



Comprehensive Annual Financial Report

For the fiscal year ended June 30, 2016

*A Pension Trust Fund of the
City of Richmond, Virginia*

Richmond Retirement System

RRS

Building your financial future

Comprehensive Annual Financial Report

for the fiscal year ended
June 30, 2016

Vision

Our vision is to be a recognized leader in pension fund management and administration, the standard by which others measure their progress and success. Every employee of the RRS displays a devotion to maintaining excellence in public service and embraces the highest standards of excellence, accountability, dependability and integrity. All participating employers, along with active, former and vested members, should take pride in knowing that the RRS provides the best retirement services available and is an exemplary steward of their pension funds.

Mission

To deliver timely and effective communications and retirement services with integrity and professionalism to the members of the Richmond Retirement System, its Board of Trustees, City officials, departments, and City Council.

A publication of the
Richmond Retirement System,
A pension trust fund of the City of Richmond, Virginia

Virginia State Capitol cover photo courtesy of Richmond Region Tourism





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Scene from the 2015 UCI Road World Championships



Restaurants, offices, and homes along Richmond's Canal Walk

Introductory Section

In this section:

Awards

Letter of Transmittal

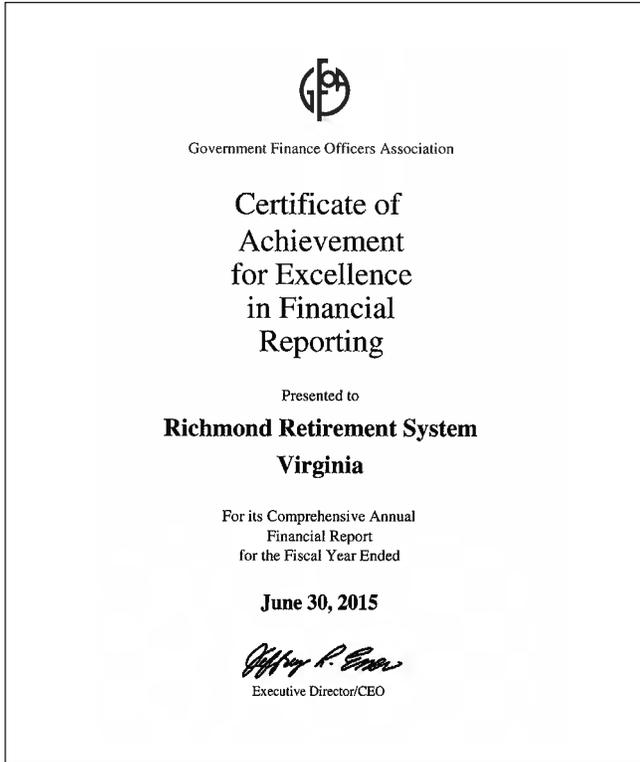
Organizational Chart

Board of Trustees

Executive Director

Services, Examiners and Investment Managers

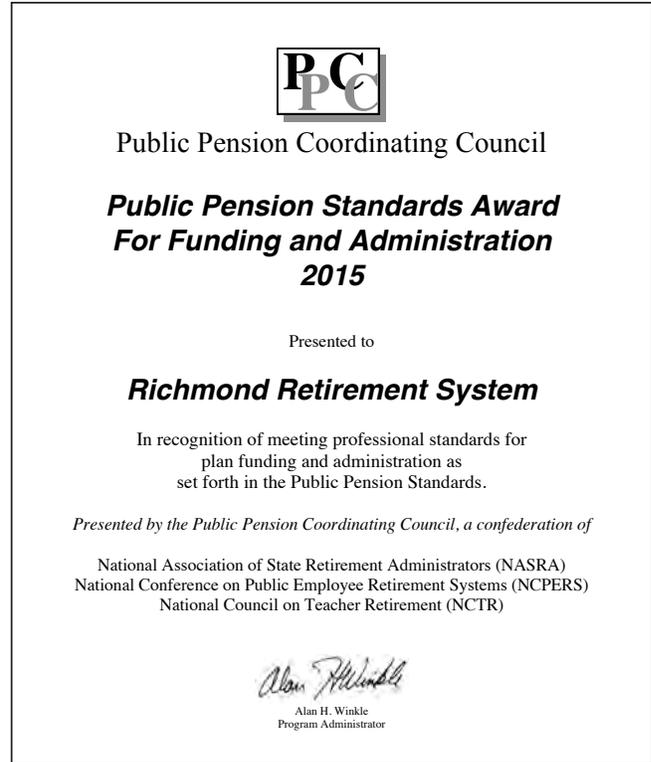
Awards



Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the RRS for its Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2015. This was the 25th consecutive year that the RRS achieved this prestigious recognition.

To be awarded the certificate, a government unit must publish an easily readable and efficiently organized comprehensive annual report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. The certificate is valid for a period of one year. The RRS's CAFR for FY 2016 continues to conform to the Certificate of Achievement Program requirements.



Public Pension Coordinating Council Achievement Award

The RRS received the 2015 Achievement Award from the Public Pension Coordinating Council (PPCC) in recognition of the agency's excellence in meeting the Public Pension Standards. Developed by PPCC, these standards are the benchmark for measuring excellence in defined benefit plan funding and administration.

This is the sixth award from the PPCC. The purpose of the award is to promote high professional standards for public employee retirement systems and publicly commend systems that adhere to these standards. The PPCC is a coalition of the National Association of State Retirement Administrators (NASRA), National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR).

Letter of Transmittal



October 28, 2016

To the Honorable Richmond City Council and
Mayor Dwight C. Jones
Richmond, VA 23219

Enclosed is the Comprehensive Annual Financial Report (CAFR) for the Richmond Retirement System (System or RRS) for the fiscal year ended June 30, 2016. RRS began its first year of operations in 1945 and is managed in accordance with the Richmond City Charter (5B.01) and Chapter 22 of the Richmond Municipal Code.

This CAFR consists of five sections: The Introductory Section contains the letter of transmittal and an explanation of the administrative organization of the System; the Financial Section contains the audited financial statements as well as an opinion letter from the System's independent certified public accountants; the Investment Section includes information related to the System's investments; the Actuarial Section contains actuarial data and schedules; the last section is the Statistical Section, which contains schedules and membership information.

The compilation of this report reflects the combined efforts of the Retirement Department staff under the leadership and governance of the RRS Board of Trustees. The intent of this report is to provide complete and reliable information to assist in management decisions, to present evidence of compliance with legal provisions and to demonstrate responsible stewardship of the System's assets.

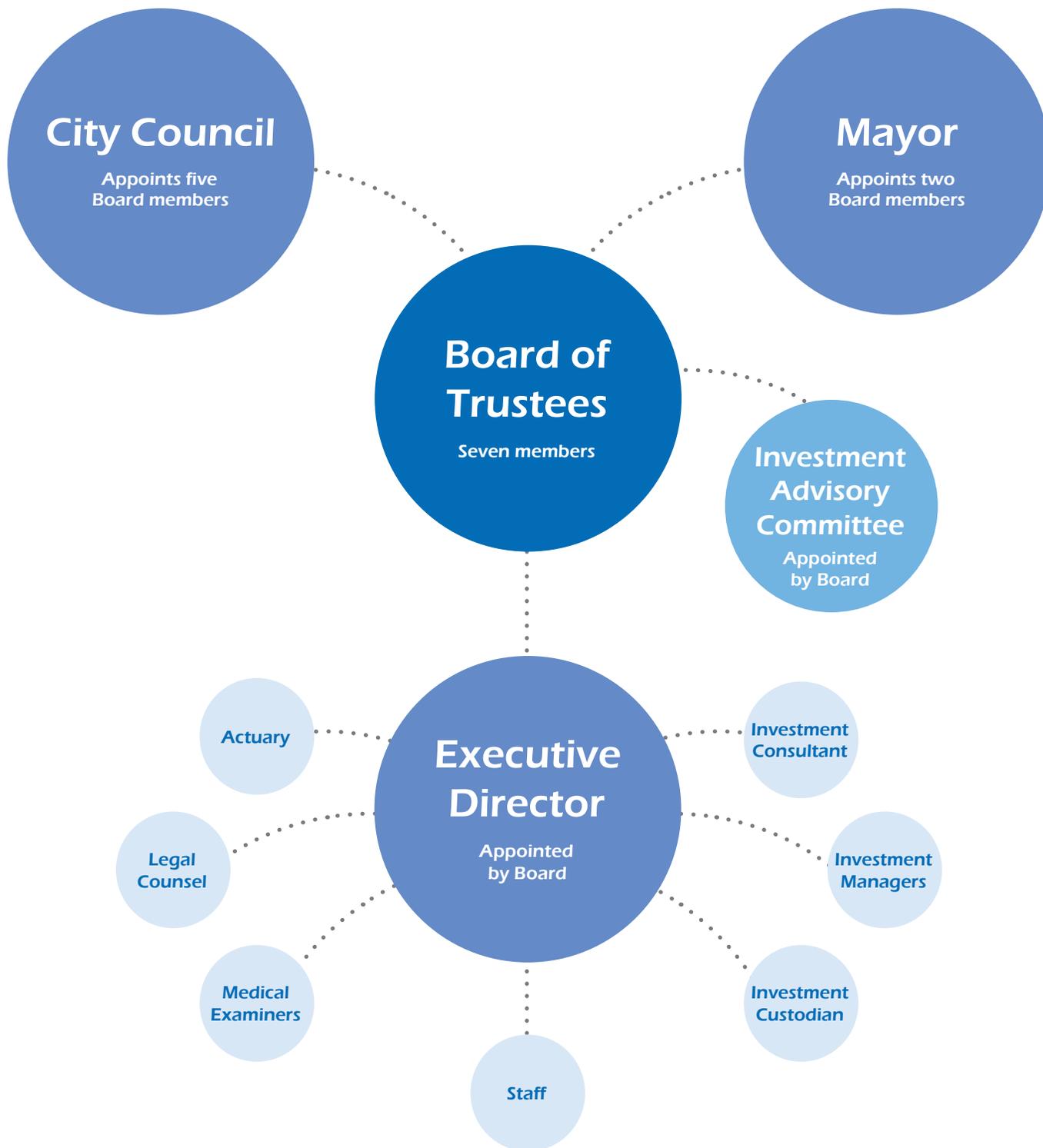
Lastly, I would like to express my gratitude to the Retirement Department staff; without them, this report would not be possible.

