value

Common and preferred stock	886,989,134	
Fixed income		
Asset-backed securities	136,013,943	
Corporate and other bonds	371,663,379	
U.S. Government obligations	128,353,539	
Pooled and mutual funds	<u>1,924,097,215</u>	
Total investments		3,447,117,210
Total assets		4,164,663,555

Current Liabilities

Investment purchases and other liabilities	183,752,985	
Cash collateral received for securities on loan	222,297,561	
Accounts payable and accrued expenses	9,018,456	
Compensated absences, short term	116,996	

Noncurrent Liabilities

Compensated absences, long term	<u>92,941</u>	
Total liabilities		<u>415,278,939</u>

Net position restricted for pension benefits**\$3,749,384,616**

See accompanying notes to financial statements.

Basic Financial Statements

(continued)

Statement of Changes in Fiduciary Net Position

For the Year Ended June 30, 2017

Additions

Contributions		
Employer	\$167,311,608	
Plan members	<u>35,476,023</u>	
Total contributions		\$202,787,631
Investment income		
Net appreciation in fair value of investments	223,451,035	
Interest and other investment income	28,319,741	
Dividends	<u>24,044,119</u>	
Total investment income	275,814,895	
Investment activity expense		
Management fees	(31,973,036)	
Custodial fees	(136,911)	
Consulting fees	(94,356)	
Allocated administration expense	<u>(981,403)</u>	
Total investment expense	<u>(33,185,706)</u>	
Net income from investment activities		242,629,189
Securities lending activities		
Securities lending income	2,399,133	
Securities lending expenses	<u>(1,532,145)</u>	
Net income from securities lending activities		<u>866,988</u>
Total net investment income		<u>243,496,177</u>
Total additions		446,283,808

Deductions

Annuity benefits	267,245,571	
Disability benefits	7,824,755	
Survivor benefits	6,188,361	
Refunds of employee contributions	3,671,886	
Administrative expense	<u>2,050,848</u>	
Total deductions		<u>286,981,421</u>
Net increase		159,302,387
Net position restricted for pension benefits		
Beginning of fiscal year		<u>3,590,082,229</u>
End of fiscal year		<u>\$3,749,384,616</u>

See accompanying notes to financial statements.

Notes to the Financial Statements

The Fairfax County Employees' Retirement System is a single employer defined benefit pension plan considered part of the County of Fairfax, Virginia's ("County") reporting entity and its financial statements are included in the County's basic financial statements as a pension trust fund.

Note 1. Summary of Significant Accounting Policies

A. Basis of Accounting.

The System's financial statements have been prepared under the accrual basis of accounting in accordance with accounting principles applicable to governmental units in the United States of America. Member and employer contributions to the System are recognized in the period in which the contributions are due pursuant to legal requirements. Benefits and refunds are recognized when due in accordance with the terms of the System. The cost of administering the System is paid by the System.

For financial reporting purposes, the System adheres to accounting principles generally accepted in the United States of America. The System applies all applicable pronouncements of the Governmental Accounting Standards Board (GASB).

B. Method Used to Value Investments.

Short-term investments are reported at cost, which approximates fair value. All other investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Asset-backed securities are valued on the basis of future principal and interest payments and are discounted at prevailing interest rates for similar instruments. Because of the inherent uncertainty in valuing these securities, the fair value may differ from the values that would have been used had a ready market for such securities existed. Accordingly, the realized value received upon the sale of the assets may differ from the fair value. The System records investment purchases and sales as of the trade date. These transactions are not finalized until the settlement date, which occurs approximately three business days after the trade date. The amounts of trade receivables and payables are shown as receivables and payables on the Statement of Fiduciary Net Position. Cash received as collateral on securities lending transactions and investments made with such cash are reported as assets along with a related liability for collateral received. The fair values of private investments and direct real estate are generally lagged by at least one quarter due to the timing of receipt of private market valuations and information.

C. Equity in County's Pooled Cash and Temporary Investments.

The System maintains cash with the County, which invests cash and allocates interest earned, net of a management fee, on a daily basis to the System based on the System's average daily balance of equity in pooled cash. As of June 30, 2017, the bank balance of the County's public deposits was either insured by the Federal Deposit Insurance Corporation or through the State Treasury Board pursuant to the provisions of the Security for Public Deposit Act. The County's investments are exposed to various risks such as interest rate risk, market and credit risks. Such risks, and the resulting investment security values, may be influenced by changes in economic conditions and market perceptions and expectations. Accordingly, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such change could materially affect the amounts reported in the financial statements.

D. Compensated Absences

Employees are granted vacation and sick leave based on their length of service. Unused annual and compensatory leave is payable to employees upon termination based on the employees' current rate of pay, up to certain limits. Sick leave does not vest with the employees; however, it is converted to years of service upon retirement. In addition, employees may accrue compensatory leave for hours worked in excess of their scheduled hours. Compensatory leave in excess of 240 hours is forfeited at the end of the calendar year.

Compensated Absences	
FY 2017 Beginning Balance	184,487
Leave Earned	137,946
Leave Used	112,496
FY 2017 Ending Balance	209,937
Due within one year	116,996

Notes to the Financial Statements

(continued)

Note 2. Summary of Plan Provision*A. Plan Description and Provision.*

The Employees' Retirement System is a single employer defined benefit pension plan which covers employees of the County and its component units. Benefit provisions are established and may be amended by County ordinance. All benefits vest at five years of service.

Membership.

The Plan covers full-time and certain part-time County, Public Schools, Economic Development Authority, Park Authority and Fairfax County Redevelopment and Housing Authority employees who are not covered by other plans of the County or the Virginia Retirement System.

The System consists of four plans, A, B, C and D, which have different employee contribution rates and slightly different benefits. Effective January 1, 2013, all new employees will be enrolled in either Plan C or D. The employee has the choice to enroll in either Plan within 30 days of employment. This choice is irrevocable. Employees who make no election are automatically enrolled in Plan C.

Benefit.

Plan A and C: The benefit is 1.8 percent of average final annual compensation (highest consecutive 78 pay periods) up to the Social Security Breakpoint times creditable service plus 2.0 percent of average final compensation which exceeds the Social Security Breakpoint times creditable service; and it is then increased by 3.0 percent. The Social Security Breakpoint is an average of Social Security wage bases for the last 35 years before a member reaches the age of eligibility for unreduced Social Security benefits.

Plan B and D: The benefit is 2.0 percent of average final annual compensation (highest consecutive 78 pay periods) times the creditable service; and it is then increased by 3.0 percent.

Plan A, B, C & D: In addition to the above, at the time of normal service retirement, a Pre-Social Security Benefit is payable at the rate of 1.0 percent of average final compensation up to the Social Security Breakpoint times creditable service; and it is then increased by 3.0 percent. This benefit will be payable until the member reaches the age of eligibility for unreduced Social Security benefits.

Benefit Limits: Benefits are limited to the maximum amounts for qualified plans as set forth in Section 415 of the Internal Revenue Code. A separate, nonqualified benefit restoration plan has been established for the payment of any benefit formula amounts in excess of the Section 415 limit.

Normal Retirement.

To be eligible for normal retirement, an individual must meet the following criteria: (a) attain the age of 65 with five years of service, (b) for Plan A and B, attain the age of 50 plus years of eligibility service being greater than or equal to 80, or (c) for Plan C and D, attain the age of 55 plus years of eligibility service being greater than or equal to 85. Normal retirement is calculated using average final compensation (i.e., the highest consecutive three years) and years, or partial years, of service at date of termination. The Plan provides that unused sick leave credit may be used in the calculation of average final compensation by projecting the final salary during the unused sick leave period (maximum of 2,080 hours of sick leave service credit for Plan C & D). Unused sick leave is also used to increase years of service for calculating benefits and determining retirement eligibility.

Early Retirement.

For all 4 plans, a member is eligible for early retirement at age 50 or older when the member's age plus creditable service totals 75 or more. Reduction factors are applied to the basic formula for early retirement based on how far from age 65 the member is at early retirement and no Pre-Social Security Benefit is payable.

Deferred Retirement Option Program (DROP).

Members who are eligible for normal retirement may participate in DROP for up to three years. While in DROP, the member continues to work and receive a salary. In lieu of continuing to earn service credit, DROP participants accumulate a lump sum, including interest, payable at retirement. For those in Plan C or D, the member does not receive the Pre-Social Security Benefit while in DROP.

Deferred Vested Retirement.

Deferred vested retirement is available for vested members (vesting is at 5 years of service) who leave their contributions in the System when they terminate. These members are entitled to their normal retirement benefit, at age 65, based on service with the County or a reduced benefit earlier when they reach age 50 and age plus years

Notes to the Financial Statements

(continued)

of creditable service equal 75. The member also has the option to request a refund of member contributions and interest at any time prior to reaching age 65 or receiving retirement benefits.

Service-Connected Disability Retirement.

Service-connected disability retirement is available for members, regardless of their length of service, who become disabled as a result of a job-related illness or injury. Benefits are 66.67 percent of average final compensation, less an offset for a workers' compensation award, less 15.0 percent of the initial award amount of a member's Social Security benefit.

Ordinary Disability Retirement.

Ordinary disability retirement is available for vested members who become disabled due to an injury or illness that is not job-related. Benefits are 2.0 percent of average final compensation (highest consecutive three years) times the creditable service. The total benefit is then increased by 3.0 percent.

Contribution Rates

Member	Plan A	The contribution rate for Plan A is 4.0% of creditable compensation up to the Social Security taxable wage base, plus 5.33% of creditable compensation
	Plan B	The contribution rate for Plan B is 5.33% of creditable compensation
	Plan C	The contribution rate for Plan A is 4.0% of creditable compensation up to the Social Security taxable wage base, plus 5.33% of creditable compensation
	Plan D	The contribution rate for plan D is 5.33% of creditable compensation
Employer	Plan A, B, C, and D	The contribution rate for all four plans for Fiscal Year 2017 was 22.9%

Death Benefits.

If death occurs prior to retirement: If the member is vested and the spouse is the listed beneficiary, the spouse may elect to receive 50.0 percent of the normal retirement benefit earned as of the date of the member's death. If the 50.0 percent of normal retirement benefit is not payable, a refund of the member's contribution plus interest will be paid to the named beneficiary or member's estate.

If death occurs after retirement: A refund of any of the member's contributions and interest not already paid in benefits will be payable to the named beneficiary(ies) unless the member has elected the irrevocable Joint and Last Survivor Option which provides a benefit to the member's spouse for life. At retirement, the member may choose to have his or her spouse receive 50.0 percent, 66.67 percent, 75.0 percent or 100.0 percent of the member's reduced annuity upon the member's death. The member's annuity is reduced by a percentage based on the difference in age between the member and his or her spouse. If the spouse pre-deceases the member, the annuity is restored to what it would have been if this option had not been elected.

If death occurs because of a job-related illness or injury: A \$10,000 lump-sum payment is made to the beneficiary if the member's death is due to a job-related illness or injury.

Cost of Living Benefit.

Annual cost of living adjustments are provided to retirees and beneficiaries equal to the lesser of 4.0 percent or the percentage increase in the Consumer Price Index for the Metropolitan Statistical Area that includes Fairfax County.

Note: Detailed provisions may be found in the Retirement Handbook for Active Employees.

Notes to the Financial Statements

(continued)

B. Board of Trustees.

Ten members serve on the Fairfax County Employees' Retirement System. Four of the members are citizens appointed by the Fairfax County Board of Supervisors. Three of the members are elected by Fairfax County Government Employees, Fairfax County Public Schools Employees, and Fairfax County Retirees respectively. The Director of Human Resources, the Director of Finance, and the Assistant Superintendent of Human Resources at the Fairfax County Public Schools also serve as Ex Officio members.

C. Membership.

At June 30, 2017, the date of the latest actuarial valuation, membership in the System consisted of:

Retirees and beneficiaries receiving benefits	8,603
Terminated Plan members entitled to but not yet receiving benefits	2,207
Deferred Retirement Option Program (DROP) participants	745
Active plan members	<u>13,986</u>
Total	<u>25,541</u>

D. Deferred Retirement Option Program.

Members eligible for normal retirement may elect to enter the DROP. As a DROP member, he or she will continue to work and receive a salary for a maximum period of three years while an amount equal to what could have been received as a retirement benefit is credited to his or her DROP account. (No pre-Social Security Supplements are paid into DROP accounts for Plans C & D). The monthly benefit that will be credited to the DROP account is determined by the years of service and Average Final Compensation at the DROP entry date. During the DROP period, the retirement plan accumulates his or her accrued monthly benefit which is payable at the end of the DROP period. The DROP account balance is credited at an annual interest rate of 5 percent, compounded monthly. At the end of the DROP period, the DROP member must terminate employment with the Fairfax County Government and will begin receiving his or her monthly retirement benefit. Upon DROP exit, the retiree can elect to receive the balance of the DROP account in the form of a lump sum distribution, a rollover to another qualified plan (or IRA), or as an addition to the monthly retirement annuity. The DROP balance as of June 30, 2017, was \$55.9 million.

E. Contributions.

The contribution requirements of the System members are established and may be amended by County ordinances. Employees hired prior to January 1, 2013 are members of Plan A or Plan B. All eligible employees whose County or school board employment commenced by reporting to work on or after January 1, 2013, may elect to join Plan C or Plan D. Plan A and C require member contributions of 4 percent of compensation up to the social security wage base and 5.33 percent of compensation in excess of the wage base. Plan B and D require member contributions of 5.33 percent of compensation. The County is required to contribute at an actuarially determined rate. The decision was made to commit additional funding and a rate of 22.90 percent was adopted for fiscal year 2017. Total contributions for the fiscal year ended June 30, 2016, amounted to \$202.8 million.

F. Deductions.

The deductions from the System included the payment of retiree and beneficiary payments, the refund of employee contributions to former members and administrative expenses. The total deductions for the fiscal year ended June 30, 2017, amounted to \$287.0 million.

Note 3. Investments

A. Investment Policy.

The authority to establish the System is set forth in Section 51.1-800 Code of Virginia (Code). Section 51.1-803 of the Code authorizes fiduciaries of the System to *purchase investments with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with the same aims. The Board shall also diversify such investments as to minimize the risk of large losses unless under the circumstances it is clearly prudent not to do so.*

The System's Board of Trustees has adopted the Employees' Retirement System Investment Policy Statement to provide a well-managed investment program to meet the long-term needs of the System. The Board of Trustees has the authority to amend the investment policy. Investment decisions for these assets are made by the Board of Trustees or investment managers selected by the Board. The overall investment policy

Notes to the Financial Statements

(continued)

does not address specific levels of credit risk, interest rate risk or foreign currency risk. The Board of Trustees believes that risks can be managed, but not eliminated, by establishing constraints on the investment portfolio and by properly monitoring the investment markets, the System's asset allocation and the investment managers hired by the System. Each individual investment portfolio is managed by an investment management firm selected by the Board. Each investment manager has a specific benchmark and investment guidelines appropriate for the type of mandate they are managing and that fit within the total risk tolerance of the fund.

The following was the System's adopted asset allocation policy as of June 30, 2017. Our asset allocation policy commonly exceeds 100 percent because we monitor the target exposures to both direct investments in asset classes plus notional exposure to asset classes through derivative positions such as Futures held at the portfolio level. We also commonly include notional exposures for select Investment Managers that have a mandate from the Board to provide the System with additional asset class exposure using leverage or derivatives.

<u>Asset Class</u>	<u>Target Exposure</u>
Global Equity	30.0%
Global Fixed Income	42.5%
Diversified Multi Asset	15.0%
Absolute Return	20.0%
Real Assets	12.5%

B. Concentrations.

The investment policy states that the securities of any one issuer shall not exceed 10.0 percent at fair value. At June 30, 2017, the System did not have investments (other than U.S. Government and U.S. Government guaranteed obligations) in any one issuer that represents 5.0 percent or more of net position available for benefits. All investments, except for the pooled and mutual funds, short-term investment fund and a short-term collateral investment pool are held by an unaffiliated custodian. There is no custodial credit risk since the custodian's records establish the System's interest in the securities.

The System's fixed income portfolio shall be, on average, comprised of high-quality issues and limits are imposed on investment manager's below-investment-grade holdings. Unless otherwise specified, if any security has a split rating, the higher of the two ratings is used for the purposes of meeting minimum quality standards.

C. Rate of Return.

For the year ended June 30, 2017, the annual money-weighted rate of return on pension plan investment, net of pension plan investment expense, was 6.9 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

D. Fair Value Hierarchy.

The System measures and records its investments using fair value hierarchy measurement guidelines established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest level to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest level to unobservable inputs (Level 3 measurements).

- Level 1** Unadjusted quoted prices for identical instruments in active markets.
- Level 2** Observable inputs other than quoted market prices; and,
- Level 3** Valuation derived from valuation techniques in which significant inputs are unobservable.

Notes to the Financial Statements

(continued)

	6/30/2017	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobsev- able Inputs Level 3
Investments by Fair Value Level				
Asset-backed securities	\$136,013,943	\$ -	\$136,013,943	\$ -
Equity	878,190,159	878,190,143	-	16
Corporate and other bonds	362,967,758	5,886,277	354,995,300	2,086,181
Natural resources	6,828,855	-	-	6,828,855
Preferred securities	1,970,119	1,969,037	-	1,082
Real estate	8,695,621	8,695,621	-	-
Short-term investments	258,801,977	-	74,376,656	184,425,321
US Government obligations	<u>128,353,539</u>		<u>128,353,539</u>	
Total investment by fair value level	<u>\$1,781,821,971</u>	<u>\$894,741,078</u>	<u>\$693,739,438</u>	<u>\$193,341,455</u>
Investment measured at the net asset value (NAV)				
Absolute returns	\$707,607,643			
Diversified multi-asset	372,498,064			
Global equity	368,734,570			
Global fixed income	386,377,691			
Real estate and commodity	<u>88,879,247</u>			
Total investments measured at the NAV	<u>1,924,097,215</u>			
Total investments measured at fair value	<u>3,705,919,186</u>			

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The table above shows the fair value leveling of the investments.

Equities and fixed income securities classified in Level 1 are valued using prices quoted in the active markets for those securities. Securities in Level 2 and Level 3 are valued using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities' relationships to benchmark quoted prices. Level 3 securities use proprietary information or single source pricing.

Notes to the Financial Statements

(continued)

Investment Measured at NAV

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Absolute returns	\$707,607,643	\$ -	Monthly, Quarterly	5 - 90 days
Diversified multi-asset	372,498,064	-	Monthly, Quarterly	3 - 30 days
Global equity	368,734,570	37,313,298	Monthly	5 days
Global fixed income	386,377,691	91,118,556	None, Semi-annually	N/A, 90 days
Real estate and commodity	<u>88,879,247</u>	<u>1,628,086</u>	None, Daily	N/A, 20 days
Total investment measured at the NAV	<u>\$1,924,097,215</u>	<u>\$130,059,940</u>		

Absolute Return:

Relative Value: This type includes five hedge funds which implement long and short relative value strategies to capture these structural returns across multiple asset classes including: equity sectors, equity indices, fixed income, currency, and commodities. The fair values of each of these hedge funds has been determined monthly using the NAV per share of the investments.

Global Macro: This type includes five hedge funds that invest long/short across fixed income, currency, equity and commodity markets. The process is equally driven by analysis of the macro environment, flows of capital, the expected reaction to changes in interest rates, trend following and other drivers. This type also includes a macro event fund focused on identifying specific currency dislocations and their macro implications. The fair values of the investments in this type have been determined monthly using NAV per share (or its equivalent) of the investments.

Diversified Multi-Asset:

This type includes three funds that invests across asset classes using a risk balanced approach in their asset allocation of the Funds with the intent to balance risk across all four combinations of Rising and Falling Growth and Inflation. The main goal is to construct a portfolio that achieves the best risk adjusted return at a given expected level of volatility which varies by fund. This is achieved through the use of derivatives and liquid long positions across multiple asset classes. The fair values of the investments in this type have been determined monthly using NAV per share (or its equivalent) of the investments.

Global Equity:

Domestic Equity: This type includes a fund that uses derivative instruments to replace long equity exposure.

International Equity: This type includes three funds providing traditional long-only international equity exposure. The fair values of the investments in this type have been determined monthly using NAV per share (or its equivalent) of the investments.

Private Equity: This fund purchases private equity stakes in investment management firms and thus a share of the firm's revenues and capital appreciation.

Global Fixed Income:

Fixed Income: This type includes two funds providing leveraged exposure to US and international government issued inflation-linked bonds as a capital efficient way to gain the exposure. This type also includes a traditional long-only emerging market debt fund. The fair values of the investments in this type have been determined monthly using NAV per share (or its equivalent) of the investments.

Direct Lending: This type includes three private debt funds conducting middle market corporate and commercial mortgage direct lending with negotiated senior secured loans to borrowers that are too small to attract the attention of conventional banks and lenders. These investments cannot be redeemed. Instead, the nature of the investments in these private debt funds are that distributions are received through the liquidation of underlying assets of the funds over a period of years as per the terms of the fund. Loan payments are also distributed on a monthly or quarterly basis. The loans are held at book value unless a payment default has occurred at which time a third-party appraisal value is determined.

Opportunistic Credit: This type includes five opportunistic/distressed funds investing in public and private debt, equity and real estate as opportunities present themselves. These investments cannot be redeemed. Instead, the nature of the investments

Notes to the Financial Statements

(continued)

in these private debt funds are that distributions are received through the liquidation of underlying assets of the funds over a period of years as per the terms of the fund. The fair values of the investments in this type have been determined monthly or quarterly using NAV per share (or its equivalent) of the investments.

Real Assets:

This type includes two funds. The first fund owns and operates a fleet of commercial container and tanker vessels. These investments cannot be redeemed. Instead, the nature of the investments in these private debt funds

are that distributions are received through the liquidation of underlying assets of the funds over a period of years as per the terms of the fund. The fair values of the investments in this type have been determined quarterly using NAV per share (or its equivalent) of the investments. The second fund focuses on publicly traded REITs, listed infrastructure, commodities, MLPs, natural resource equities (including timber and agriculture), precious metals, TIPS, and floating rate/bank loans. The strategy will set long term strategic allocations to those asset classes with broad ranges and the portfolio will be tactically reviewed on a quarterly basis.

E. Quality Ratings.

The System's investment quality ratings at June 30, 2017, for the separately managed fixed income accounts, were as follows:

Type of Investment	Fair Value	Ratings	Percent of Fixed
US Government obligations	\$128,353,539		20.2%
Asset-backed Securities	928,064	AAA	0.2%
	29,038,066	AA	4.6%
	298,871	A	0.1%
	3,866,292	BBB	0.6%
	1,546,682	BB	0.3%
	5,496,340	B	0.9%
	14,256,519	CCC	2.2%
	742,564	CC	0.1%
	21,172,797	D	3.3%
	58,667,748	Unrated	9.2%
Corporate and Other Bonds	8,867,690	AAA	1.4%
	19,364,942	AA	3.0%
	41,555,111	A	6.5%
	31,482,892	BBB	4.9%
	91,339,572	BB	14.4%
	105,442,045	B	16.6%
	22,522,638	CCC	3.5%
	5,638,125	D	0.9%
<u>45,450,364</u>	Unrated	<u>7.1%</u>	
Total fixed income	<u>\$636,030,861</u>		100.0%
Short-term investments			
Cash and cash equivalents	\$56,527,658	Unrated	
Employees' STIF*	184,425,321	Unrated	
US Treasury bills	<u>22,721,532</u>	AA	
Total short-term investments	<u>\$263,674,511</u>		

As of June 30, 2017, the fixed income portfolio, excluding pooled funds, consisted of 41.5 percent invested in investment grade securities, 42.2 percent invested in below-investment-grade securities and 16.3 percent invested in unrated securities.

The Barclays Capital Aggregate Bond Index (BCAG) is the standard benchmark against which the industry and the System's Board measures its fixed income portfolio performance and volatility. The System's fixed income managers have discretion, within circumscribed limits, to extend the duration of their portfolios beyond that of the BCAG if they forecast falling interest rates (and thus higher bond prices). Conversely, if managers anticipate that the general level of interest rates will rise, they have the ability to shorten the duration of their portfolio, thus reducing the portfolio's sensitivity to rising rates.

*Short-term investment funds

Notes to the Financial Statements

(continued)

F. Sensitivity to Interest Rate Risk.

Investment Type	Fair Value	Option Adjusted Duration (yrs)	Percentage of Fixed
US Government obligations	\$128,353,539	16.2	20.2%
Corporate and other bonds	371,663,379	4.2	58.4%
Asset-backed securities	<u>136,013,943</u>	<u>3.7</u>	<u>21.4%</u>
Total fixed income	<u>\$636,030,861</u>	<u>6.5</u>	<u>100%</u>
Short-term investments			
Cash and cash equivalents	\$56,527,658	0.0	
Employees' STIF*	184,425,321	0.1	
US Treasury bills	<u>22,721,532</u>	0.3	
Total short-term investments	<u>\$263,674,511</u>		
*short-term investment funds			

The duration of the System's overall fixed income portfolio excluding pooled fund was 6.5 years for the separately managed fixed income accounts compared with the 6.0 years duration of the BCAG.

G. Short-term Investment.

The Short-Term Investments of \$263.7 million includes a position of \$184.4 million of commingled cash held by our investment managers and cash held by the system in an enhanced short term investment fund managed by our custodian.

H. Foreign Currency Risk.

The Foreign Currency Risk is the risk that changes in exchange rates will adversely affect the fair value of the investment. The System's investments at June 30, 2017, held in currencies other than U.S. dollars, were as follows:

International Securities	Short-Term & Other Investments	Convertible & Fixed Income	Equity	Total
Australian Dollar	\$606,787	\$7,518,520	\$17,014,247	\$25,139,554
Brazil Real	5	6,884,969	6,842,135	13,727,109
Canadian Dollar	604,985	(944,535)	8,713,732	8,374,182
Danish Krone	9,866	292,210	9,410,082	9,712,158
Euro Currency Unit	24,681	8,026,131	83,572,958	91,623,770
Hong Kong Dollar	1	-	23,725,090	23,725,091
Hungarian Forint	1,162	-	-	1,162
Indonesian Rupiah	-	6,879,122	1,140,081	8,019,203
Israeli Shekel	-	-	150,173	150,173
Japanese Yen	414,592	-	74,215,393	74,629,985
Malaysian Ringgit	-	8,082,556	-	8,082,556
Mexican Peso	18,236	21,865,014	2,816,547	24,699,797
New Zealand Dollar	601	779,358	-	779,959
Norwegian Krone	-	-	3,758,113	3,758,113
Polish Zloty	1	9,605,707	1,662,052	11,267,760
Pound Sterling	572,792	488,618	38,111,012	39,172,422
Singapore Dollar	2,838	969,372	2,369,353	3,341,563
South African Rand	26	7,224,278	-	7,224,304
South Korean Won	-	-	8,306,401	8,306,401
Swedish Krona	(20,958)	-	7,947,284	7,926,326
Swiss Franc	1	-	11,432,698	11,432,699
Thailand Baht	-	-	4,571,543	4,571,543
Turkish Lira	<u>1</u>	<u>426,582</u>	<u>276,354</u>	<u>702,937</u>
	<u>\$2,235,616</u>	<u>\$78,097,902</u>	<u>\$306,035,248</u>	<u>\$386,368,766</u>

Notes to the Financial Statements

(continued)

I. Derivative Financial Instruments.

In accordance with the Board's investment policies, the System regularly invests in derivative financial instruments in the normal course of its investing activities to enhance return on investment and manage exposure to certain risks within the System. The System also enters into derivative transactions to gain exposure to currencies and markets where derivatives are the most cost-effective instrument. Derivative instruments are financial contracts whose values depend on the values of one or more underlying assets, reference rates or financial indices. During fiscal year 2017, the System had exposure to various derivatives including asset-backed securities, collateralized mortgage obligations, exchange-traded futures contracts, forward currency contracts, options, swaps, and floating rate securities. Some securities, such as structured notes, can have derivative-like characteristics where the return may be linked to one or more indexes. Asset-backed securities, such as collateralized mortgage obligations (CMOs), are sensitive to changes in interest rates and pre-payments. It should also be noted that the System also has exposure to derivatives indirectly through its ownership interests in certain hedge funds, mutual funds and commingled funds which may use, hold, or write derivative financial instruments.