Respectfully submitted,

A handwritten signature in black ink that reads "Leo F. Griffin".

Leo F. Griffin, CPA
Executive Director

Organizational Chart



Board of Trustees



David H. Naoroz*
Chairman
Lieutenant
Police Department
City of Richmond
Current term expires: October 27, 2017



Kevin W. Davenport*
Vice Chairman
Vice President of Administration & Finance
and CFO
Virginia State University
Current term expires: March 8, 2018



Jacquelyn E. Stone, Esq.
Partner
McGuire Woods, LLP
Current term expires: March 28, 2017



Matthew E. Peanort*
Budget & Management Analyst
Department of Budget and Strategic Planning
City of Richmond
Current term expires: October 25, 2016



Michael Williams*
Group SVP/Head of Wealth Management
Park Sterling Bank
Current term expires: July 27, 2017

**Eligible for reappointment*

Executive Director



Leo F. Griffin, CPA
Executive Director
Richmond Retirement System

Investment Advisory Committee

The Board of Trustees has established an Investment Advisory Committee (IAC) to provide recommendations to the Board on investments and investment policy. Members of the IAC serve at the pleasure of the Board of Trustees.

The IAC meets quarterly and consists of five to seven members of which at least two are current members of the Board. The remainder of the IAC are persons who are not otherwise affiliated with RRS and who have demonstrated skill and expertise in institutional investments.

IAC members who are not members of the Board of Trustees serve up to two consecutive three-year terms for a total of six years. IAC members who also serve on the Board of Trustees have IAC terms that match their two consecutive three-year Board terms.

As of July 28, 2016

Services, Examiners and Investment Managers

Professional Services

Consulting Actuary

SageView Consulting Group, LLC

Independent Auditor

Moss Adams LLP

Investment Consultant

NEPC, LLC

Investment Custodian

State Street Corporation

Medical Examiners

Cardiopulmonary

Dr. Phillip B. Duncan

General Medicine

Dr. Roderick Haithcock

Dr. George Maughan

Orthopedic

Dr. Robert S. Adelaar

Dr. William Fleming

Dr. Harry Shaia

OrthoVirginia

Tuckahoe Orthopaedic Associates, Ltd.

Vascular Specialist

Dr. Broadie G. Newton

The Vascular Group at Richmond

Surgical Group

Eye, Ear, Nose and Throat

Dr. Nicholas G. Tarasidis

Mental Health

Dr. William Brock

Investment Managers

Abbey Capital, Ltd.

Dublin, Ireland

ABS Investment Management, LLC

Greenwich, CT

Acadian Asset Management, Inc.

Boston, MA

Alcentra Ltd.

London, UK

Allianz Global Investors LLC

New York, NY

Audax Group, L.P.

Boston, MA

Axiom International Investors, LLC

Greenwich, CT

BlackRock Financial Management, Inc.

New York, NY

Brandywine Global Investment Management, LLC

Philadelphia, PA

CarVal

Hopkins, MN

CenterSquare Investment Management

Plymouth Meeting, PA

Chartwell Investment Partners

Berwyn, PA

Coller Capital

London, UK

EIG Global Energy Partners

Washington, D.C.

Global Credit Advisors

New York, NY

Golub Capital

New York, NY

J.P. Morgan Asset Management

New York, NY

Lexington Partners, Inc.

Boston, MA

Loomis, Sayles & Co., L.P.

Boston, MA

LSV Asset Management

Chicago, IL

Oaktree Capital Management

Los Angeles, CA

Orion Capital Managers

London, UK

Park Square Capital, LLP

London, UK

Pine Grove Associates, Inc.

Summit, NJ

Private Advisors, LLC

Richmond, VA

Protégé Partners QP Fund, Ltd.

New York, NY

Rimrock Capital Management, LLC

Irvine, CA

State Street Global Advisors

Boston, MA

StepStone Group, LLC

San Diego, CA

Stone Harbor Investment Partners, L.P.

New York, NY

TPG Opportunities Partners, L.P.

Fort Worth, TX

Tricadia Capital Management, LLC

New York, NY

Westwood Management

Dallas, TX



Offices in downtown Richmond, Virginia

Financial Section

The RRS administers retirement benefit plans for its active members, retirees and beneficiaries. The purpose of the financial section is to present the plan's financial condition for the fiscal year. To support this information, this section includes Management's Discussion and Analysis as well as the Notes to the Financial Statements.

In this section:

Report of Independent Auditor
Management's Discussion and Analysis
Statement of Fiduciary Net Position
Statement of Changes in Fiduciary Net Position
Notes to Financial Statements
Summary of Significant Financial Policies
Deposits and Investments
Litigation
Plan Description
Contributions Required and
Contributions Made

Report of Independent Auditor

WWW.MOSSADAMS.COM

MOSS ADAMS LLP
Certified Public Accountants | Business Consultants

To the Board of Trustees
Richmond Retirement System
Richmond, Virginia

Report on the Financial Statements

We have audited the accompanying financial statements of the Richmond Retirement System (the “System”), a component unit of the City of Richmond, Virginia, which are comprised of the statements of fiduciary net position as of June 30, 2016 and 2015, the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

Management’s Responsibility for the Financial Statements

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

Auditor’s Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

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

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of June 30, 2016 and 2015, and the respective changes in net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

continued on next page

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the accompanying management's discussion and analysis, schedule of changes in the employer's net pension liability and related ratios, schedule of employer's contributions, notes to the schedules, and schedule of investment returns be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming opinions on the System's financial statements. The schedule of administrative expenses, schedule of investment expenses, schedule of payments to investment consultant, and schedule of retirement benefit payments (collectively, the "supplementary information") are presented for purposes of additional analysis and are not a required part of the financial statements.

The supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated in all material respects in relation to the financial statements as a whole.

Other Information

The introductory, investment, actuarial, and statistical sections as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements of the System. Such additional information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we express no opinion on it.

Moss Adams LLP

Albuquerque, New Mexico
October 27, 2016



Management's Discussion and Analysis

The discussion and analysis of the Richmond Retirement System's (RRS) pension fund financial performance provides an overview of its financial activities and funding condition for the fiscal year ended June 30, 2016.

Financial Highlights

The rate of return on investments during the fiscal year ended June 30, 2016 was -0.1% (net of fees).

The RRS's net position decreased by \$24,807,072 to \$515,253,793 during fiscal year 2016. The total assets were \$560,310,816 and the total liabilities were \$45,057,023. The fair value of the investment portfolio decreased by \$24,253,970.

The major components of the RRS's additions to net position were contributions of \$47,093,425. There was a net investment loss of \$1,498,570.

The primary deductions of the RRS's net position were the retirement, survivor, and disability benefit payments to members and their beneficiaries; additional deductions were for administrative costs. Deductions for fiscal year 2016 totaled \$70,401,927, an increase of \$885,496 or 1.27% over fiscal year 2015. The increase is primarily attributable to an increase in retirement benefit payments and refunds to non-vested members.

Plan Membership

As of June 30, 2016, there were 1,911 active employees, 4,322 retired members & beneficiaries, and 1,618 terminated members with a vested benefit. Please see the Schedule of Membership on page 64 for a complete listing of active members by department.

Financial Statements

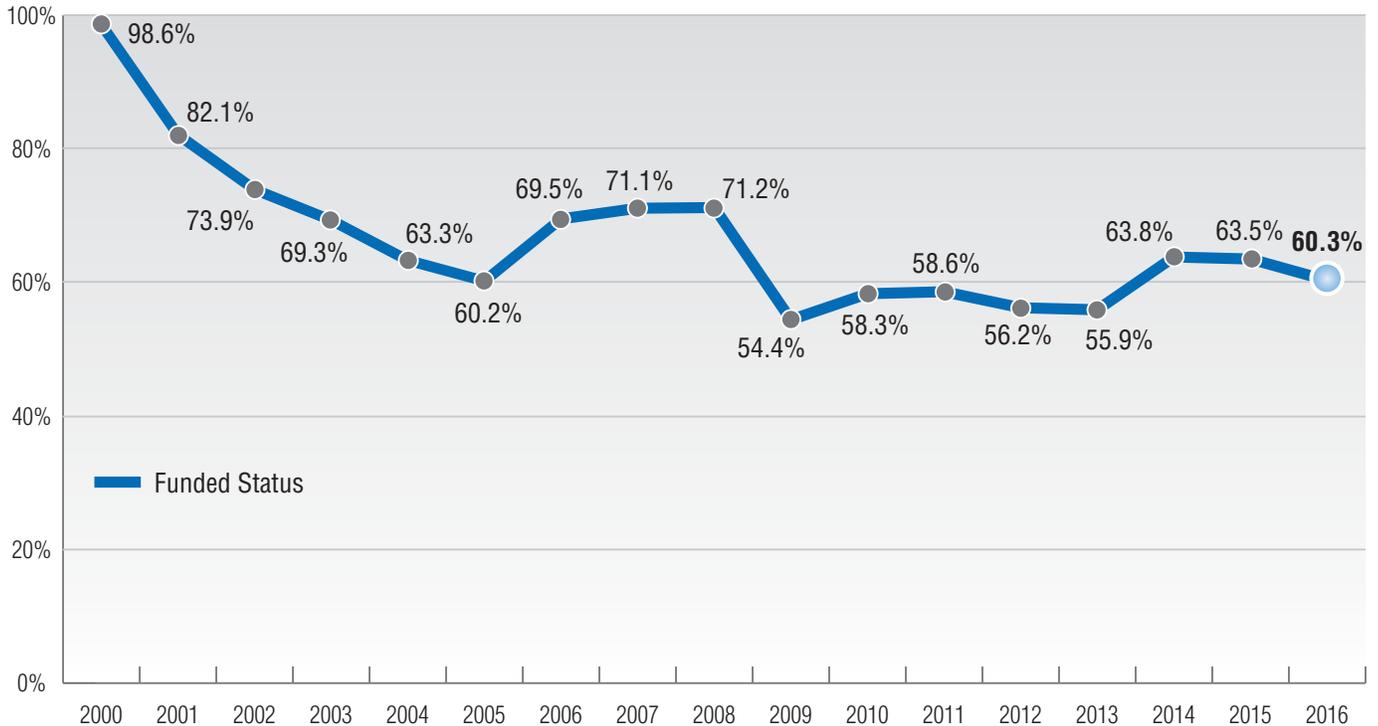
The financial statements are designed to provide readers with a broad overview of the RRS's finances in a manner similar to a private-sector business and in accordance with U.S. Generally Accepted Accounting Principles (GAAP).

The Statement of Fiduciary Net Position on (page 18) presents information on all of the RRS's assets and liabilities, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether or not the financial position of the system is improving.

The Statement of Changes in Fiduciary Net Position (page 19) displays the changes in the RRS's net position that occurred during the fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in the statement for some items that will result in cash flows in future fiscal periods (for example, administrative expenses and investment expenses).

The City of Richmond's financial statements present information about the RRS as a fiduciary pension trust fund. A fiduciary fund is used to account for resources held for the benefit of parties outside the government. Fiduciary funds are not available to support the City of Richmond's programs.

Schedule of Funding Progress *As of June 30, 2016*



Funding Status

Funding status is the ratio of the fair value of plan assets compared to the actuarial liability, or pension obligation. For fiscal years ended on or before June 30, 2014, the funding status was determined using the actuarial value of the assets and the Projected Unit Credit Method. Beginning with the fiscal year ended June 30, 2014, the funding status is determined using the market value of assets and the Entry Age Actuarial Cost Method. An increase in the funded status over time usually indicates a plan is becoming financially stronger. However, a decrease will not necessarily indicate a plan is in financial decline. Changes in actuarial assumptions and the performance of financial markets can significantly impact the funded status.

The primary concern to most pension plan participants is the amount of money available to pay benefits. The City of Richmond has traditionally contributed the actuarially determined contributions (ADC) as determined by the RRS's actuary. City Code requires that contributions to the RRS consist of a normal contribution plus an accrued liability contribution which, combined, equal the ADC.

Summary of Financial Statements

Activity for the Fiscal Year Ended June 30	FY 2016	Increase/ (Decrease)	FY 2015	Increase/ (Decrease)	FY 2014
Total Assets	\$560,310,816	\$(32,585,177)	\$592,895,993	\$(3,311,983)	\$596,207,976
Total Liabilities	(45,057,023)	7,778,106	(52,835,129)	(1,531,453)	(51,303,676)
Net Position	515,253,793	(24,807,072)	540,060,865	(4,843,434)	544,904,299
Contributions	47,093,425	(1,938,238)	49,031,663	4,570,549	44,461,114
Net Investment Earnings	(1,498,570)	(17,139,904)	15,641,334	(60,821,952)	76,463,286
Total Additions	45,594,855	(19,078,141)	64,672,996	(56,251,403)	120,924,399
Benefits Payments	69,049,286	781,018	68,268,268	947,403	67,320,865
Administrative Expenses	1,352,641	104,479	1,248,162	(69,854)	1,318,016
Total Deductions	70,401,927	885,496	69,516,431	877,549	68,638,882
Total Additions	45,594,855	(19,078,141)	64,672,996	(56,251,403)	120,924,399
Total Deductions	(70,401,927)	(885,496)	(69,516,431)	(877,549)	(68,638,882)
Net Change	\$(24,807,072)	\$(19,963,637)	\$(4,843,435)	\$(57,128,952)	\$52,285,517.00

Contribution Rates				
General	44.20%		39.08%	35.70%
Police/Fire	38.93%		42.44%	39.83%

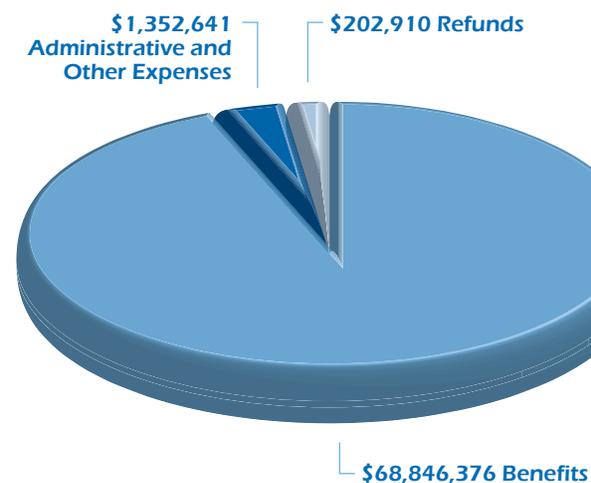
Notes to the Financial Statements

The notes to the basic financial statements provide additional information essential for a full understanding of the information provided in the RRS's financial statements.

The condensed financial data of net position, additions, and deductions for the fiscal years ended June 30, 2016, 2015, and 2014 is presented above.

Pension Plan Activity

Fiscal Year 2016



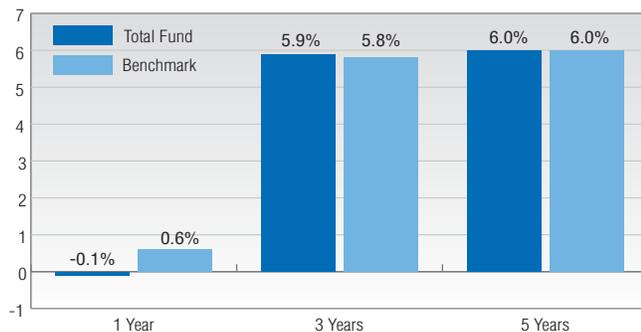
Investment Activities

Investment income is vital to the RRS's current and continued financial stability. Therefore, the Board of Trustees has a fiduciary responsibility to act prudently when making investment decisions. To assist the Board in this area, a comprehensive formal investment policy is updated periodically.