Derivative investments may involve, to varying degrees, elements of credit and market risk in excess of amounts recognized on the financial statements. Market risk results from fluctuations in interest rates and currency rates. The credit risk of these investments is associated with the creditworthiness of the related parties to the contracts. The System could be exposed to risk if the counterparties to the contracts are unable to meet the terms of the contracts. Holders of futures contracts look to the exchange for performance under the contract and not to the other party holding the offsetting futures position. Accordingly, the amount at risk due to nonperformance of counterparties to futures contracts is minimal. For counterparties involving over the counter derivatives, the Board seeks to control this risk through counterparty credit evaluations, counterparty credit limits, and exposure monitoring procedures conducted by investment managers and staff.

At June 30, 2017, the System held the following four types of derivative financial instruments: futures, currency forwards, options and swaps. Futures, currency forwards, options, and swaps contracts provide the System with the opportunity to build passive benchmark positions, enhance returns, and gain market exposure to various indices in a more efficient way and at lower transaction costs. Credit risks depend on whether the contracts are exchange-traded or exercised over-the-counter. Market risks arise from adverse changes in market prices, interest rates, and foreign exchange rates.

Investment managers are prohibited from purchasing securities on margin or using leverage unless specifically permitted within the investment manager's guidelines. Derivative instruments covered under the scope of GASB 53 are reported at fair value. The changes in fair value of derivative instruments that are used for investment purposes is reported within the investment revenue classification. Gains and losses on derivative securities are determined based upon fair values as determined by our custodian and recorded in the Statement of Changes in Fiduciary Net Position.

Futures.

Futures contracts are contracts to deliver or receive securities at a specified future date and at a specified price or yield. Futures contracts are traded on organized exchanges (exchange-traded) and typically require an initial margin (collateral) in the form of cash or marketable securities. The net change in the futures contract value is settled daily, in cash, with the exchanges. The net gains or losses resulting from the daily settlements are included in the System's financial statements. Holders of futures contracts look to the exchange for performance under the contract and not to the entity holding the offsetting futures position. Accordingly, the amount at risk posed by nonperformance of counterparties to futures contracts is minimal.

Notes to the Financial Statements

(continued)

The notional value of the System's investment in futures contracts at June 30, 2017, was as follows:

Types of Futures	Base Exposure	Notional Cost
Cash and cash equivalents		
Short	(\$240,585,483)	(\$239,830,664)
Commodity		
Long	132,023,020	133,006,775
Short	(39,842,744)	(40,771,388)
Equity		
Long	222,709,200	223,851,669
Short	(63,396,080)	(63,254,625)
Fixed income securities		
Long	483,280,711	483,432,171
Short	(67,007,119)	(67,701,006)
Other		
Long	619,500	618,450
Total	<u>\$427,801,005</u>	<u>\$429,351,382</u>

Swaps.

The System enters into several types of swap contracts, in which two counterparties agree to exchange one stream of payments for another over some agreed to period of time. Swaps are used to manage risk and enhance returns. All counterparties are rated A or better. The System's swap contracts outstanding at June 30, 2017, were as follows:

	Base Exposure	Fair Value
Equity Swaps		
Total Return Swaps	\$0	\$1,252,768
Fixed Income Securities Swaps		
Cleared Interest Rate Swaps	1,709,097	3,547,999
Cleared Credit Default Swaps	404,701	413,669
Cleared Inflation Swaps	60,451	91,475
Credit Default Swaps	(258)	(258)
Inflation Swaps	(2,421)	(2,421)
Interest Rate Swaps	18,160	192,283
Total Return Swaps	0	221,470
Total	<u>\$2,189,730</u>	<u>\$5,716,985</u>

Notes to the Financial Statements

(continued)

Currency Forwards.

Currency forwards represent foreign exchange contracts. It is used to effect settlements and to protect the base currency value of portfolio assets denominated in foreign currencies against fluctuations in the exchange rates of those currencies, or to gain exposure to the change in fair value of a specific currency. A forward foreign currency exchange contract is a commitment to purchase or sell a foreign currency at a future date and at a negotiated price. The credit risk of currency contracts that are exchange-traded lies with the clearinghouse of

the exchange where the contracts are traded. The credit risk of currency contracts traded over-the counter lies with the counterparty, and exposure usually is equal to the unrealized profit on in-the money contracts. All counterparties are rated A or better. The market risk in foreign currency contracts is related to adverse movements in currency exchange rates. The following is the summary information on the System's currency forward contracts at June 30, 2017:

Foreign Currency Contracts Purchased	Notional (local currency)	Fair Value Payable in U.S.Dollars	Unrealized Gain/(loss)
Danish Krone	(\$1,938,000)	(\$298,005)	(\$1,826)
Euro Currency Unit	(36,283,067)	(41,475,170)	(1,312,132)
Japanese Yen	(1,941,498,000)	(17,302,954)	207,032
Mexican Peso	(6,260,000)	(337,671)	(33,255)
New Zealand Dollar	(92,000)	(67,361)	(2,319)
Pound Sterling	(455,000)	(591,351)	(6,578)
South Korean Won	(6,710,000,000)	(5,866,754)	120,041
New Taiwan Dollar	(424,700,000)	<u>(13,961,010)</u>	<u>119,155</u>
		(79,900,276)	(909,882)
Foreign Currency Contracts Sold	Notional (local currency)	Fair Value Receivable in U.S. Dollars	Unrealized Gain/(loss)
Australian Dollar	\$4,940,000	\$3,787,136	\$140,055
Canadian Dollar	6,180,000	4,761,538	84,892
Euro Currency Unit	475,000	541,789	1,477
Indian Rupee	454,000,000	6,962,977	6,615
Japanese Yen	69,008,754	614,202	(1,272)
Mexican Peso	6,971,755	378,175	21,497
Norwegian Krone	88,100,000	10,523,490	266,686
Pound Sterling	18,182,000	23,669,887	153,459
Swedish Krona	84,100,000	<u>9,994,877</u>	<u>420,691</u>
		\$61,234,071	<u>\$1,094,100</u>
Net Unrealized Gain on Foreign Currency Spot and Forward Contracts			<u>\$184,218</u>

Notes to the Financial Statements

(continued)

Options.

Option contracts may be exchanged traded or negotiated directly in over the counter transaction between two counterparties. Options holders have the right, but not the obligation, to purchase (call) or sell (put) a financial instrument at a future price and time. The System can both purchase and write options.

counter options are rated A or better. The following table provides information on the System's option contracts at June 30, 2017:

Exchange traded options rely on the exchange for performance and the risk to non-performance of counterparties is minimal. All counterparties for over the

Option Types	Position	Call/Put	Cost	Fair Value	Total Unrealized Gain (loss)
Commodity					
	Purchased	Call	\$153,275	\$118,104	(\$35,171)
		Put	17,190	20,979	3,789
	Written	Call	(192,909)	(172,492)	20,417
		Put	(90,804)	(110,392)	(19,588)
Equity					
	Written	Call	(40,775)	(8,984)	31,791
		Put	(1,290)	(5)	1,285
Fixed Income					
	Purchased	Call	40,070	46,151	6,081
		Put	40,070	40,070	-
	Written	Call	(13,684)	(2,728)	10,956
		Put	(10,865)	(2,294)	8,571
Other					
	Purchased	Call	5,050	260	(4,790)
	Written	Call	(10,020)	(10,020)	-
		Put	(12,180)	(12,180)	_____
Total Options			<u>(\$116,872)</u>	<u>(\$93,531)</u>	<u>\$23,341</u>

Notes to the Financial Statements

(continued)

J. Securities Lending.

Board of Trustee policies permit the System to lend its securities to broker-dealers and other entities (borrowers) for collateral that will be returned for the same securities in the future. The System's custodian is the agent in lending the plan's domestic securities for collateral of 102.0 percent and international securities of 105.0 percent of fair value. The custodian receives cash or securities as collateral from the borrower. All securities loans can be terminated on demand by either the System or the borrower. Securities received as collateral are not reported as assets and liabilities on the balance sheet since the Retirement Administration Agency does not have the ability to pledge or sell the collateral securities absent borrower default.

The System did not impose any restrictions during fiscal year 2017 on the amounts of loans the lending agent made on its behalf. At June 30, 2017, the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers exceeded the amounts the borrowers owed the System. The custodian provides full indemnification to the System for any losses that might occur in the program due to the failure of a broker/dealer to return a borrowed security or failure to pay the System income earned on the securities while on loan. Cash collateral is invested in a separate account with the lending agent which includes a larger allocation to equity repurchase securities. At June 30, 2017, cash collateral had a weighted-average maturity of one day. The maturities of the resulting investments generally match the maturities of the securities lending arrangements. While the System bears no credit risk from the failure of the borrower to return a borrowed security, it does bear risk from investing the collateral.

The following represents the balances relating to the securities lending transactions at June 30, 2017:

Securities Lent	Underlying Securities	Cash Collateral Investment Value	Securities Collateral Investment Value
Lent for Cash Collateral			
US Government securities	\$24,534,470	\$25,038,499	
Corporate and other bonds	73,694,780	75,509,881	
Common and preferred stock	118,951,981	121,749,181	
Lent for Securities Collateral			
US Government securities	29,372,676		\$31,734,464
Corporate and other bonds	1,174,730		1,198,357
Common and Preferred Stock	<u>103,783,491</u>		<u>112,382,886</u>
Total Securities Lent	<u>\$351,512,128</u>	<u>\$222,297,561</u>	<u>145,315,707</u>

K. Reclassifications.

During the second quarter, the System requested that investment managers for commingled funds provide the management fees associated with commingled funds. Previously, such management fees had been netted against investment income. Accordingly, the System revised the classification to report these management

fees as an investment activity expense on the Statement of Changes in Fiduciary Net Position, rather than netting the management fees against investment income. This change in classification has no effect on the financial statements for any period.

Notes to the Financial Statements

(continued)

Note 4. Net Pension Liability, Actuarial Method and Assumptions*A. Net Pension Liability.*

The components of the net pension liability at June 30, 2017, were as follows:

Total pension liability	\$5,367,731,521
Plan fiduciary net position	<u>3,749,384,616</u>
Net pension liability	<u>\$1,618,346,905</u>
Plan fiduciary net position as a percentage of the total pension liability	69.9%

B. Actuarial Methods and Assumptions.

The Total Pension Liability was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement.

Discount rate, net of plan investment expenses	7.25%
Inflation	2.75%
Salary increase, including inflation	2.75% + merit
Investment rate of return, net of plan investment expenses	7.25%
Municipal bond rate	N/A
Projected period of unfunded benefit payments	None

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based on the most recent review of the System's experience presented at a Board meeting on April 20, 2016.

The rate of employer contributions to the System is composed of normal cost, amortization of the unfunded actuarial accrued liability and an allowance for administrative expenses. The normal cost is a level percent of payroll cost which, along with the member

contributions, will pay for projected benefits at retirement for each plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future normal employer costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability. The allowance for administrative costs is based upon the System's actual administrative expenses.

The County is required to contribute at an actuarially determined rate; the rate for the year ended June 30, 2017, was 18.23 percent of annual covered payroll. The decision was made to commit additional funding and a rate of 22.90 percent was adopted for fiscal year 2017. Since the ERS's adjusted funded ratio (the ratio of the sum of the actuarial value of assets and commitments already made to fund changes to the actuarial accrued liability) has fallen below 90.0 percent, the contribution rate includes a margin to amortize this shortfall back to the 90.0 percent level. In fiscal year 2011 the target was increased to a 91.0 percent level, with the 2015 fiscal year contribution it was increased to 93.0 percent, and with the 2016 fiscal year contribution it was increased to 95.0 percent, and with the 2017 fiscal year contribution it was increased again to 97.0 percent. The intent of the County is to continue increasing the amortization target until full actuarial funding has been restored. The goal is to reach an amortization to 100 percent in contributions at or before fiscal year 2020.

Mortality rates with adjustments for mortality improvements were based on 110% and 100% of the RP-2014 Healthy Annuitant Mortality Table for males and females respectively, projected using the RPEC-2015 model, with an ultimate rate of 0.65% for ages 20-85 grading down to an ultimate rate of 0% for ages 115-120 and convergence to the ultimate rate in the year 2015. Five percent of deaths are assumed to be service-connected.

The actuarial assumptions used in the June 30, 2017, valuation were based on the results of an actuarial experience study for the period July 1, 2010 to June 30, 2015.

Notes to the Financial Statements

(continued)

C. Long Term Expected Rate of Return.

The long term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic excess rates of return (over cash) for each major asset class included in the System's target asset allocation as of June 30, 2017, are summarized below:

Asset Class	Long Term Expected Real Rate of Return
U.S. Equities	4.65%
International Equities	4.50%
Core Fixed Income	2.00%
High Yield	4.25%
Real Assets	4.65%
Commodity	4.65%
Risk Parity	6.00%
Absolute Return	7.00%

D. Discount Rate.

The discount rate used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that County contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. 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.

In making this determination, we assumed the outflows would equal the anticipated benefit payments from the 2016 actuarial valuation. The administrative expenses attributable to current actives were assumed to equal 0.25 percent of covered payroll. The inflows to the plan were assumed to continue at the average aggregate rate for the 2016 active population of 4.76 percent of payroll and County contributions were projected at 22.90 percent for fiscal year 2017, 25.29 percent for fiscal year 2018, with continued increases to 28.14 percent to be contributed until 2033. After that time the County contribution was assumed to drop to the normal cost plus expenses (8.22 percent) since the unfunded actuarial liability is expected to be fully funded by that time.

E. Sensitivity of the Net Pension Liability to Changes in the Discount Rate.

The following presents the net pension liability of the County, calculated using the discount rate of 7.25 percent, as well as what the County's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25 percent) or 1-percentage-point higher (8.25 percent) than the current rate.

Sensitivity of Net Pension Liability			
	1% Decrease	Discount Rate	1% Increase
	6.25%	7.25%	8.25%
Net Pension Liability	\$2,265,475,000	\$1,618,346,905	\$1,076,339,503
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	62.3%	69.9%	77.7%

Note 5. Income Taxes

The Internal Revenue Service issued the System a determination letter which stated that the System and its underlying trust qualify under the applicable provisions of the Internal Revenue Code and therefore are exempt from federal income taxes.

Required Supplementary Information (Unaudited)

Schedule of Changes in the Net Pension Liability and Related Ratios				
Year Ended June 30				
	2017	2016	2015	2014
Total Pension Liability				
Service cost	\$93,128,267	\$85,498,714	\$84,153,689	\$84,074,831
Interest	367,586,251	361,073,638	353,621,871	340,919,519
Changes in benefit terms	582,418	773,066	1,462,698	-
Differences between expected and actual experience	74,947,987	(104,260,427)	(8,616,589)	-
Changes in assumptions	-	68,573,373	-	-
Benefit payments, including refunds of member contributions	(284,930,573)	(274,901,942)	(258,834,581)	(238,560,893)
Net Change in Total Pension Liability	\$251,314,350	\$136,756,422	\$171,787,088	\$186,433,457
Total Pension Liability - beginning	5,116,417,171	4,979,660,749	4,807,873,661	4,621,440,204
Total Pension Liability - ending (a)	<u>\$5,367,731,521</u>	<u>\$5,116,417,171</u>	<u>\$4,979,660,749</u>	<u>\$4,807,873,661</u>
Plan Fiduciary Net Position				
Contributions - employer	\$167,311,608	\$155,780,373	\$138,493,099	\$129,618,309
Contributions - member	35,476,023	34,627,061	33,193,593	32,758,587
Net investment income	243,496,177	(16,668,287)	16,342,457	490,196,386
Benefit payments, including refunds of member contributions	(284,930,573)	(274,901,942)	(258,834,581)	(238,560,893)
Administrative expenses	(2,050,848)	(2,112,595)	(1,896,614)	(1,884,827)
Net Change in Plan Fiduciary Net Position	\$159,302,387	(\$103,275,390)	(\$72,702,046)	\$412,127,562
Plan Fiduciary Net Position - beginning	3,590,082,229	3,693,357,619	3,766,059,665	3,353,932,103
Plan Fiduciary Net Position - ending (b)	<u>\$3,749,384,616</u>	<u>\$3,590,082,229</u>	<u>\$3,693,357,619</u>	<u>\$3,766,059,665</u>
Net Pension Liability (Asset) - ending (a)-(b)	<u>\$1,618,346,905</u>	<u>\$1,526,334,942</u>	<u>\$1,286,303,130</u>	<u>\$1,041,813,996</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	69.9%	70.2%	74.2%	78.3%
Covered Employee Payroll	<u>\$730,618,376</u>	<u>\$708,414,611</u>	<u>\$686,288,895</u>	<u>\$671,597,456</u>
Net Pension Liability as a Percentage of Covered Employee Payroll	221.5%	215.5%	187.4%	155.1%

The total pension liability contained in this schedule was calculated by Cheiron, the System's Actuary. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Employees' Retirement System.

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

Required Supplementary Information

(continued)

Schedule of Net Pension Liability

Year Ended June 30

	2017	2016	2015	2014
Total Pension Liability	\$5,367,731,521	\$5,116,417,171	\$4,979,660,749	\$4,807,873,661
Plan Fiduciary Net Position	<u>3,749,384,616</u>	<u>3,590,082,229</u>	<u>3,693,357,619</u>	<u>3,766,059,665</u>
Net Pension Liability	<u>\$1,618,346,905</u>	<u>\$1,526,334,942</u>	<u>\$1,286,303,130</u>	<u>\$1,041,813,996</u>
Plan Fiduciary Net Position as a Percentage of the Total Plan Liability	69.9%	70.2%	74.2%	78.3%
Covered Employee Payroll	\$730,618,376	\$708,414,611	\$686,288,895	\$671,597,456
Net Pension Liability as a Percentage of Covered Employee Payroll	221.5%	215.5%	187.4%	155.1%

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

Schedule of Money-Weighted Rate of Return

Fiscal Year	Annual Money-Weighted Rate of Return, Net of Investment Expense
2017	6.9%
2016	-0.4%
2015	0.5%
2014	14.9%

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

Schedule of Employer Contributions

Fiscal Year	Contributions in Relation to the			Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
	Actuarially Determined Contribution	Actuarially Determined Contribution	Contribution Deficiency/ (Excess)		
2017	\$167,311,608	\$167,311,608	\$-	\$730,618,376	22.90%
2016	155,780,373	155,780,373	-	708,414,611	21.99%
2015	138,493,099	138,493,099	-	686,288,895	20.18%
2014	129,618,309	129,618,309	-	671,597,456	19.30%
2013	127,448,018	127,448,018	-	669,018,467	19.05%
2012	114,682,538	114,682,538	-	666,758,942	17.20%
2011	96,607,535	96,607,535	-	657,194,116	14.70%
2010	64,069,102	64,069,102	-	659,825,973	9.71%
2009	65,110,832	65,110,832	-	676,827,775	9.62%
2008	62,636,121	62,636,121	-	653,139,948	9.59%

Required Supplementary Information

(continued)

Notes to Schedule

Valuation Date	6/30/2015
Timing	Actuarially determined contribution rates are calculated based on the actuarial valuation one year prior to the beginning of the plan year

Key Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age
Asset valuation method	3-year smoothed market
Amortization method	Corridor method, amortize liability outside of 97% corridor over an open 15 year period with level % of payroll.
Discount rate	7.50%
Amortization growth rate	3.00%
Price inflation	3.00%
Salary increases	3.0% plus merit component based on employee's years of service
Mortality	Sex distinct RP-2000 Combined Mortality projected to 2015 using Scale AA

A complete description of the methods and assumptions used to determine contribution rates for the year ending June 30, 2017, can be found in the June 30, 2015, actuarial valuation report.

Summary of Significant Changes to the Pension System

The summary of employer and employee contribution rates during the past 5 years and other significant changes in the pension system are as follows:

Contribution Rates

Fiscal Year	Employer	Employee
2017	22.90%	4%, 51/3%
2016	21.99%	4%, 51/3%
2015	20.18%	4%, 51/3%
2014	19.30%	4%, 51/3%
2013	17.20%	4%, 51/3%

July 2016	Social Security offset reduced from 15% to 10%.
January 2014	Service-Connected Disability Social Security offset was reduced from 25.0 percent to 15.0 percent.
January 2013	Employees hired on or after January 1, 2013, will be automatically enrolled in Option C or elect to switch to Option D within 30 days of employment. The maximum amount of accrued sick leave is capped at 2,080 hours. Eligibility for normal service retirement is at age 55 or older if age plus years of service total 85 years or more; DROP does not include the Pre-Social Security benefit.

Other Supplementary Information

Schedule of Investment & Consultant Expenses

For the Year Ended June 30, 2017

Investment Activity Expenses		
Investment manager fees		\$31,973,036
Custodial fees		136,911
Consultant Expenses		
Consultant expenses		94,356
Allocated Administration Expense		<u>981,403</u>
Total investment and consulting expenses		<u>\$33,185,706</u>

Schedule of Administrative Expenses

June 30, 2017

Personnel services		
Salaries and wages	\$1,059,985	
Fringe benefits	<u>452,147</u>	
Total personnel services		\$1,512,131
Professional services		
Actuarial	69,886	
Audit	30,830	
Legal	<u>14,937</u>	
Total professional services		115,653
Communications		
Phone charges	21,228	
Printing, binding and copying	6,732	
Postage	<u>16,082</u>	
Total communications		44,042
Supplies		
Office supplies	<u>13,404</u>	
Total supplies		13,404
Other services and charges		
Board and staff travel and development	32,528	
Professional membership	3,133	
Professional subscriptions	877	
Insurance	37,653	
Building rent	92,289	
Depreciation expense	846	
Computer system	159,711	
Other operating	<u>38,581</u>	
Total other services and charges		365,618
Total Administrative Expenses		<u>\$2,050,848</u>



Report of Independent Auditor on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Government Auditing Standards

To Board of Supervisors
County of Fairfax, Virginia

To the Board of Trustees
Fairfax County Employees' Retirement System

We have audited, in accordance with the auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller General of the United States the financial statements of the Fairfax County Employees' Retirement System (the "System"), a pension trust fund of the County of Fairfax, Virginia, as of and for the year ended June 30, 2017 and the related notes to the financial statements, and have issued our report thereon dated November 15, 2017.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting ("internal control") to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Tysons Corner, Virginia
November 15, 2017



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

November 16, 2017

Dear Members of the Board of Trustees:

U.S. equity markets continued on their upward path in the fiscal year 2017 as international stocks joined the rally despite episodes of uncertainty in the White House and political upheaval across the pond. Domestic equities dominated the first half of the fiscal year, getting a boost after the U.S. election, but ultimately gave way to international stocks in 2017 as receding political fears in Europe and solid growth in emerging markets spurred outperformance. Throughout the fiscal year positive global and U.S. growth developments gave the Fed the indicators it needed to finally embark on a path of raising rates and curtailing its easing program. This ultimately led to modest and even negative fixed income returns, though U.S. credit issues experienced spread compression and performed well. After the surprise outcomes of the UK Brexit vote and U.S. elections, financial markets have been marked by confounding low volatility.

The large cap domestic equity market, as measured by the S&P 500 Index, capped off the fiscal year with a +17.9% return with all smaller cap domestic equity indices posting even greater returns. The domestic bond market, as measured by the Barclays Aggregate Bond Index, returned -0.3% over the same period. The global equity market, as measured by the MSCI All Country World Index (net), returned 18.8% for the fiscal year, proving to be one of the higher yielding asset classes and emerging markets posted even higher returns with the MSCI EM of 23.7% over the fiscal year.

During the quarter ended September 30, 2016, domestic equities reversed course with the S&P 500 returning 3.9% and the Russell 2000 gaining 9.0%. Growth outpaced value across all capitalizations. Technology was the best performing sector while utilities and consumer staples lagged behind. Volatility, as measured by the VIX, dropped 15% during the quarter. Outside the United States, developed markets had their best quarter of 2016, returning 6.4%. Investors shrugged off fears surrounding Brexit and monetary policies remained accommodative. Sector results were mixed with materials leading the pack with gains of 16% while healthcare declined 2%. In the United Kingdom, the market rebounded in local currency terms, but the pound continued to sell off and was at a 30-year low relative to the dollar. Elsewhere, emerging markets rose around 9%, according to the MSCI Emerging Market Index. China—among the better performing countries—gained 13.9% in the third quarter. One-third of global developed sovereign debt yields were negative and two-thirds yielded below 1% in the third quarter. On the other hand, domestic high yield fixed-income securities and hard currency emerging market debt were up 5.6% and 4%, respectively, for the three months ended September 30. So far this year, U.S. high-yield debt and hard currency emerging market issues have returned around 15%, second only to gains of 17.1% by local currency emerging market debt. The U.S. Barclays Aggregate Index returned 0.5% this quarter, driven primarily by the corporate credit component of the index.



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www.fairfaxcounty.gov/retirement/

U.S. equities led the pack in the fourth quarter of 2016 as concerns around potential changes to U.S. trade policy under President Trump dragged down overseas markets. Small-cap equities bested large-cap securities with the Russell 2000 Index returning 8.8% compared to 3.8% for the S&P 500. Value stocks outshone growth for the quarter and the year. Outside the U.S., developed market equities fell 0.7%, according to the MSCI EAFE Index. Rising interest rates in the U.S. and a strong dollar pulled down emerging market stocks, which lost 4.2% in the fourth quarter, according to the MSCI Emerging Markets Index. Still, they ended the year in the black, posting gains of 11.2%. Domestic fixed-income securities turned in a solid performance in 2016 with the Barclays Aggregate Bond Index up 2.7% and the Barclays High Yield Bond Index returning 17.1%. Risk-takers were rewarded while investors tilting toward safety lagged. This trend was especially prominent in the fourth quarter when risk premiums tightened across sectors, with commodities experiencing the most pronounced spread compression. While the credit cycle could go on for longer, we advise caution as valuations have moved to the tighter end of the band. Overseas, emerging market debt was also a strong performer in 2016 with local-currency debt leading for most of the year but faltering in the aftermath of the U.S. elections. It racked up gains of 9.4%, finishing behind emerging market hard-currency issues which returned 10.2% last year. Emerging market debt remains appealing in terms of rates and currencies.

Being in the ninth year of a bull market, U.S. equities had another solid quarter at the start of 2017 with the S&P 500 gaining 6.1% and the Russell 2000 Index returning 2.5% for the three months ended March 31, 2017. Growth bested value; healthcare and information technology led the pack while energy and telecom lagged. Outside the United States, the MSCI EAFE Index was up 7.3% in the first quarter. Europe outperformed Japan; information technology, healthcare and consumer discretionary led performance while energy trailed. Emerging markets also had a strong showing buoyed by India's state election results and economic growth prospects in China. The MSCI Emerging Markets Index gained 11.4% and the MSCI Emerging Markets Small Cap Index was up 13%. So far this year, emerging markets have staged a robust comeback from the fourth quarter when they were beaten down by concerns around the U.S. presidential election results. Information technology led sector performance, while Poland and India were the strongest performing countries. U.S. fixed-income markets took in stride a well telegraphed hike in the Federal Funds rate in March, and are pricing in two more this year (as of the first quarter). The Bloomberg Barclays U.S. Aggregate returned 0.8% in the first quarter, trailing domestic high-yield securities which returned 2.7%. As LIBOR inches higher, bank loans maintain their relative attractiveness against high-yield debt despite discount margins dipping below their historical median level. Meanwhile, emerging market debt rebounded from a tough fourth quarter as fundamentals continued to improve and the dust settled on the U.S. election results. Local currency debt was the top performer, gaining 6.6%.