The Board and its consultant, NEPC, review portfolio performance quarterly. Performance is evaluated individually by money manager style, collectively by investment type and for the aggregate portfolio.

The Total Fund returns are reported net of fees. As of June 30, 2016 the RRS's Total Fund return was -0.1% which was 0.7% below the benchmark. The RRS's Total Fund gained 6.0% on an average annual basis in the five-year period ending June 30, 2016, which matched the Total Fund benchmark for the same period. A schedule of investment results of one-year, three-year, and five-year average performance, with comparable benchmarks, is available in the Investment Section (see page 44.)

Investment Performance *(Net of Fees)*



Economic Factors

In terms of economic outlook, two factors primarily impact the system: the employer/employee contributions; and the return on investments. These factors directly impact the primary functions of the pension trust, which are to appropriately award and pay benefits and manage investments.

Notable Events

In fiscal year ended June 30, 2016 the RRS implemented GASB 72, which provides standards for determining Fair Value measurements for investments and properly applying them for reporting purposes.

Contacting the RRS's Financial Management

The financial report is designed to provide citizens, taxpayers, plan participants and others with an overview of the RRS's finances and exercise of the Board of Trustees's oversight. If you have any questions regarding this report or need additional financial information, please contact the Richmond Retirement System, 730 E. Broad Street, Suite 900, Richmond, Virginia 23219.

Statement of Fiduciary Net Position

Defined Benefit Pension Trust Fund

As of June 30, 2016

Assets	2016	2015
Cash and Short-Term Investments (Note II)	<u>\$8,455,536</u>	<u>\$8,176,567</u>
Receivables		
Receivables for Security Transactions	2,269,743	3,886,944
Employer Contributions	2,490,929	2,124,654
Interest and Dividends	279,786	227,165
Other Receivables	207,110	156,890
Total Receivables	<u>5,247,568</u>	<u>6,395,652</u>
Investments, at Fair Value (Note II)		
U.S. Equities	134,912,494	152,660,796
International Equities	84,950,534	90,845,778
U.S. Fixed Income	33,334,805	44,649,340
Global Fixed Income	94,768,118	92,678,170
Opportunistic Fixed Income	27,745,095	28,234,919
Real Estate and Related Debt	36,360,485	32,086,715
Hedge Funds	65,205,502	69,751,058
Private Debt	27,912,140	19,032,349
Private Equity	15,919,139	15,423,158
Total Net Investments	<u>521,108,312</u>	<u>545,362,282</u>
Net Cash Collateral Received Under Securities Lending Program	24,958,666	32,381,743
Fixed Assets		
Net Furniture, Fixtures & Equipment	228,986	232,962
Net Leasehold Improvement	311,748	346,788
Total Net Fixed Assets	<u>540,734</u>	<u>579,749</u>
Total Assets	<u>560,310,816</u>	<u>592,895,993</u>
Liabilities		
DROP Payable	11,463,128	9,325,422
Payable for Security Transactions	6,357,141	7,532,747
Accounts Payable and Accrued Expenses	1,530,739	2,772,946
Investment Expenses Payable	456,000	555,500
Retirement and Death Benefits Payable	258,786	266,770
Total Accounts Payable	<u>20,065,794</u>	<u>20,453,386</u>
Payable for Collateral Received Under Securities Lending Program	24,991,229	32,381,743
Total Liabilities	<u>45,057,023</u>	<u>52,835,129</u>
Net Position Restricted for Pensions	<u>\$515,253,793</u>	<u>\$540,060,865</u>

The accompanying Notes to Financial Statements, which begin on page 20, are an integral part of this statement.

Statement of Changes in Fiduciary Net Position

Defined Benefit Pension Trust Fund

As of June 30, 2016

Additions	2016	2015
Employer Contributions (Note V)	\$43,552,035	\$45,330,242
Richmond Behavioral Health Authority	1,268,797	1,128,002
Other	105,211	78,625
Total Employer Contributions	44,926,043	46,536,869
Total Member Contributions	1,976,022	2,347,163
Total Contributions	46,902,065	48,884,032
Investment Income (Loss)		
Net Increase (Decrease) in Fair Value of Investments (Note II)	(2,848,476)	11,736,262
Dividends	2,666,989	3,808,161
Interest	602,466	2,463,194
Total Investment Income before Investment Expense	420,979	18,007,617
Investment Expenses	(1,966,927)	(2,420,344)
Net Investment Income (Loss)	(1,545,948)	15,587,273
Security Lending Income		
Gross Income	160,478	95,201
Less Borrower Rebates and Agent Fees	(113,100)	(41,141)
Net Security Lending Income	47,378	54,060
Total Net Investment Gain (Loss)	(1,498,570)	15,641,334
Total Additions	45,403,495	64,525,365
Deductions		
Retirement Benefits	(68,846,376)	(68,140,450)
Refunds of Member Contributions	(202,910)	(127,818)
Administrative Expenses	(1,101,199)	(1,100,531)
Depreciation Expense	(60,082)	-
Total Deductions	(70,201,567)	(69,368,800)
Net Decrease	(24,807,072)	(4,843,435)
Net Position Restricted for Pensions		
Beginning of Year	540,060,865	544,904,299
End of Year	\$515,253,793	\$540,060,865

The accompanying Notes to Financial Statements, which begin on the following page, are an integral part of this statement.

Notes to Financial Statements

I. Summary of Significant Financial Policies

(A) Financial Reporting Entity

The Richmond Retirement System (RRS) is a single employer defined benefit plan and a component unit of the City of Richmond (the City), Virginia. The RRS's operations are accounted for as a blended component unit in the City's financial reporting entity because it provides services for the benefit of the City's employees. Its operations are included in the City of Richmond's basic financial statements as a fiduciary pension trust fund.

(B) Administration and Management

The RRS is governed by the Board of Trustees (the Board), which administers the retirement program according to the requirements of the Code of the City of Richmond, and other governing law. The Board has full power to invest and reinvest the trust funds of the RRS through the adoption of the investment policies and guidelines that fulfill the Board's investment objectives to maximize long-term investment returns while targeting an acceptable level of risk.

The Board of Trustees consists of seven members; City Council appoints five members and the Mayor appoints two members. The Board appoints an Executive Director to administer and transact the RRS's business. The Board also retains outside investment managers and consultants to advise and assist in the implementation of these policies. State Street Corporation is the custodian of designated assets of the RRS.

The provisions of Chapter 22 of the Code of the City of Richmond govern the actual operations of the RRS.

The Board of Trustees also has oversight of the Defined Contribution 401(a) Plan established for employees of participating employers who were hired or rehired on or after July 1, 2006. The Defined Contribution Plan's financial transactions are not recorded in the RRS's accounting system. Therefore, these programs are not

included in the RRS's financial statements. Additional information about the Defined Contribution 401(a) Plan is provided in the statistical section of this report.

(C) Accounting Basis

The financial statements are presented in accordance with U.S. Generally Accepted Accounting Principles (GAAP) using the accrual basis of accounting and the economic resources measurement focus.

Under the accrual basis, revenues are recognized when earned and expenses are recognized when liabilities are incurred, regardless of the timing of related cash flows.

Member and employer contributions are recognized as revenue, when due, in the period in which employees' services are performed pursuant to the City of Richmond Code.

Investment income is recognized when earned by the plan. Benefits and refunds are recognized when due and payable in accordance with the City Code.

(D) Actuarial Basis and Contribution Rates

The funding policy for the pension plan provides for periodic employer contributions at actuarially determined rates as a percentage of payroll and will accumulate sufficient assets to meet the costs of all benefits when due. Member and employer contributions are required by Sections 22-112 – 22-114 of the City Code.

The July 1, 2014 valuation developed contribution rates for the fiscal year ending June 30, 2016 using the Entry Age Actuarial Cost Method. This method is also used in the RRS' Fiscal Year (FY) 15 annual valuation for purposes of determining funded status. The unfunded actuarial liability, and any changes in unfunded actuarial liability due to changes in benefit provisions, actuarial gains and losses and changes in methods and assumptions, is amortized over a period of 20 years, with contributions increasing 4% per year for Police and Fire employees and level contributions for General Employees.

Actuarial valuations estimate the value of reported amounts using assumptions about the probability of future events. The actuarial assumptions relate to mortality, turnover, disability, and other occurrences that have an impact on the amount and timing of future benefits. Actuarially determined amounts are subject to revision as actual results are compared with past expectations and new estimates are made about the future. The required supplemental schedules of employer net pension liability and contributions, which follow these notes, present historical information about the relationship between plan assets and liabilities and the employers' ability and willingness to meet their funding obligations.