Global equities recorded another quarter of gains amid a solid corporate earnings season and generally positive economic data in the second quarter of 2017. Similar to the first quarter, growth stocks outperformed value and large-cap stocks bested small-cap equities. The S&P 500 Index returned 3.1% despite some mixed economic data and political uncertainty around the ability of the White House to push through its policies. Healthcare stocks rallied as the Senate proposed a new industry-friendly plan to reform the nation's healthcare system. Non-U.S. developed markets posted gains of 6.1%, according to the MSCI EAFE Index. France and Switzerland led the pack with gains of around 9.0%, while Australia lagged with losses of 1.9%. The euro's appreciation versus the U.S. dollar remained a tailwind for U.S. dollar-centric investors. Emerging market equities led the fray with gains of 6.3%, according to the MSCI EM Index. China, Korea and Taiwan were the biggest winners with returns of 10.7%, 10% and 9.2%, respectively; Russia fell behind, losing 9.8%. Within sectors, information technology gained 15.5% and consumer discretionary returned 8.4%; energy lost 4.8% while utilities declined by 1.6%. Fixed income gained 1.4% in the second quarter, according to the Barclays Aggregate Index, bringing the index's year-to-date performance to 2.3%. High-yield debt outperformed bank loans, returning nearly 5% so far this year compared to 2% for bank loans. Emerging markets debt in hard currency gained 2.4% in the second quarter; local currency-denominated securities outperformed, up 3.6%, fueled by a boost to emerging market currencies (which returned 1.9% in the quarter), bringing total returns for the JP GBI-EM Index to over 10% in 2017.

Employees' System

The Employees' Retirement System operates a balanced and diversified investment program with disciplined asset re-balancing to achieve strategic long-term goals. This disciplined investment process has been effective in achieving a long-term record of consistent asset growth.

For fiscal year 2017, investments provided a return of 7.5%, gross of fees (6.9%, net of fees). The System's annualized rates of return, gross of fees, were 2.7% (2.3%, net of fees) over the last three years and 6.2%, (5.7%, net of fees), over the last five years, 5.9%, (5.5%, net of fees), over the last ten years. The System's returns ranked in the 96th percentile of The Bank of New York Mellon universe of public plans in 2017, in the 96th percentile for the latest 3-year period, in the 93rd percentile for the last 5 years, and in the 25th percentile of public plans for the past 10 years.

During the past twelve months, we continue to focus on overall portfolio management, monitoring the financial markets and maintaining a high quality group of investment managers. Capstone Investment Advisors was added to the Global Equity manager lineup and Columbia Wanger Asset management was removed from the Global Equity manager lineup. In addition, the BlackRock Multi-Alternative Opportunities fund was added to the Fixed Income manager lineup and Deutsche Asset Management was added to the Real Assets manager lineup. Furthermore, staff directed multi-asset program was added to the Diversified Multi-Asset manager lineup replacing PIMCO All Asset All Authority. Finally, AlphaSimplex Group was added to the Absolute Return manager lineup.

Sincerely,



Andrew J. Spellar
Senior Investment Officer

Investment Section

Investments by Category and Investment Manager**

June 30, 2017

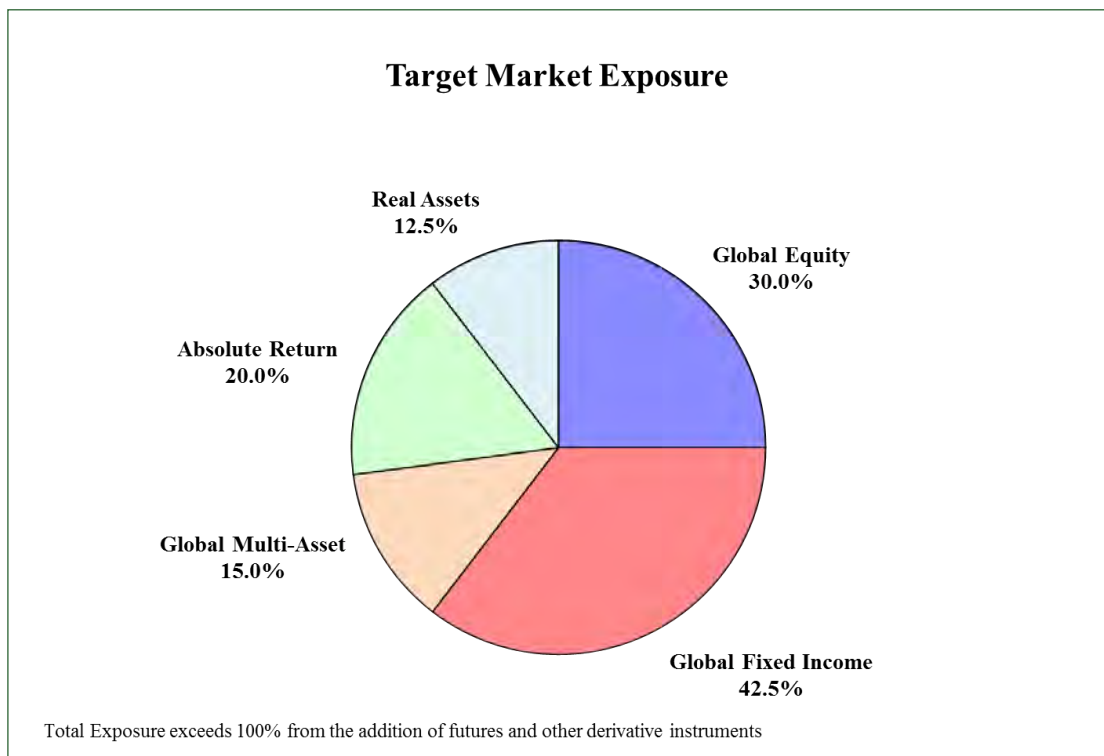
Asset Class	Manager	Investment Style	Total Fair Values	% of Total Portfolio
Global Equity				
	Capstone Investment Advisors*	U.S. Large Cap Value	\$80,697,566	2.15%
	DePrince, Race & Zollo	U.S. Large Cap Value	119,221,149	3.18%
	Nicholas Company	U.S. Large Cap Growth	117,262,130	3.13%
	Sands Capital Management	U.S. Large Cap Growth	105,888,193	2.82%
	Aberdeen Asset Management*	Int'l Emerging Markets	57,413,852	1.53%
	Axiom International Investors	Int'l Developed Small Cap	112,686,770	3.00%
	First Eagle Investment Management	Int'l Developed Markets Value	102,280,310	2.73%
	LSV Asset Management	Int'l Developed Markets Value	154,808	0.00%
	Marathon Asset Management*	Int'l Developed Markets	144,059,400	3.84%
	Quantitative Management Associates*	Int'l Emerging Markets	73,580,614	1.96%
	WCM Investment Management	Int'l Developed Markets Growth	94,737,473	2.53%
	Dyal Capital Partners*	Private Equity	12,983,139	0.35%
Global Fixed Income				
	BlackRock Multi-Alternative Opportunities Fund*	Private Debt	5,334,116	0.14%
	Brandywine Asset Management	Global Bonds	152,826,478	4.08%
	Bridgewater Associates*	TIPS Index	104,376,256	2.78%
	Czech Asset Management*	Direct Lending	39,654,317	1.06%
	DoubleLine Capital	Mortgage-Backed Securities	147,856,089	3.94%
	DoubleLine Capital*	Private Debt	36,718,900	0.98%
	Hoisington Investment Management Company	Macro Fixed Income	72,635,602	1.94%
	Lazard Asset Management*	Emerging Markets Debt	72,722,408	1.94%
	MacKay Shields	High Yield Bonds	135,951	0.00%
	Marathon European Credit Opportunity Fund III*	Private Debt	24,782,194	0.66%
	PIMCO BRAVO II*	Private Debt	60,742,493	1.62%
	PIMCO Tactical Opportunities*	Private Debt	42,049,630	1.12%
	Post Advisory	High Yield Bonds	80,750,946	2.15%
	Shenkman Capital Management	High Yield Bonds	158,501,675	4.23%
Real Assets				
	Cohen & Steers Capital Management	Int'l Real Estate Securities	77,180,069	2.06%
	Cohen & Steers Capital Management	U.S. Real Estate Inv. Trusts	167,616,159	4.47%
	Deutsche Asset Management*	Global Multi-Real Asset	74,400,000	1.98%
	JPMorgan Global Maritime Fund*	Private Real Assets	14,479,247	0.39%
	PIMCO	Collateralized Commodity Futures	73,957,209	1.97%
Diversified Multi-Asset				
	AQR Global Risk Premium*	Multi-Asset Real Return	67,387,511	1.80%
	BlackRock Market Advantage*	Multi-Asset Real Return	127,028,797	3.39%
	Bridgewater Optimal Portfolio*	Multi-Asset Real Return	178,081,756	4.75%
	Parametric & FCERS Dynamic Balanced Risk	Multi-Asset Real Return	55,116,587	1.47%
Absolute Return				
	AlphaSimplex Group*	Global Macro Absolute Return	71,702,685	1.91%
	AQR Style Premia*	Global Macro Absolute Return	70,111,733	1.87%
	BlackRock GlobalAlpha Fund*	Multi-Strategy Absolute Return	76,183,057	2.03%
	Bridgewater Pure Alpha*	Global Macro Absolute Return	188,750,184	5.03%
	Deephaven Capital Management*	Multi-Strategy Absolute Return	32,068	0.00%
	Emerging Sovereign Group*	Global Macro Absolute Return	15,601,205	0.42%
	Millennium Management*	Multi-Strategy Absolute Return	76,311,962	2.03%
	PIMCO Global Credit Opportunity*	Multi-Strategy Absolute Return	78,777,779	2.10%
	PIMCO PARS IV*	Global Macro Absolute Return	73,512,691	1.96%
	QMS Global Macro*	Global Macro Absolute Return	56,624,280	1.51%
Short-term and Others				
	BNY Mellon Cash Investment Strategies	Plan Level Cash Accounts	12,188,103	0.33%
	Cash Held at County Treasurer	Operating Cash Account	6,466,141	0.17%
	Parametric	Policy Implementation Overlay	116,447,658	3.11%
	Eagle Trading Systems*	Global Macro Absolute Return	52,072,853	1.39%
Total Investments			\$3,750,082,193	100.00%
* Pooled fund			**See Pages 8-9 for complete listing of investment professionals.	

Employees' Retirement System – Allocation of Market Exposures

Target Market Exposures

The asset structure shown below represents the Trustees' assessment of their optimal asset allocation as of June 30, 2017. The target asset allocation provides a reasonable expectation that the System's investment objectives can be achieved based on historical relationships of asset class performance.

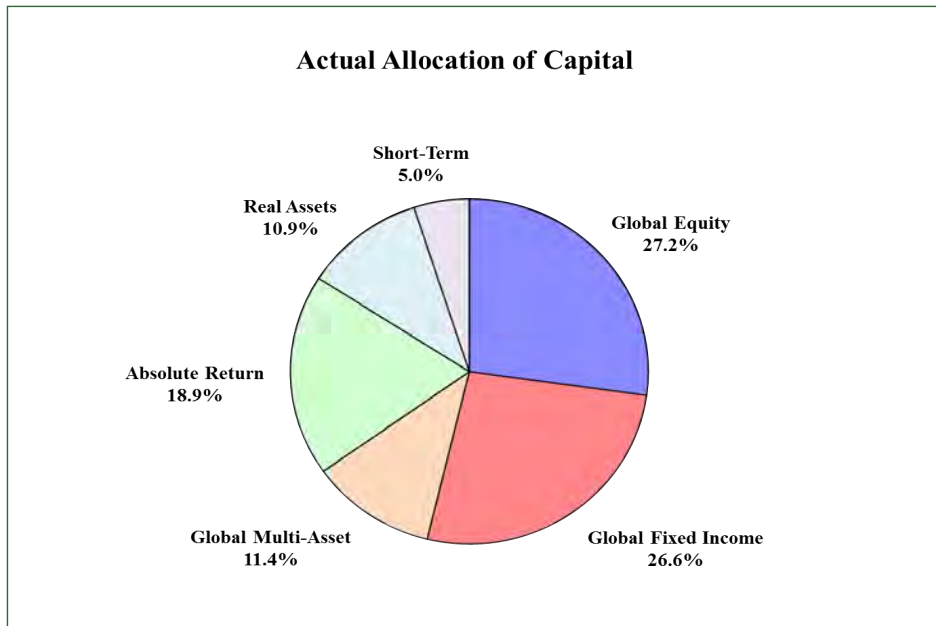
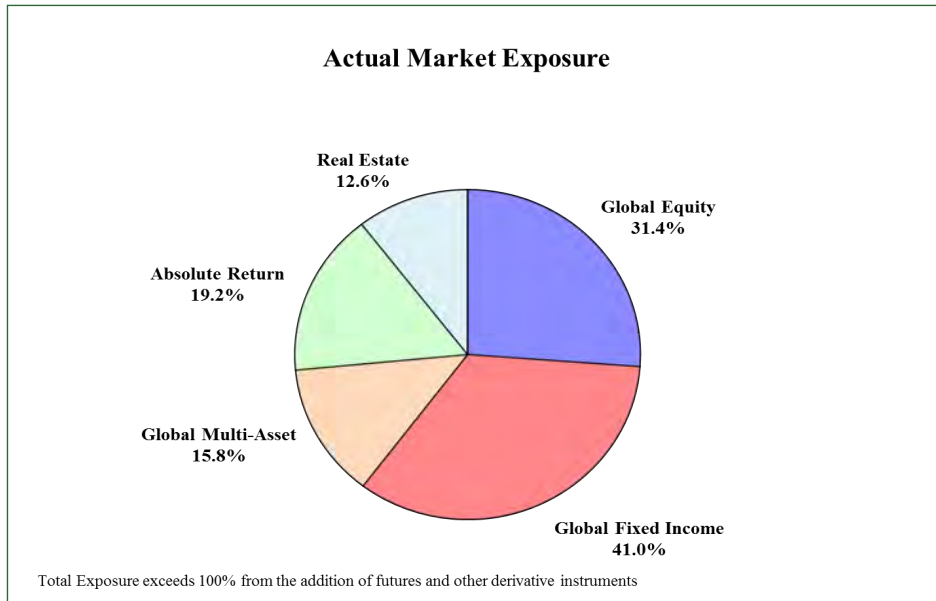
The pie chart below details the target asset mix, consistent with the achievement of the long-term objectives of the System, as of June 30, 2017.