(E) Administrative Expenses and Budget

The Board of Trustees approves expenses related to the administration and management of the RRS. These expenses are included in a budget prepared using the full accrual basis of accounting. Expenses for goods and services received but not paid for prior to the RRS's fiscal year end are accrued for financial reporting purposes in accordance with GAAP. Administrative expenses for the fiscal year ended June 30, 2016, are presented in the Schedule of Administrative Expenses in the Supporting Schedules Section following the Required Supplementary Information.

(F) Governmental Accounting Standard Board (GASB) Statements

At June 30, 2016 the Richmond Retirement System implemented the following GASB pronouncement.

GASB Statement No. 72 — Fair Value Measurement and Application. This statement provides guidance for determination of the fair value of assets and liabilities and requires additional footnote disclosures related to the fair value measurement of those assets and liabilities. The statement requires governments to use approved measurement approaches for fair value and creates a hierarchy of inputs for the valuations used in measurement. The fair value disclosure and hierarchy of inputs is presented in Note II (c), investments, on page 23.

II. Deposits and Investments

(A) Deposits

On June 30, 2016, the carrying amount of the RRS's deposits with financial institutions was \$443,352 and the bank's reporting balance was \$1,693,187. The difference in amounts is attributable to timing, such as outstanding checks and other items. All funds deposited in banks are protected under the provisions of the Virginia Securities for Public Deposit Act.

(B) Securities Lending Program

The RRS lends securities to firms on a temporary basis through its custodian bank, State Street Corporation (Custodian) to approved borrowers. During the fiscal year, the Custodian acted as an agent of the RRS and received cash or other collateral, including securities issued or guaranteed by the United States government, for the securities lent.

Borrowers were required to deliver collateral for each loan in amounts equal to at least 100% of the fair value of the loaned securities. The RRS did not impose any restrictions during the fiscal year on the amount of the loans that the Custodian made on its behalf, and the Custodian indemnified the RRS by agreeing to purchase replacement securities, or return the cash collateral, in the event the borrower failed to return the loaned security. There were no such failures by any borrowers during the fiscal year, nor were there any losses during the fiscal year resulting from a default of a borrower or the Custodian.

The RRS and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool.

The average duration of the short-term investments in the duration pool which includes securities with a remaining maturity of 91 days or greater for the year ended June 30, 2016 was 2,211 days with weighted average maturity of 45 days. The average duration of the short-term investments in the liquidity pool which primarily includes securities with the remaining maturity of 90 days or less for the year ended June 30, 2016 was 83 days

with weighted average maturity of 43 days. As the loans are terminable at will, the duration of the investments generally did not match the duration of the investments made with the cash collateral.

The table below shows the fair value measurements of the securities lent, cash collateral received, and the reinvested cash collateral.

Securities Lent	Fair Value of Underlying Securities Lent	Cash Collateral Received	Collateral Reinvestment Value
U.S. Government	\$1,641,043	\$1,674,956	\$1,672,774
U.S. Corporate Bonds & Equities	22,676,604	23,316,273	23,285,892
Total	\$24,317,647	\$24,991,229	\$24,958,666

At June 30, 2016, the RRS has no credit risk exposure to borrowers. The total fair value of collateral held and the fair value (USD) of the securities on loan for the RRS as of June 30, 2016 was \$24,958,666 and \$24,317,647 respectively. RRS also holds securities collateral that cannot be pledged or sold absent a borrower's default totaling \$4,865,620 as of June 30, 2016.

(C) Investments

1. Authorized Investments

The RRS invests in obligations of the U.S. government or its agencies, approved money market funds, other banks and savings and loan associations not exceeding federal insurance coverage, and commercial paper rated A-1 by Standard & Poor's or P-1 by Moody's. The RRS is also authorized to invest in fixed income securities; domestic and international equities; private debt; Real Estate Investment Trusts (REITs); private equity; private real estate and hedge funds. Decisions as to individual equity security selection, security size and quality, number of industries and holdings, current income levels, turnover, and other tools employed by active managers are left to the managers' discretion, subject to the standards of fiduciary prudence, as set out in the respective manager's Investment Management Agreement. At June 30, 2016, the RRS has unfunded commitments totaling \$44.2 million.

2. Asset Allocation

The table below indicates the policy target asset allocation as of June 30, 2016. In identifying the optimal asset mix strategy for the RRS, the Board of Trustees has adopted the aforementioned asset allocation policy. To ensure compliance with the policy, a rebalancing strategy is utilized.

Asset Class	Target Allocation	Target Range
U.S. Equity Total:	23.00%	
Large Cap Passive U.S. Equities	8.00%	3% - 13%
Large Cap U.S. Growth	5.00%	0% - 10%
Large Cap U.S. Value	5.00%	0% - 10%
Small/Mid Cap Growth U.S. Equities	2.50%	0% - 7.5%
Small/Mid Cap Value U.S. Equities	2.50%	0% - 7.5%
International Equities Total:	15.00%	
Developed International Equities	8.00%	3% - 13%
Emerging International Equities	7.00%	2% - 12%
Fixed Income Total:	27.50%	
Global Multi-Sector Fixed Income	22.50%	17.5% - 27.5%
Opportunistic Fixed Income	5.00%	0% - 10%
Other Investments Total:	33.00%	
Hedge Funds	12.00%	7% - 17%
Private Equity	8.00%	3% - 13%
Private Debt	8.00%	3% - 13%
Real Estate and Related Debt	5.00%	0% - 10%
Cash Total:	1.50%	0% - 5%

3. Fair Value Measurements

The RRS categorizes the fair value measures of its assets within the fair value hierarchy established by generally accepted accounting principles outlined in GASB 72. There were no restatements to the reported values of the System's assets or liabilities as of June 30, 2015 resulting from implementation of GASB 72, as the fair market valuation was unchanged from what was reported in 2015. The table below shows the RRS's fair value measurements as of June 30, 2016:

Investments Measured at Fair Value

Investments by Fair Value Level	Fair Value at June 30, 2016	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Equity Securities by Industry Class				
Information Technology	\$18,858,342	\$18,858,342	\$ -	\$ -
Consumer Spending	13,390,595	13,390,595	-	-
Financial	9,765,812	9,765,812	-	-
Energy & Industrials	9,251,638	9,251,638	-	-
Healthcare	8,594,921	8,594,921	-	-
Real Estate Investment Trusts	7,469,865	7,469,865	-	-
Other	3,595,133	3,595,133	-	-
Total Equity Securities	70,926,306	70,926,306	-	-
Fixed Income Securities by Industry Class				
Corporate Bonds	9,859,922	-	9,859,922	-
Mortgage Pass-Through	5,706,717	-	5,706,717	-
U.S. Treasuries	5,287,141	-	5,287,141	-
Collateralized Mortgage Obligation	3,279,980	-	3,279,980	-
Other	13,585,804	11,819,796	1,766,008	-
Total Debt Securities	37,719,564	11,819,796	25,899,768	-
Alternative Asset Investments				
Private Equity — Small Buyout Funds	7,104,744	-	-	7,104,744
Private Equity — Secondaries Funds	4,007,830	-	-	4,007,830
Other Private Equity Funds	4,806,565	-	-	4,806,565
Private Real Estate Debt Funds	2,104,540	-	-	2,104,540
Private Debt — Direct Lending Funds	22,967,905	-	-	22,967,905
Other Private Debt Funds	4,944,235	-	-	4,944,235
Total Alternative Asset Investments	45,935,819	-	-	45,935,819
Derivative Investment Instruments				
Foreign Currency Options	5,104	-	-	5,104
Credit Default Swaps	(57,188)	-	-	(57,188)
Total Derivative Investment Instruments	(52,084)	-	-	(52,084)
Total Investments Measured at Fair Value Levels	154,529,605	82,746,102	25,899,768	45,883,735
Investments Measured at Net Asset Value (NAV)				
Global Multi-Sector Fixed Income Funds	90,383,359			
U.S. Equity Funds	76,241,291			
Hedge Fund of Funds	65,257,586			
Developed International Equities Funds	43,590,986			
Emerging Markets Equities Funds	36,574,310			
Opportunistic Fixed Income Funds	27,745,095			
Private Real Estate Fund	26,786,080			
Total Investments Measured at NAV	366,578,707			
Total Investments Measured at Fair Value	\$521,108,312			

Investments Measured at NAV

Investments Measured at Net Asset Value (NAV)	Fair Value	Unfunded Commitments	Redemption Frequency	Required Redemption Notice
Global Multi-Sector Fixed Income Funds	\$90,383,357	\$ -	Daily	1 - 10 days
U.S. Equity Funds	76,241,291	-	Daily	1 - 3 days
Hedge Fund of Funds	65,257,587	-	Daily, Quarterly	1 - 95 days
Developed International Equities Funds	43,590,986	-	Daily, Semi-Monthly	3 - 30 days
Emerging Markets Equities Funds	36,574,310	-	Daily, Monthly	1 - 15 days
Opportunistic Fixed Income Funds	27,745,095	-	Quarterly	60 - 120 days
Private Real Estate Fund	26,786,080	-	Quarterly	45 days
Total Investments Measured at NAV	\$366,578,706	\$ -		

Fair Value Paragraph

Level 1 investments are valued at active market quoted prices.