Actual Allocations as of June 30, 2017

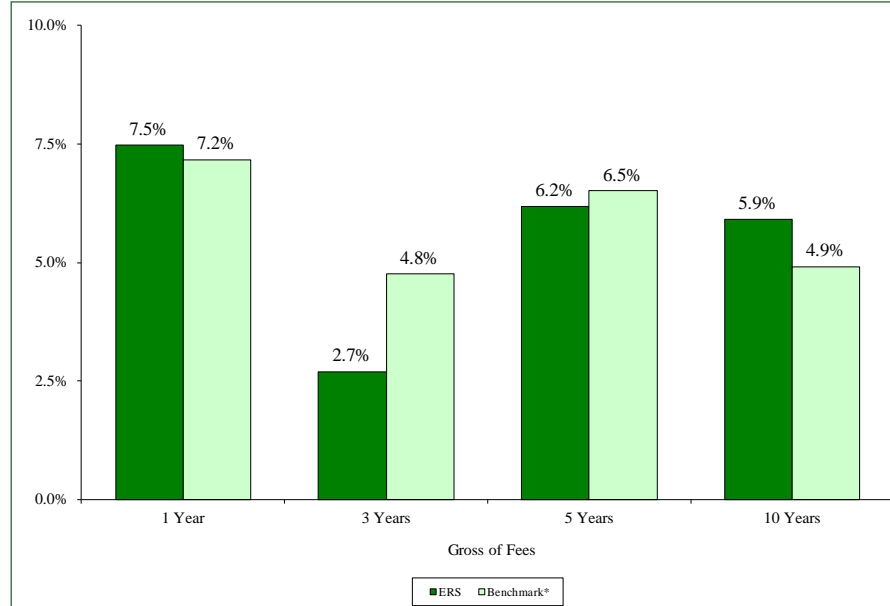
The asset structure of ERS has historically reflected a proper balance of the System's needs for liquidity, growth of assets, and risk tolerance. The System's investment policy is designed to continue to meet its long-term investment objectives while, at the same time, providing sufficient flexibility to meet short-term funding requirements.

The pie chart below details the actual asset allocations as of June 30, 2017.



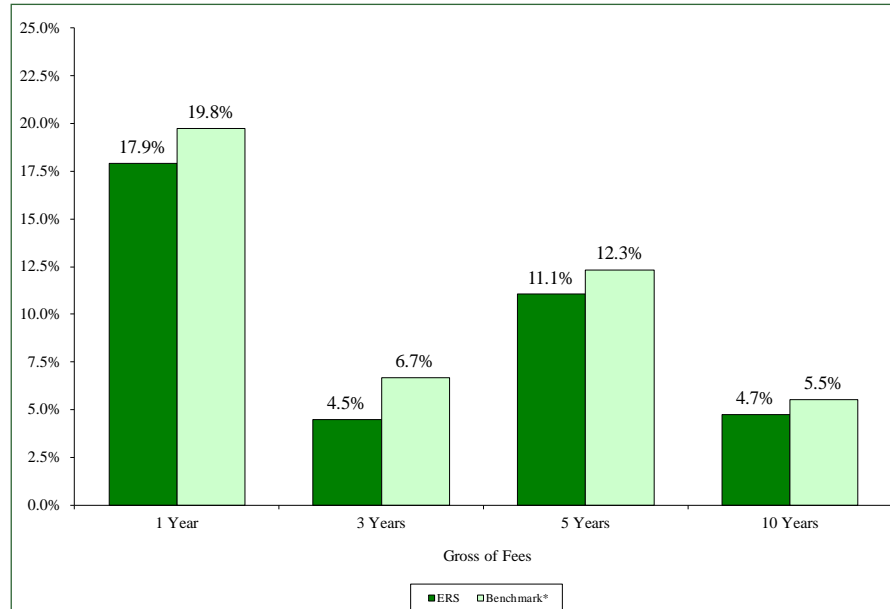
Investment Results
(Time weighted return, gross of fees)

Total Fund:



*Current Benchmark: 18% Russell 3000, 7% EAFE, 3% MSCI EMI, 3.75% CSFB High Yield, 3.75% ML High Yield Master, 50% Barclays Agg x 1.5 – 3 Month LIBOR x 0.5, 7.5% NAREIT, 5% Bloomberg Commodity (Benchmark has been revised through time)

Global Equity:

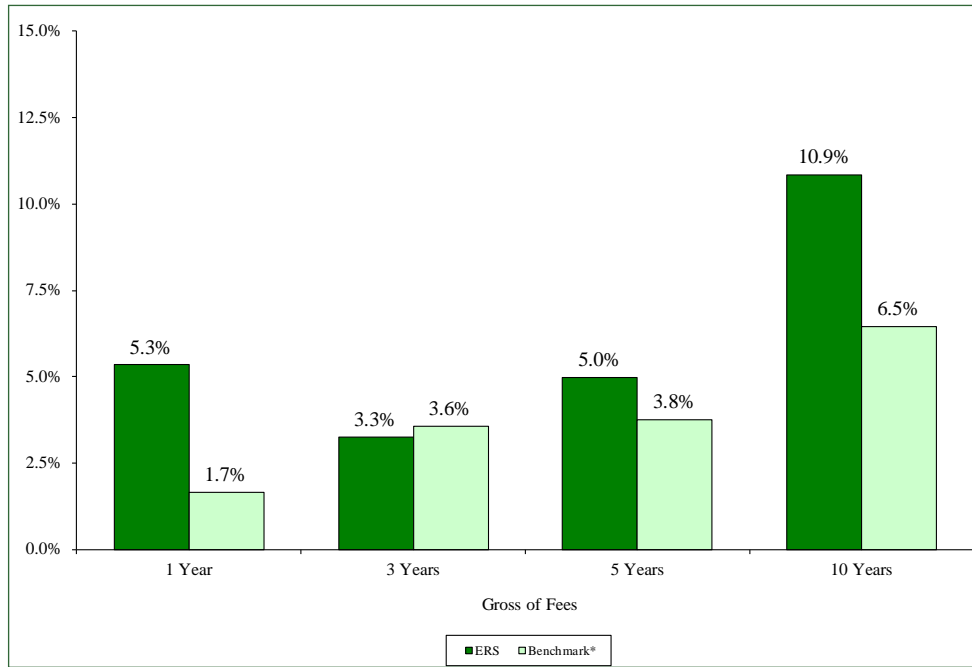


*Current Benchmark: 67% Russell 3000, 22% MSCI EAFE, 11% MSCI Emerging Markets (\$Gross) (Benchmark has been revised through time)

Investment Results

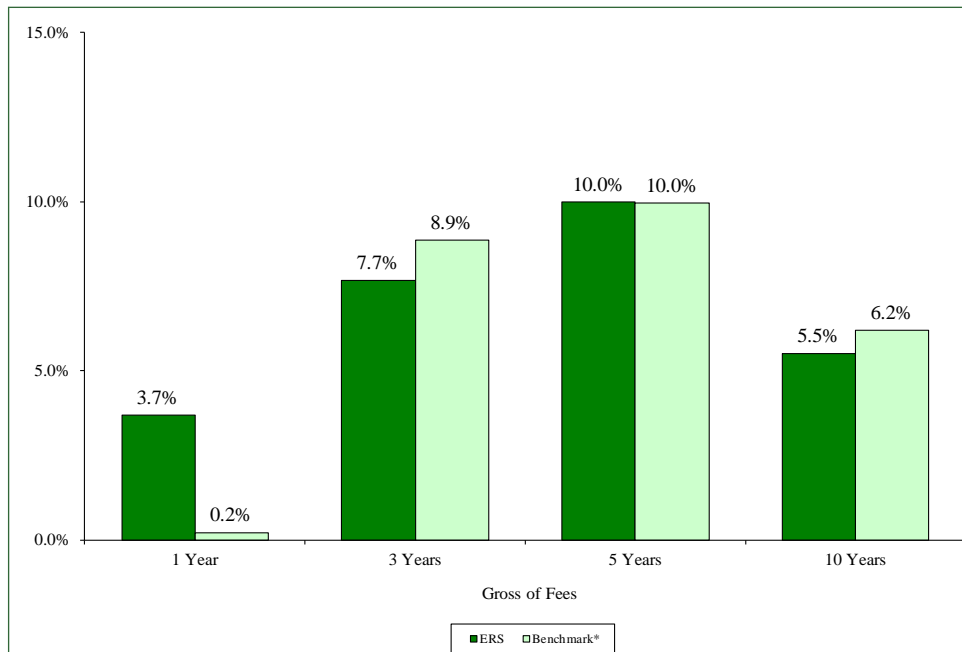
(Time weighted return, gross of fees)

Global Fixed Income:



*Current Benchmark: 81.25% ERS Core Fixed Income (133.33% Barclays Agg – 33.33% LIBOR), 18.75 Barclays Corp High Yield (Benchmark has been revised through time)

Real Estate:



*Current Benchmark: NAREIT Equity Share Price Index (Benchmark has been revised through time)

Schedule of Ten Largest Equity & Fixed Income Holdings*

Ten Largest Equity Holdings*

No. Shares	Description	Cost	Fair Value	% of Total Portfolio
106,370	Visa Inc	\$3,955,119	\$9,975,379	0.27%
62,280	Facebook Inc	3,935,776	9,403,034	0.25%
21,751	Equinix Inc	6,909,496	9,334,659	0.25%
221,875	Udr Inc	6,127,862	8,646,469	0.23%
8,605	Amazon.com Inc	5,386,808	8,329,640	0.22%
129,737	Prologis Inc	5,892,487	7,607,778	0.20%
85,870	Salesforce.com Inc	3,105,111	7,436,342	0.20%
27,823	Essex Property Trust Inc	6,543,111	7,158,023	0.19%
163,020	Charles Schwab Corp	4,578,441	7,003,339	0.19%
46,400	Alibaba Group Holding Ltd	<u>3,952,669</u>	<u>6,537,760</u>	<u>0.17%</u>
	Total	<u>\$50,386,880</u>	<u>\$81,432,423</u>	<u>2.17%</u>

Ten Largest Fixed Income Holdings*

Par Value (in local values)	Description	Cost (in U.S. Dollars)	Fair Value (in U.S. Dollars)	% of Total Portfolio
20,100,000	U.S. Treasury Bond, 2.875%, 08/15/2045	\$20,004,211	\$20,212,359	0.54%
11,720,000	U.S. Treasury Bond, 2.500%, 05/15/2046	11,586,907	10,903,702	0.29%
10,000,000	U.S. Treasury Bond, 3.000%, 05/15/2045	10,211,328	10,304,300	0.27%
138,200,000	Mexican Bonos, 7.750%, 11/13/2042	11,184,743	8,073,740	0.22%
17,130,000	U.S. Treasury Bd Prin Strip, 0.000%, 05/15/2045	8,180,107	7,594,243	0.20%
7,185,000	U.S. Treasury Bond, 2.875%, 11/15/2046	7,005,486	7,224,589	0.19%
7,500,000	U.S. Treasury Bond, 2.500%, 02/15/2045	6,917,663	6,999,300	0.19%
15,750,000	U.S. Treasury Bd Prin Strip, 0.000%, 08/15/2045	7,525,218	6,922,755	0.18%
15,770,000	U.S. Treasury Bd Prin Strip, 0.000%, 11/15/2045	7,499,296	6,879,505	0.18%
6,480,000	U.S. Treasury Note, Var Rt, 04/30/2019	<u>6,480,000</u>	<u>6,478,639</u>	<u>0.17%</u>
	Total	<u>\$96,594,959</u>	<u>\$91,593,132</u>	<u>2.43%</u>

*Full disclosure of holdings is available upon request

Investment Section

**Schedule Brokerage Commissions
For Year Ended June 30, 2017**

Broker Name	Base Volume	Total Shares	Base Commission	Commission Percentage
Newedge Usa Llc, New York	\$9,259,042	-1,762	\$25,363	0.27%
J P Morgan Secs Ltd, London	26,423,105	3,630,802	52,627	0.20%
Rbc Dominion Secs Inc, Toronto	6,085,476	803,146	11,058	0.18%
Citigroup Gbl Mkts/Salomon, New York	12,940,667	5,559,089	20,519	0.16%
Esn North America Inc, New York	7,134,463	441,103	10,699	0.15%
Mitsubishi Ufj Securities, New York	10,868,622	532,208	15,443	0.14%
Berenberg Gossler & Cie, Hamburg	11,857,227	417,690	16,658	0.14%
Smbc Securities, Inc New York	16,217,761	877,513	22,606	0.14%
Ubs Warburg, London	7,356,677	569,777	9,961	0.14%
Mizuho Securities Usa Inc. New York	16,167,907	693,936	21,781	0.13%
Ubs Warburg Asia Ltd, Hong Kong	12,574,806	7,120,442	16,367	0.13%
Daiwa Secs Amer Inc, New York	9,025,707	1,869,819	11,367	0.13%
Goldman Sachs & Co, Ny	230,995,820	11,627,328	274,535	0.12%
Instinet Europe Limited, London	14,299,052	962,368	16,834	0.12%
Merrill Lynch Intl London Equities	17,996,347	2,378,128	19,844	0.11%
Wells Fargo Securities Llc, Charlotte	30,575,350	257,947	33,027	0.11%
Deutsche Bk Secs Inc, Ny	29,679,172	8,861,046	31,904	0.11%
Stifel Nicolaus	11,145,110	297,733	11,328	0.10%
Morgan Stanley & Co Inc, Ny	42,192,842	3,831,143	41,416	0.10%
William Blair & Co, Chicago	17,355,997	344,212	15,464	0.09%
Barclays Capital Le, Jersey City	49,548,339	1,073,556	44,010	0.09%
Societe Generale London Branch, London	37,854,411	3,395,413	32,096	0.08%
Citigroup Gbl Mkts Inc, New York	15,831,684	412,943	13,277	0.08%
Hsbc Secs Inc, New York	26,572,028	14,337,925	22,061	0.08%
Merrill Lynch Gilts Ltd, London	10,479,730	230,927	8,567	0.08%
Credit Suisse, New York (Csus)	23,352,228	1,817,090	17,978	0.08%
Ubs Securities Llc, Stamford	19,505,489	599,418	14,227	0.07%
Baird, Robert W & Co Inc, Milwaukee	16,448,864	279,951	11,763	0.07%
Hsbc Bank Plc (Midland Bk)(Jac), London	39,363,466	3,563,837	27,221	0.07%
Rbc Capital Markets Llc, New York	18,332,040	584,983	12,389	0.07%
Raymond James & Assoc Inc, St Petersburg	15,249,714	279,294	10,044	0.07%
Pershing Llc, Jersey City	42,240,783	1,815,423	27,569	0.07%
Piper Jaffray & Co, Minneapolis	8,476,752	117,282	5,303	0.06%
Itg Canada Corp, Toronto	6,033,875	481,001	3,588	0.06%
J.P. Morgan Clearing Corp, New York	74,122,730	2,403,931	42,052	0.06%
Barclays Capital Inc./Le, New Jersey	33,704,293	841,835	17,791	0.05%
Converge Llc, New York	13,534,431	320,633	6,379	0.05%
Merrill Lynch Pierce Fenner Smith Inc Ny	197,093,572	4,476,402	87,585	0.04%
Knight Direct Llc, Jersey City	6,140,094	177,780	2,687	0.04%
National Finl Svcs Corp, New York	40,568,878	653,794	16,654	0.04%
Jefferies & Co Inc, New York	48,763,832	3,094,675	19,629	0.04%
Bloomberg Tradebook, London	20,913,929	1,215,441	8,355	0.04%
Bernstein Sanford C & Co, New York	68,404,114	3,326,542	25,885	0.04%
Broadcort Capital Corp Fi, New York	37,000,146	399,100	13,969	0.04%
Bloomberg Tradebook Llc, New York	22,437,789	505,880	7,590	0.03%
Bloomberg Tradebook,New York	26,225,692	627,678	8,044	0.03%
Knight Clearing Services Llc, Jersey Cit	8,567,769	169,277	2,539	0.03%
Otr Global Trading Llc, New York	48,400,689	1,148,355	11,608	0.02%
Itg Inc, New York	7,130,253	159,597	1,588	0.02%
Bny Convergenx Execution Sol, New York	18,740,450	1,556,341	4,042	0.02%
Other Brokers	188,746,129	50,019,445	210,720	0.11%
Total	<u>\$1,729,935,343</u>	<u>151,159,417</u>	<u>\$1,416,011</u>	<u>0.08%</u>