Level 2 fixed income investments are valued using a pricing model that utilizes observed market inputs in determining the fair value as well as matrix yield curves.

Level 3 investments are valued by market assumptions provided by the individual managers of each fund. The managers within each investment class determine the fair value of the underlying investments of the fund then allocate fair value to the RRS based on the percentage of ownership the System has in the fund. In some instances, due to timing of reports from each manager, the fair value of the System's investments is adjusted by the incoming and outgoing cash flows for each fund.

1. Opportunistic Fixed Income Funds – All managers within this category have the ability to invest in different strategies outlined in the agreements entered into. All investments in this category report fair value using a NAV and have lock-up periods ranging from 12 - 24 months. 14.1% of the total fair value for this asset class falls within that non-redemption period. The restriction periods for these types of investments range from 60 to 120 days.

2. Hedge Fund of Funds – This category consists of four different managers that invest in hedge fund of funds. These managers have the ability to invest in underlying managers that focus on a variety of different strategies such as long/short, event driven, leveraging, and other derivative instruments. All investments within this category are reported at NAV and have lock-up periods up to 12 months. No investments fall under this restricted period.

Redemptions periods vary from daily to quarterly. Notice is required from one day to 95 days for redemptions, depending on the manager.

3. Developed International Equities Funds – This category includes two investments in managers that focus on international equities. These funds focus on active All-Cap management or follow the specified index as described in the Agreement. Both funds report fair value at NAV. Redemptions are either semi-monthly with notice due at least three days prior to the trade date or daily with 30 days prior written notice. There is a 180-day lock-up period for one fund, but no assets fall within that restricted period.

4. Global Multi-Sector Fixed Income – This type of investment consists of two managers invested in global fixed income securities. The managers have the ability to invest in a variety of industry spaces, such as government and corporate bonds, and across a multitude of countries, both developed and emerging market, as outlined in the investment guidelines. There is daily redemptions ranging from one to 10 day written notice prior to redemptions. There is no restriction period related to redemption payments.

5. Emerging Markets Equities Fund – This category includes investments in two different managers that invests primarily in Emerging Market Equities. The managers have the ability to invest in other global equities including long/short strategies. Fair value has been determined using the NAV. Redemption periods for these two funds varies from daily to monthly with one to 15 days required for withdrawals. There are no lockup periods on either investment.

6. Private Real Estate Fund – This category includes an investment in one private real estate fund that invests in residential, office, retail, and industrial real estate. NAV is used in the measurement of the fair value of this investment. There are quarterly redemptions that require at least 45 days written notice. There is no lockup period on this investment.

7. U.S. Equity Funds – This investment category includes two investment managers that focus on small/mid cap companies as well as the S&P 500 index. One manager has the ability to invest in different industries and can change those strategies within the small/mid-cap space. The other focuses on the S&P 500 index and mirrors its investment strategy to the index. NAV is used for the fair value of both investments. Redemptions are priced daily and require one to three days written notice for trading. There is no lock-up for these investments.

4. Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the RRS. As of June 30, 2016, the RRS's fixed income assets that are not government guaranteed represent 82.3% of the U.S. fixed income assets.

The RRS has an investment policy for credit risk. The U.S. fixed income investments should emphasize high-quality and reasonable diversification. The investment managers are responsible for making an independent analysis of the credit worthiness of securities and their suitability as investments regardless of the classifications provided by rating agencies.

The RRS's fixed income portfolio credit quality and exposure levels as of June 30, 2016 are summarized in the table to the right.

Concentration of Credit Risk

This is the risk of loss that may be attributed to the magnitude of a government's investment in a single issue. There is no concentration of investments in any one issuer that represents 5% or more of plan net position available for benefits.

Custodial Credit Risk

This is the risk that in the event of the failure of the counterparty, the RRS will not be able to recover the

Credit Quality Fixed Income Securities

As of June 30, 2016

Investment Type	Credit Rating Level	Fair Value
U.S. Fixed Income		
Corporate Bonds	AA+:AA-	485,596
	A+:A-	2,224,881
	BBB+:BBB-	6,805,661
	BB+:BB-	254,478
		<u>9,770,616</u>
CMO	AAA	953,818
	AA+:AA-	572,074
	B+:B-	142,580
	CCC	81,160
	NR	1,530,348
		<u>3,279,980</u>
Asset Backed	A+:A-	280,483
	BB+:BB-	64,145
	NR	330,792
		<u>675,420</u>
Commingled Funds	NR	8,614,931
U.S. Government Agencies		
Treasuries	NR	5,287,141
FNMA	NR	3,539,653
FHLMC	NR	1,538,537
GNMA I	NR	628,527
		<u>10,993,858</u>
Total U.S. Fixed Income		33,334,805
Global Fixed Income		
Corporate Bonds	A+:A-	408,905
	BBB+:BBB-	770,990
		<u>1,179,895</u>
Commingled Funds	NR	93,588,223
Total Global Fixed Income		94,768,118
Opportunistic Fixed Income		
Commingled Funds	NR	27,745,095
Total Fixed Income		<u>155,848,018</u>

*RRS uses ratings from S&P for the preparation of this chart.

value of its investment or collateral securities that are in the possession of an outside party.

The RRS does not have exposure to custodial credit risk because the cash collateral received in each loan was invested together with the cash collateral of other qualified tax-exempt plan lenders in a collective investment pool.

At June 30, 2016, the fair values of securities on loan, cash collateral received, and the reinvested cash collateral can be found in the table on page 22.

5. Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The System holds no securities directly denominated in foreign currency. The System invests in mutual funds, commingled funds, pooled funds, and has separately managed portfolios that invest in foreign securities; at June 30, 2016, the total fair value of these investments is \$86.1 million.

At June 30, 2016, the RRS has no foreign currency risk exposure because it did not have any foreign currency holdings in its portfolio.

6. Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The RRS does not have a specific investment policy governing interest rate risk. The Effective Maturities of Fixed Income Securities by Investment Type table below shows the RRS's interest rate exposure at June 30, 2016.

III. Litigation

The RRS, including its Board of Trustees, officers and employees, is not involved in any ongoing claims or lawsuits that would have an adverse effect on the RRS's financial conditions.

IV. Plan Description

The RRS was established by action of the Richmond City Council on February 1, 1945. The City Council appoints five members and the Mayor appoints two members of the Board of Trustees to administer the RRS. However, City Council retains the authority to establish or amend benefit provisions. The RRS is not subject to the provisions of the Employee Retirement Income Security Act of 1974.

The RRS is a single-employer Defined Benefit Plan. The RRS has one participating employer, the City of Richmond, including its component unit Richmond Behavioral Health Authority. The plan covers all full-time permanent sworn public safety employees and a select

Effective Maturities of Fixed Income Securities by Investment Type *As of June 30, 2016*

Investment Type	Total Fair Value	<1	1-5	5-10	10-30	>30
U.S. Fixed Income						
CMO	\$3,279,980	\$ -	\$ -	\$ -	\$2,493,968	\$786,012
Corporate	9,770,615	50,037	1,517,212	4,869,106	3,272,010	62,250
FHLMC	1,538,537	-	-	-	478,575	1,059,962
FNMA	3,539,653	-	-	95,641	1,248,701	2,195,311
GNMA I	628,527	-	-	-	310,083	318,444
Treasuries	5,287,141	-	2,086,474	2,424,525	776,142	-
Commingled Funds	8,614,931	-	-	-	-	-
Asset Backed	675,421	-	-	-	675,421	-
Total U.S. Fixed Income	33,334,805					
Global Fixed Income						
Corporate Bonds	1,179,895	-	-	993,994	185,901	-
Commingled Funds	93,588,223	-	-	-	-	-
Total Global Fixed Income	94,768,118					
Opportunistic Fixed Income						
Commingled Funds	27,745,095	-	-	-	-	-
Total Fixed Income	\$155,848,018	\$50,037	\$3,603,686	\$8,383,266	\$9,440,801	\$4,421,979

group of Senior Executives as outlined in Chapter 22 of the City of Richmond Municipal Code. The plan is closed to general employees, hired on or after July 1, 2006. Members are vested after five years of creditable service or at their normal retirement age (age 65 for general employees; age 60 for public safety employees). The plan is contributory for employees. The following table demonstrates the changes in retirees and beneficiaries during the fiscal year ended June 30, 2016.

Plan Membership

	FY 2016	FY 2015	Increase/ (Decrease)	Percent Change
Active Vested DB Plan Members	1,691	1,776	(85)	-4.8%
Active Non-vested DB Plan Members	220	243	(23)	-9.5%
Terminated Vested DB Plan Members	1,618	1,620	(2)	-0.1%
Retirees & Beneficiaries	4,322	4,314	8	0.2%
Total:	7,851	7,953	(102)	-1.3%

A) Summary of Benefit and Contribution Provisions

Outlined on the following pages is a summary of the main provisions of the plan, set by Chapter 22 of the Code of the City of Richmond.

1. Definitions:

Average Final Compensation

The average annual creditable compensation of a member during the member's 36 consecutive months of creditable service in which such compensation was at its greatest amount or during the entire period of the member's creditable service, if less than three years.

Creditable Compensation

The base compensation payable to an eligible employee working in a full-time position, plus shift differentials, bonuses, severance pay and educational incentive pay but excluding overtime pay, imputed income under Section 79 of the Internal Revenue Service Code, and lump-sum payments for unused sick or vacation leave.

Creditable Service

Total service as an employee, whether or not continuous, but excluding any separate periods of service less than nine months in duration and any periods of leave without pay unless otherwise required by law. Effective July 1, 1999, 50% of unused sick leave counts as creditable service at retirement for current employees. Vested members who terminated City employment between July 1, 1998 and June 30, 1999 received 25% of unused sick leave as creditable service.

2. Retirement Plan Options:

a) Defined Benefit

The Defined Benefit Plan pays a monthly benefit at retirement based on the member's years of creditable service and average final compensation. General and public safety employees are required to pay contributions of 1.0% and 1.5% respectively, of their creditable compensation.

b) Enhanced Defined Benefit

The Enhanced Defined Benefit Plan option pays a monthly benefit at retirement based on the member's years of creditable service and average final compensation. This plan is optional for public safety officers and senior executives.

General employees are required to make contributions of 4.57% of their creditable compensation, and public safety employees are required to make contributions of 5.45% of their creditable compensation, until they terminate employment or retire in order to receive the benefits of the enhanced option. For public safety employees, the enhanced option allows eligibility for an unreduced early service retirement upon the completion of twenty (20) years of creditable service, regardless of age.

The benefit levels for both options is set by the formulas, regardless of the fund's investment performance. Participating entities contribute an amount each year that varies according to calculations by the actuary. The participating entities' contributions are invested by outside investment firms with the primary objective of ensuring the security, stability, and continued growth of assets for members' future benefits. The Code of the City of Richmond requires that the Plan be maintained on an actuarially sound basis.

3. Deferred Retirement Option Program (DROP):

Effective October 1, 2003, the DROP was implemented for public safety employees eligible for an unreduced retirement allowance. Eligible members may elect to participate for a maximum of six years, deferring receipt of unreduced retirement benefits while continuing employment with the City without loss of any other employee benefits.

Upon a member's election to participate in the DROP, the amount of creditable service and the average final compensation become frozen for purposes of determining pension benefits. The participant is considered retired for all purposes related to the System and does not accrue additional retirement benefits, except for annual benefit cost-of-living adjustments, if applicable.

Each DROP participant's monthly pension is tracked by an individual DROP account in lieu of being paid to the participant. Upon termination of employment, the participant will receive the DROP account balance and will begin receiving the monthly pension directly. The DROP account is not credited with investment gains and losses.

For the fiscal year ended June 30, 2016 and 2015 the DROP liability was \$11,463,128 and \$9,325,422, respectively.

4. Retirement Eligibility:

A member is eligible for normal retirement upon attaining their normal retirement date (general employees, age 65; public safety employees, age 60). Early retirement is permitted at any time within the ten-year period prior to the normal retirement date, provided the member has completed five or more years of creditable service or at any age with 30 years of creditable service (general employees) or 25 years of creditable service (public safety employees participating in defined benefit plan) or 20 years of creditable service (public safety employees participating in the enhanced defined benefit plan option).

5. Retirement Allowance:

Upon retirement, a member becomes eligible to receive an annual allowance, payable in equal monthly installments. The annual allowance is computed as follows:

a) Normal Retirement Allowance:

General Employees: 1.75% (2% Enhanced option) of the member's average final compensation, multiplied by the number of years of creditable service up to 35 years.

Public Safety Employees: 1.65% of the member's average final compensation, multiplied by the number of years of creditable service up to 35 years. In addition, a supplement of .75% of the member's average final compensation, multiplied by the number of years of creditable service up to 25 years is payable from retirement until age 65.

b) Early Retirement Allowance:

If a member retires prior to their normal retirement age, the allowance is determined as follows: For general employees, the benefit is reduced by five-twelfths of 1% for each complete month by which retirement precedes the earlier of age 65 or the date on which the employee would have completed 30 years of service had the member remained employed. For public safety employees, the benefit is reduced by five-twelfths of 1% for each complete month by which retirement precedes either age 60 or the date on which the employee would have completed 25 years of service had the member remained in service in the Defined Benefit Plan (or 20 years of service had the member remained in service in the Enhanced Defined Benefit Plan), whichever is earlier.

c) Workers' Compensation Offset:

In no instance may a member who receives both (a) a compensation award pursuant to the Virginia Workers' Compensation Act, and (b) a retirement allowance before the attainment of age 65 from the RRS, receive a benefit which would cause the sum of the Workers' Compensation award and retirement allowance to exceed the member's average final compensation at the time the member separated from active service. After attainment of age 65, the member shall be entitled to the full retirement allowance.

If a member in receipt of a retirement allowance elects to receive a lump-sum settlement in lieu of periodic payments for disability under the Virginia Workers' Compensation Act, the member's service retirement allowance shall continue to be reduced in the same amount required by Section 22-202(5) for the number of months equivalent to the lump-sum award amount divided by the

amount of the original Workers' Compensation award.

6. Retirement Benefit Payment Options:

The member may elect, with the approval of the Board, one of the following options, in which case the amount payable is the actuarial equivalent of the Basic Benefit otherwise payable.

a) Joint and Survivor Option:

A reduced allowance is payable to the member during their lifetime; with the same amount or a designated fraction thereof continued after the member's death to a designated contingent beneficiary, if living.

b) Pop-Up Joint and Survivor Option:

A reduced allowance is payable to the member during their lifetime; with the same amount or a designated fraction thereof continued after the member's death to a designated contingent beneficiary, if living. If the designated contingent beneficiary predeceases the member, the allowance is increased to the amount that would have been payable in the absence of the election of an optional form of benefit.

c) Smooth-Out Option:

An increased retirement allowance is paid prior to age 65 and a decreased retirement allowance thereafter. The purpose of this option is to provide for a more nearly level total retirement income before and after age 65, taking into account the primary federal Social Security benefits.

d) Level Option:

A reduced allowance is paid at a level amount for the lifetime of the member. This option is available to current public safety employees and to former vested general employees who terminated service prior to March 1, 1997.

7. Disability Retirement Eligibility:

Any member in service who has five or more years of creditable service may retire, or may be retired by the member's appointing authority, at any time prior to the member's normal retirement date on account of permanent disability, provided that the medical examiners certify that the member has been completely incapacitated by reason of sickness or injury from performing the duties required by the participating employer, and provided further that if the disability is service connected

(i.e., if it arises from a cause that would be compensable under the Virginia Workers' Compensation Act), the five-year service requirement does not apply. The service requirement is also waived for public safety employees if the disability arises from respiratory or heart disease or from hypertension, unless it is certified that such disability was not suffered in the line of duty.

8. Disability Retirement Allowance:

a) Non-Service Connected Disability

The annual allowance, payable monthly, is computed in the same way as a normal retirement allowance prior to the changes effective March 1, 1997, with the following modifications: "Disability Average Compensation" is used in place of Average Final Compensation. In essence, this is the annual rate of compensation in effect at the date of disability, graded into average final compensation for members who become disabled within three years of their normal retirement date Creditable Service is replaced by "Disability Credited Service," which is the smaller of: i. The number of years of creditable service the member would have completed at age 60 if the member had remained in service until that time, or ii. The larger of: a. 20 years, or b. twice the member's actual years of creditable service except that if the disability occurs after age 60, disability credited service is equal to the number of years of creditable service. A deduction for Social Security is made prior to age 65 if the member is entitled to total and permanent disability benefits under Social Security. The early service reduction factor of five-twelfths of 1% per month early retirement reduction is not imposed. The additional pre-age 65 allowance for public safety employees is not payable.