Investment Summary				
(Based on Capital Allocation)				
	As of June 30, 2016		As of June 30, 2017	
	Fair Value	% Fair Value	Fair Value	% Fair Value
Global Equity	\$996,412,095	27.75%	\$1,020,965,404	27.23%
Global Fixed Income	1,014,119,481	28.24%	999,087,055	26.64%
Global Multi-Asset	386,114,636	10.76%	427,614,651	11.40%
Absolute Return	670,917,797	18.69%	707,607,644	18.87%
Real Assets	388,478,350	10.82%	407,632,684	10.87%
Short Term and Others	134,549,423	3.74%	187,174,755	4.99%
Total	<u>\$3,590,591,782</u>	<u>100.00%</u>	<u>\$3,750,082,193</u>	<u>100.00%</u>

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October 24, 2017

Fairfax County Employees'
Retirement System
12015 Lee Jackson Memorial Highway, Suite 350
Fairfax, Virginia 22033

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Fairfax County Employees' Retirement System as of June 30, 2017. The full results and analysis of that annual valuation will be presented in a full actuarial valuation report. The purpose of this actuarial section is to provide key information from that report and support the disclosure of Total Pension Liability that is presented in the Financial Section of this CAFR. For a more complete analysis, please see the full report.

Funding Objective

The funding objective of the System is to establish contribution rates that will remain level as a percentage of payroll over time. In order to achieve a more stable contribution rate, the County implemented a corridor funding method on July 1, 2002 (based on the July 1, 2001 valuation results). Under this approach, the current contribution rate is based on the normal cost rate and expense rate developed in the current valuation combined with an unfunded actuarial liability rate (UAL rate) based on assumption and plan changes since July 1, 2001 and a 15-year amortization of any amount by which the System's funded ratio is outside the corridor. The County is taking steps to increase the bottom of the corridor from the originally established 90% up to 100% by 2020. The Fiscal Year (FY) 2017 contribution was developed in the 2015 valuation report and was based on a corridor level of 97%.

Assumptions

The actuarial assumptions used in performing the June 30, 2017 valuation were recommended by the actuary and adopted by the Board of Trustees based on our most recent review of the System's experience for the five-year period ending June 30, 2015. The assumptions and methods used for funding purposes were developed in compliance with the actuarial standards of practice as they relate to pension plans. The assumptions reflect our understanding of the likely future experience of the System and the assumptions both individually and as a whole represent our best estimate for the future experience of the System. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the underlying assumptions, the results would vary accordingly.

Reliance on Others

In preparing our valuation, we relied on information (some oral and some written) supplied by the System. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standards of Practice No. 23.

Supporting Schedules

As a part of the 2017 actuarial valuation, Cheiron prepared the Analysis of Financial Experience, Schedule of Retirees and Beneficiaries Added to and Removed from the Rolls and Solvency Test provided in this Actuarial Section.

We are also responsible for the disclosures of Net Pension Liability and its components in the Financial Section. The information provided in Note 4 of the Financial Section comes from the Actuarial Valuation as of June 30, 2017.

Compliance with Code of Virginia §51.1-800

Code of Virginia §51.1-800 requires that the benefits provided to a retiree at age 65 from a local retirement system equal or exceed two-thirds of the allowance to which the employee would be entitled under the provisions of the Virginia Retirement System (VRS).

Although there is no formal procedure for making this comparison, we compared the least valuable rate under the Employees' Retirement System to the most valuable accrual rate under the VRS, making adjustments for the fact that employee contributions are required in excess of the VRS 5% rate. We found that the employer-provided accrual rates do exceed two-thirds of the most valuable employer-provided accrual rates under the VRS plan.

We certify that, to the best of our knowledge and understanding, the Fairfax County Employees' Retirement System satisfies the requirements of the Code of Virginia §51.1-800.

Certification

To the best of our knowledge, this section and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this section. This section does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This section was prepared for the Fairfax County Employees' Retirement System for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this section 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



Fiona E. Liston, FSA
Principal Consulting Actuary



Coralie A. Taylor, FSA
Associate Actuary



Summary of Valuation Results

The Actuarially Determined Contribution rate for Fiscal Year (FY) 2017 was developed in the 2015 valuation report and was based on a corridor floor of 97%. For more information on the Corridor method please see the Funding Method section of this report.

Amounts disclosed in Note 4 of the Financial Section were developed in conjunction with the 2017 valuation.

Summary of Actuarial Assumptions and Methods

Funding Method

The entry age normal funding method is used to determine costs. Under this method, the County contribution has three components: the normal cost, the payment toward the unfunded actuarial liability, and the expense rate.

The normal cost is a level percent of pay cost which, along with the member contributions, will pay for projected benefits at retirement for each plan participant.

The actuarial liability is that portion of the present value of future benefits that will not be paid by future County normal costs or member contributions. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The expense rate is added to cover the System's administrative expenses.

Under the corridor funding method, the County's total contribution rate is equal to the normal cost rate plus the unfunded actuarial liability (UAL) amortization rates for changes due to assumption changes or amendments passed since July 1, 2001 plus the expense rate as long as the System's actuarial funded ratio remains within a corridor of 90% to 120%. If the funded ratio falls outside this corridor, a credit (if above 120%) or charge (if below 90%) will be established based on a 15-year amortization equal to the amount necessary to re-enter the corridor. Once the funded ratio is within the corridor, the contribution rate will return to the normal cost rate plus amortization of post-2001 changes plus expense rate. The County is taking steps to increase the bottom of the corridor from the originally established 90% up to 100% by 2020. The Fiscal Year (FY) 2017 contribution was based on a corridor level of 97%.

Actuarial Value of Assets

For purposes of determining the County contribution to the System, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value, and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

Changes since Last Valuation

None

Long Term Assumptions Used to Determine System Costs and Liabilities

Demographic Assumptions
Healthy Mortality

Annual Deaths Per 10,000 Members		
Mortality Projected to 2017		
Age	Male	Female
20	4	2
25	5	2
30	5	2
35	6	3
40	7	4
45	11	7
50	46	27
55	64	37
60	86	55
65	125	84
70	191	134
75	309	219
80	521	370
85	908	655
90	1,602	1,175
95	2,524	1,937
100	3,581	2,873

*Post-retirement mortality shown

110% and 100% of the RP-2014 Healthy Annuitant Mortality Table for males and females, respectively, backed down to 2006 then projected using the RPEC-2015 model, with an ultimate rate of 0.65% for ages 20-85 grading down to an ultimate rate of 0% for ages 115-120 and convergence to the ultimate rate in the year 2015. The valuation uses fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

5% of pre-retirement deaths are assumed to be service-connected.

Disabled Mortality

Annual Deaths Per 10,000 Disabled Members		
Mortality Projected to 2017		
Age	Male	Female
45	174	106
50	209	135
55	237	170
60	269	205
65	326	251
70	418	337
75	569	493
80	811	745

100% and 115% of the RP-2014 Disabled Annuitant Mortality Table for males and females, respectively, backed down to 2006 then projected using the RPEC-2015 model, with an ultimate rate of 0.65% for ages 20-85 grading down to an ultimate rate of 0% for ages 115-120 and convergence to the ultimate rate in the year 2015. The valuation uses fully generational projection of mortality improvements. Sample rates shown are projected through the valuation date.

Termination of Employment
(Prior to Normal Retirement Eligibility)

Annual Termination Rates Per 1,000 Members - County	
Service	Termination
0	176
5	72
10	39
15	19
20	10
25	4
30	0

Annual Termination Rates Per 1,000 Members - Schools

Service	Termination
0	250
5	45
10	28
15	18
20	12
25	10
30	0

It is assumed that members who terminate before the earlier of age 45 or with age plus service equal to 60 elect to receive a refund of contributions instead of vested benefits.

Termination rates drop to zero three years prior to reaching Rule of 80 (or Rule of 85 for Plans C and D) retirement.

Disability

Annual Disabilities Per 10,000 Members*

Age	Male	Female
25	2	1
30	2	1
35	2	1
40	3	2
45	7	6
50	14	11
55	21	17
60	27	21

* 30% of disabilities are assumed to be service-connected. Of these, 5% are assumed to receive Social Security benefits and 31% are assumed to receive Workers' Compensation benefits.

No disability is assumed to occur once members reach eligibility for retirement

Retirement/DROP

Annual Retirements/DROPs Per 1,000 Eligible Members* (Male and Female)

Age	Normal
50	190
51	200
52	200
53	230
54	240
55	275
56	250
57	300
58	250
59	250
60	250
61	275
62	300
63	250
64	350
65	400
66	250
67	250
68	200
69	250
70	250
71	250
72	250
73	250
74	250
75	1,000

*Those who leave under this decrement are assumed to DROP in accordance with the percentages below. Those who do not take DROP are assumed to take immediate retirement. DROP participants are assumed to remain in DROP for three years and receive interest at 5% per annum on their DROP deferrals.

Percentage of Retirements/DROP who are assumed to be DROP

Age	DROP
50	70%
55	68
60	63
65	30
70	30
75	30

Merit/Seniority Salary Increase

(in addition to across-the-board increase)

Service	County	
	Merit/Seniority Increase	
0	4.00%	
5	1.55	
10	1.3	
15	1.05	
20	0.8	
25	0.55	
30	0.5	

Service	Schools	
	Merit/Seniority Increase	
0	5.20%	
5	2.1	
10	1.5	
15	1.1	
20	0.8	
25	0.6	
30	0.6	

Family Composition

For purposes of valuing the pre-retirement death benefit, an assumption is made that 80% of employees are married at death while active and that the female spouse is three years younger than the male spouse.

Sick Leave Credit

Unused sick leave balances as reported for each active member are used as of the valuation date. Future sick leave accruals for members hired prior to 2013 are assumed to accrue at 100% of each participant's annual average but are capped at 124 hours per year.

Economic Assumptions

Investment Return:	7.25% compounded per annum.
Rate of General Wage Increase:	2.75% compounded per annum.*
Rate of Increase in Cost-of-Living:	2.50% compounded per annum.**
Total Payroll Increase (For amortization):	2.75% compounded per annum.
Administrative Expenses:	0.25% of payroll.

*General Wage Increase assumption applies for projecting contributions and developing Social Security benefits.

**Benefit increases are limited to 4% per year.

Changes since Last Valuation

None

Analysis of Financial Experience
Gain and Loss in Accrued Liability during Years Ended June 30¹
Resulting from Differences between Assumed Experience and Actual Experience

Type of Activity	Investment Income	Combined Liability Experience	Gain (or Loss) During Year from Financial Experience	Non-Recurring Items	Composite Gain (or Loss) During Year
2012	\$59,620,255	(\$74,547,089)	(\$14,926,834)	-	(\$14,926,834)
2013	46,004,262	(39,401,877)	6,602,385	(\$727,193)	5,875,192
2014	113,443,149	3,445,687	116,888,836	(1,462,698)	115,426,138
2015	(33,127,096)	73,129,057	40,001,961	-	40,001,961
2016	120,548,533	34,314,735	(86,233,798)	(69,346,439)	(155,580,237)
2017	(90,769,788)	(74,947,986)	(165,717,774)	(582,418)	(166,300,192)

¹ Schedule comes from the Actuarial Valuation as of June 30, 2017

Schedule of Retirees and Beneficiaries
Added To and Removed From Rolls²

Year Ended June 30,	Added to Rolls		Removed From Rolls		On Rolls @ Yr. End		% Increase Allowance	Average Allowance
	No.	Annual Allowance	No.	Annual Allowance	No.	Annual Allowance		
2012	472	\$17,441,822	152	\$2,971,259	6,888	\$186,797,469	8.40%	\$27,119
2013	559	17,469,060	184	3,336,404	7,263	200,930,125	7.57%	27,665
2014	547	17,306,458	184	3,482,147	7,626	214,754,436	6.88%	28,161
2015	625	18,026,882	230	4,321,038	8,021	228,460,280	6.38%	28,483
2016	307	9,011,712	139	3,011,824	8,189	234,460,168	2.63%	28,631
2017	639	21,100,152	225	3,847,450	8,603	251,712,870	7.36%	29,259

² Prior to 2016, amounts are based on June 30 benefits adjusted for known COLA effective July 1. Post-2015, amounts reported are based on benefits on December 31 prior to the valuation date.

Solvency Test³

Valuation Date June 30,	Aggregate Accrued Liabilities For						
	(1) Active Member Contributions	(2) Retirees, Vested Terms, Beneficiaries & DROP	(3) Active Members (County Financed Portion)	Reported Assets	(1)	(2)	(3)
					Portion of Accrued Liabilities by Reported Assets		
2012	\$332,723,684	\$2,411,862,623	\$1,519,589,131	\$3,053,412,085	100%	100%	20%
2013	355,254,873	2,587,007,980	1,531,567,801	3,261,923,577	100%	100%	21%
2014	363,335,228	2,769,188,984	1,668,195,558	3,614,067,515	100%	100%	29%
2015	372,037,954	2,884,906,681	1,649,587,057	3,759,611,811	100%	100%	30%
2016	396,434,811	2,987,100,852	1,732,881,508	3,831,179,295	100%	100%	26%
2017	380,179,076	3,216,480,052	1,771,072,393	3,930,924,191	100%	100%	19%

³Schedule uses actuarial value of assets. Results would be different if market value of assets were used. Despite the name of this exhibit, the liabilities presented in this schedule are not an appropriate measurement of the settlement value of the System.

Schedule of Active Member Valuation Data

	Valuation Date June 30,	Number of Active Members ¹	Covered Payroll	Average Annual Salary	Percentage Increase in Average Pay
School	2017	5,836	\$194,881,548	\$33,393	4.59%
	2016	5,927	189,237,256	31,928	1.10%
	2015	5,692	179,763,202	31,582	2.09%
	2014	5,869	181,560,970	30,936	0.45%
	2013	5,901	181,728,377	30,796	6.13%
	2012	5,855	169,890,909	29,016	-3.78%
	2011	5,868	176,955,893	30,156	2.29%
	2010	6,024	177,595,319	29,481	3.07%
	2009	6,217	177,828,225	28,604	1.67%
	2008	6,250	175,830,069	28,133	
County	2017	8,150	\$533,140,400	\$65,416	5.01%
	2016	8,244	513,551,736	62,294	2.64%
	2015	7,977	484,133,722	60,691	1.53%
	2014	7,993	477,799,159	59,777	2.30%
	2013	8,110	473,884,424	58,432	2.00%
	2012	8,252	472,748,020	57,289	3.32%
	2011 ²	8,388	465,117,303	55,450	-1.35%
	2010	8,145	457,813,306	56,208	3.44%
	2009	8,399	456,378,666	54,337	4.40%
	2008	8,455	440,067,203	52,048	

¹ Excludes DROP participants.

² Includes 410 New Entrants not classified as County or Schools at time of valuation.

The Statistical Section presents historical information regarding the retirement plan. This information includes a ten-year analysis of the sources of change in plan net assets, benefit payments, the number of retired members and average monthly benefits. Sources of additions include employer and plan member contributions and net investment income; deductions include benefit payments to retirees and beneficiaries, refunds of employee contributions and administrative expenses. The amounts of benefits paid, the count of benefit recipients and the average benefit payments are provided by type of benefit, including service retirement annuities, service-connected and ordinary disability benefits and survivor benefits.

Schedule of Additions by Source

Fiscal Year	Plan Member Contributions	Employer Contributions	Employer Contributions		Total Additions
			% of Covered Payroll	Net Investment Income (loss)	
2008	\$31,583,496	\$62,636,121	9.59%	\$23,018,667	\$117,238,284
2009	33,927,190	65,110,832	9.62%	-653,558,145	-554,520,123
2010	31,733,516	64,069,102	9.71%	506,165,571	601,968,189
2011	31,041,076	96,607,535	14.70%	577,459,169	705,107,780
2012	31,702,075	114,682,538	17.20%	246,376,212	392,760,825
2013	32,551,927	127,448,018	19.05%	245,374,617	405,374,562
2014	32,758,587	129,618,309	19.30%	490,196,386	652,573,282
2015	33,193,593	138,493,099	20.18%	16,342,457	188,029,149
2016	34,627,061	155,780,373	21.99%	-16,668,287	173,739,147
2017	35,476,023	167,311,608	22.90%	243,496,177	446,283,808

Schedule of Deductions by Type

Fiscal Year	Benefit Payments	Refunds of Contributions	Administrative Expenses	Total Deductions
2008	\$130,453,013	\$4,376,612	\$1,832,903	\$136,662,528
2009	165,529,137	3,256,153	1,519,846	170,305,136
2010	166,271,110	4,075,162	1,593,223	171,939,495
2011	183,800,128	3,884,082	1,640,016	189,324,226
2012	199,503,336	3,781,497	1,687,040	204,971,873
2013	219,229,038	2,988,397	1,877,620	224,095,055
2014	235,204,611	3,356,282	1,884,827	240,445,720
2015	254,875,795	3,958,786	1,896,614	260,731,195
2016	270,800,631	4,101,311	2,112,595	277,014,537
2017	281,258,687	3,671,886	2,050,848	286,981,421

Schedule of Benefit Payments by Type

Fiscal Year	Service Annuity	Service- Connected Disability	Ordinary Disability	Survivor Benefit	Total
2008	\$120,689,116	\$2,958,765	\$3,835,111	\$2,970,020	\$130,453,012
2009	155,179,988	3,200,844	3,845,105	3,303,200	165,529,137
2010	155,512,982	3,232,803	3,939,896	3,585,429	166,271,110
2011	172,362,105	3,176,876	4,232,345	4,028,802	183,800,128
2012	187,702,064	3,187,892	4,353,983	4,259,397	199,503,336
2013	206,701,293	3,436,007	4,490,924	4,600,814	219,229,038
2014	222,547,552	3,416,714	4,412,110	4,828,235	235,204,611
2015	241,694,202	3,498,363	4,444,633	5,238,597	254,875,795
2016	257,182,159	3,482,679	4,371,713	5,764,080	270,800,631
2017	267,245,571	3,501,643	4,323,112	6,188,361	281,258,687

Schedule of Retired Members by Benefit Type

Fiscal Year	Service Annuity	Service- Connected Disability	Ordinary Disability	Survivor Benefit	Total
2008	4,791	161	383	250	5,585
2009	5,133	153	383	262	5,931
2010	5,392	157	389	280	6,218
2011	5,712	153	400	303	6,568
2012	6,030	152	396	310	6,888
2013	6,392	153	390	328	7,263
2014	6,757	149	374	346	7,626
2015	7,139	149	368	365	8,021
2016	7,300	149	359	381	8,189
2017	7,691	146	358	408	8603

Schedule of Average Monthly Benefit Amounts

Fiscal Year	Service Annuity	Service- Connected Disability	Ordinary Disability	Survivor Benefit	Average
2008	\$2,144	\$1,619	\$845	\$1,070	\$1,991
2009	2,187	1,710	841	1,092	2,039
2010	2,250	1,708	872	1,193	2,102
2011	2,339	1,761	896	1,225	2,186
2012	2,409	1,857	935	1,247	2,260
2013	2,450	1,913	941	1,274	2,305
2014	2,503	2,105	968	1,284	2,364
2015	2,506	2,148	988	1,323	2,376
2016	2,521	2,272	1,005	1,360	2,396
2017	2,568	2,103	995	1,344	2,436

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

Years of Credited Service *

Period	2-4	5-9	10-14	15-19	20-24	25-29	30+
<u>7/1/2006 to 6/30/2007</u>							
Average Monthly Benefit **	\$303	\$446	\$828	\$1,509	\$2,068	\$2,964	\$2,775
Average of Final Monthly Salaries	\$3,289	\$3,096	\$3,828	\$4,385	\$5,093	\$5,770	\$4,682
Number of Retirees	36	50	55	66	69	59	27
<u>7/1/2007 to 6/30/2008</u>							
Average Monthly Benefit **	190	530	1,026	1,712	2,255	2,819	3,229
Average of Final Monthly Salaries	2,997	3,539	4,093	5,045	5,276	5,652	5,317
Number of Retirees	26	60	43	70	69	58	31
<u>7/1/2008 to 6/30/2009</u>							
Average Monthly Benefit **	199	541	911	1,732	2,298	3,150	3,603
Average of Final Monthly Salaries	3,118	4,098	3,923	5,046	5,539	6,082	6,064
Number of Retirees	32	72	46	81	101	92	48
<u>7/1/2009 to 6/30/2010</u>							
Average Monthly Benefit **	196	496	928	1,553	2,205	2,945	3,880
Average of Final Monthly Salaries	3,088	3,451	4,034	4,678	5,409	5,646	6,346
Number of Retirees	24	60	47	66	87	43	34
<u>7/1/2010 to 6/30/2011</u>							
Average Monthly Benefit **	243	564	972	1,823	2,504	2,940	3,633
Average of Final Monthly Salaries	3,317	3,772	4,278	5,416	5,796	5,855	6,164
Number of Retirees	29	57	59	75	112	67	46
<u>7/1/2011 to 6/30/2012</u>							
Average Monthly Benefit **	259	525	970	1,690	2,565	3,042	3,699
Average of Final Monthly Salaries	3,712	3,764	4,147	5,145	6,145	6,060	6,252
Number of Retirees	25	52	54	65	89	80	30
<u>7/1/2012 to 6/30/2013</u>							
Average Monthly Benefit **	207	581	990	1,832	2,514	3,123	4,569
Average of Final Monthly Salaries	2,847	4,114	4,278	5,430	5,860	6,300	7,428
Number of Retirees	34	66	54	69	113	77	37
<u>7/1/2013 to 6/30/2014</u>							
Average Monthly Benefit **	243	538	1,012	1,746	2,512	3,173	3,918
Average of Final Monthly Salaries	3,693	3,835	4,501	5,445	5,964	6,214	6,543
Number of Retirees	30	68	69	57	88	88	39
<u>7/1/2014 to 6/30/2015</u>							
Average Monthly Benefit **	243	598	1,035	1,784	2,596	3,061	4,010
Average of Final Monthly Salaries	3,146	4,053	4,450	5,328	6,108	6,071	6,532
Number of Retirees	20	79	70	68	108	110	42
<u>7/1/2015 to 12/31/2015</u>							
Average Monthly Benefit **	171	532	1,132	1,708	2,423	3,316	3,540
Average of Final Monthly Salaries	2,784	3,682	4,751	5,117	5,640	6,581	5,826
Number of Retirees	7	37	42	34	55	51	19
<u>1/1/2016 to 12/31/2016</u>							
Average Monthly Benefit **	285	645	1,001	1,777	2,753	3,458	4,504
Average of Final Monthly Salaries	4,220	4,481	4,332	5,276	6,520	6,773	7,267
Number of Retirees	24	89	90	85	89	128	65

*The Years of Credited Service is the service used in the determination of benefits, which may be different than service for eligibility.

**Does not include supplements.

Active Participants Count by Age/Service

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	111	66	0	0	0	0	0	0	177
25 to 29	247	458	93	8	0	0	0	0	806
30 to 34	235	499	344	120	5	0	0	0	1,203
35 to 39	215	454	376	291	80	0	0	0	1,416
40 to 44	199	443	344	319	184	42	3	0	1,534
45 to 49	234	558	429	354	297	156	128	24	2,180
50 to 54	194	553	496	341	342	223	194	57	2,400
55 to 59	158	452	494	435	331	149	75	50	2,144
60 to 64	101	303	385	337	205	74	42	26	1,473
65 & up	43	143	194	132	79	21	20	21	653
Total	1,737	3,929	3,155	2,337	1,523	665	462	178	13,986

Active Participants Total Salary by Age/Service

Age	Service								Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 & Up	
Under 25	\$3,451,049	\$2,465,581	\$0	\$0	\$0	\$0	\$0	\$0	\$5,916,630
25 to 29	9,254,729	20,868,341	4,315,284	395,293	0	0	0	0	34,833,647
30 to 34	8,925,166	24,709,042	18,096,154	6,050,443	244,254	0	0	0	58,025,059
35 to 39	7,881,399	22,034,365	20,427,335	16,569,102	4,755,441	0	0	0	71,667,642
40 to 44	6,515,118	19,206,524	18,070,090	18,529,948	12,074,471	2,866,094	210,907	0	77,473,152
45 to 49	6,851,541	21,984,739	20,882,140	20,355,888	20,122,641	12,688,345	9,982,280	1,811,307	114,678,881
50 to 54	6,320,946	19,579,173	22,895,913	18,941,604	22,769,021	16,925,090	16,148,502	4,730,124	128,310,373
55 to 59	4,765,623	17,171,392	21,688,658	23,144,981	20,915,057	11,269,544	6,196,458	4,448,643	109,600,356
60 to 64	2,887,124	10,669,197	16,870,025	17,476,485	12,687,670	4,812,113	3,502,623	2,836,538	71,741,775
65 & up	1,049,683	4,232,990	6,972,883	5,836,550	4,601,031	1,373,936	1,385,744	2,076,603	27,529,420
Total	57,902,378	162,921,344	150,218,482	\$127,300,294	\$98,169,586	\$49,935,122	\$37,426,514	\$15,903,215	\$699,776,935

Retirees by Location

Top 10 States	Employees'
Virginia	79.40%
Florida	3.93%
Maryland	3.35%
North Carolina	2.70%
South Carolina	1.71%
West Virginia	1.53%
Pennsylvania	0.78%
Texas	0.61%
California	0.56%
Washington, D.C.	0.49%

	Employees'
Fairfax County	37.73%

Within Fairfax County	Employees'
Alexandria	5.42%
Fairfax	4.76%
Springfield	4.67%
Centreville	3.00%
Herndon	2.54%
Falls Church	2.71%
Annandale	2.29%
Burke	2.14%
Vienna	2.06%
Reston	2.08%
Lorton	1.27%
Chantilly	1.14%
Clifton	1.00%
Fairfax Station	0.82%
McLean	0.92%
Oakton	0.50%
Great Falls	0.28%
Fort Belvoir	0.05%
Dunn Loring	0.04%
Merrifield	0.04%

EMPLOYEES' RETIREMENT SYSTEM



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