In no instance may a member who receives a compensation award pursuant to the Virginia Workers' Compensation Act and a non-service connected disability retirement allowance from the City receive a benefit which would cause the sum of the disability retirement allowance and Workers' Compensation award to exceed the member's average final compensation at the time the non-service connected disability caused separation from active service.

b) Service Connected Disability

The annual allowance payable monthly, is computed in the same way as a normal retirement allowance prior to

the changes effective March 1, 1997, with the following modifications: The disability retirement allowance is computed as two-thirds of the member's disability average compensation. This allowance shall be reduced dollar for dollar by the amount of compensation, if any, awarded to the member under the Virginia Workers' Compensation Act for as long as such compensation is payable. If any member who retired on or after July 1, 1989, elects to receive a lump-sum settlement in lieu of periodic payments for disability under the Virginia Workers' Compensation Act, the member's retirement allowance shall continue to be reduced in the same amount and for the number of months equivalent to the lump-sum award divided by the amount of the original Workers' Compensation award. A deduction for Social Security is made prior to age 65 if the member is entitled to total and permanent disability benefits under Social Security. The early service reduction factor of five-twelfths of 1% per month early retirement reduction is not imposed. The additional pre-age 65 allowance for public safety employees is not payable.

9. Death Benefits Before Retirement:

If a member who became an employee of the participating employer on or before June 13, 1988 and has one or more years of creditable service dies before retirement, a death benefit is payable equal to \$16.67 multiplied by the number of months of creditable service of the member, subject to a maximum of \$1,000.

If a member who is eligible for an early or normal retirement dies prior to actual retirement and no benefit of the type described in the paragraph below is payable, the surviving spouse is entitled to receive an allowance for life equal to that amount which would have been paid if the full Joint and Survivor Option had been in effect at the time of the member's death. The additional allowance paid from retirement to age 65 to public safety employees is not included in this benefit.

If a member dies at any time before retirement from a cause that would be compensable under the Virginia Workers' Compensation Act, an allowance is payable to the surviving spouse or to the member's children under the age of 18 equal to that which would have been payable if the full Joint and Survivor Option had been in effect at the time of the member's death. The allowance is calculated by projecting creditable service to that which

the member would have earned had they remained in service until age 65 with the same final average compensation in effect at the time of their death. The benefit is reduced by any compensation awarded under the Virginia Worker's Compensation Act.

10. Death Benefits after Retirement:

The beneficiary of a retired member with at least one year of creditable service will receive, at the member's death, a death benefit of \$16.67 multiplied by the number of months of creditable service of the member, subject to a maximum of \$1,000.

An allowance for life, as described in the preceding paragraphs, is also payable to the widow or widower of a member who retired for disability after attaining early retirement age but dies before reaching normal retirement age. In this case, the member's average final compensation as of the disability retirement date is used, but it is assumed the member's service continued to the last day of the month in which the member died.

11. Ad Hoc Cost-of-Living Allowances (COLA):

Ad hoc COLAs are issued at the discretion of City Council.

12. Benefits for City Officials and Department Heads:

Effective March 1, 1997, upon hiring, certain City of Richmond officials and department heads can make additional contributions to the RRS in order to receive two years of credit for each year of service in a covered position (up to a maximum of 15 additional years).

V. Contributions Required and Contributions Made

For fiscal year ended June 30, 2016, the Entry Age Actuarial Cost Method will be used in determining employer contribution rates, calculated by the RRS' actuaries. The annual contribution percentages include amortization of the unfunded actuarial liability. The employer contribution rates calculated for fiscal year ended June 30, 2016 were 38.93% for sworn public safety officers and 44.20% for general employees. The employer contribution rates for fiscal year ended June 30, 2015 were 42.44% for sworn public safety officers and 39.08% for general employees.

The City Code requires that contributions to the RRS consist of a normal contribution plus an accrued liability contribution, which, combined, equal the actuarially determined contribution.

Contributions totaling \$46,902,065, including \$1,976,022 in member contributions, were made from July 1, 2015 to June 30, 2016 in accordance with the actuarially determined contribution requirements stated above. Contributions made during fiscal year ended 2015 were \$48,884,032, including \$2,347,163 in member contributions.

Funding Policy

The Richmond City Code of 1993, as amended, requires the City to contribute to the RRS, annually, an amount as determined by the actuary equal to the sum of the “normal contribution” and the “actuarial liability contribution.”

The actuarial liability contribution is the amount necessary to amortize the unfunded actuarial liability and any increase or decrease in the unfunded actuarial liability in future years due to changes in actuarial assumptions, changes in RRS provisions, including the granting of ad hoc COLA increases, or actuarial gains or losses amortized over a closed period not to exceed 30 years.

Net Pension Liability

The components of the Employer’s net pension liability at June 30, 2016 and 2015 were as follows:

	2016	2015
Total pension liability	\$854,875,197	850,911,445
Plan fiduciary net position	<u>(515,253,793)</u>	<u>(540,060,865)</u>
Net pension liability	<u>339,621,404</u>	<u>310,850,580</u>
Plan fiduciary net position as a percentage of the total pension liability	60.3%	63.5%

Actuarial Assumptions

The July 1, 2014 valuation developed contribution rates for the fiscal year ending June 30, 2016, using the Entry Age Actuarial Cost Method. The actuarial method used to determine net pension liability for FY15 is also the Entry Age Actuarial Cost Method.

The amortization method used for general employees is a level dollar method over a closed period of 20 years. The amortization method used for police and fire employees is a level percent of pay method over a closed period of 20 years.

For purposes of determining contribution rates, the difference between actual investment earnings and expected investment earnings is recognized over a five-year period, with the restriction that the actuarial asset value cannot be less than 90% or more than 110% of market value. This smoothing method is utilized in order to smooth the impact of short-term market fluctuations on the RRS’s contribution rates.

For the purposes of determining net pension liability, fair market value of investments was used.

Significant actuarial assumptions used in determining the actuarial liability include: (a) a 7.5% investment rate of return; (b) projected salary increases of 3% to 4% for general employees and 3% to 4.5% for police and fire employees; (c) the assumption that benefits will not increase after retirement.

See Schedule of Changes in Employer’s Net Pension Liability on page 34.

Long-Term Expected Rate of Return

The long-term expected rate of return on RRS 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 real rates of return for each major asset class included in the pension plan’s target asset allocation as of June 30, 2016 are summarized in the following table on page 32:

Asset Class	30 Year 2015 RRS' Assumptions – Arithmetic Return
Large Cap Equities	8.83%
SMID Cap Equities	9.64%
Developed Intl Equities	9.89%
Emerging Intl Equities	12.50%
Hedge Funds	6.86%
Private Equity	11.72%
Global Multi-Sector Fixed Income	5.23%
Opportunistic Fixed Income	5.64%
Private Debt	8.98%
Real Estate (core)	7.50%
Cash	3.00%

Annual Money-Weighted Rate of Return

For the fiscal year ended June 30, 2016, the annual money-weighted rate of return was -0.30%, and 2.4% for fiscal year ended June 30, 2015. Annual money-weighted rate of return is calculated net of all investment management expenses and additional plan investment related expenses that are reported by the plan's custodian or were provided to NEPC by the RRS. The methodology used to determine the money weighted rate of return is different from the calculation of the fiscal year rate of return (which was -0.1% net of fees for fiscal year ended June 30, 2016 and 2.7% for fiscal year ended June 30, 2015). Cash flows have a larger impact on the money-weighted rate of return than the fiscal year rate of return, which uses a time-weighted calculation.

Discount Rate

The discount rate used to measure the total pension liability was 7.5% for both fiscal years ended June 30, 2016 and 2015. 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 the City, and its component unit, 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.

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

The following presents the net pension liability of the City, calculated using the discount rate of 7.5%, as well as what the City's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5%) or 1-percentage-point higher (8.5%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
City's net pension liability	\$419,160,810	\$339,621,404	\$270,995,081



View of downtown from the State Capitol

Required Supplementary Information

Financial Section, continued

In this section:

- Schedule of Changes in the Employer's Net Pension Liability and Related Ratios
- Schedule of Employer's Contributions
- Notes to the Schedules
- Schedule of Investment Returns

Schedule of Changes in the Employer's Net Pension Liability and Related Ratios*

	2016	2015	2014
Total Pension Liability			
Service cost	\$10,452,587	\$9,471,988	\$10,648,531
Interest	61,275,821	61,557,532	62,395,219
Changes of benefit terms	-	-	8,705,940
Differences between expected and actual experience	1,284,630	(6,133,948)	1,651,751
Changes of assumptions	-	-	(26,784,600)
Benefit payments, including refunds of member contributions	(69,049,286)	(68,268,268)	(67,320,865)
Net change in total pension liability	3,963,752	(3,372,696)	(10,704,024)
Total pension liability - beginning	850,911,445	854,284,141	864,988,165
Total pension liability - ending (a)	<u>\$854,875,197</u>	<u>\$850,911,445</u>	<u>\$854,284,141</u>
Plan Fiduciary Net Position			
Contributions - employer	\$45,117,403	\$46,684,500	\$42,342,620
Contributions - member	1,976,022	2,347,163	2,118,493
Net investment income	(1,498,570)	15,641,333	76,463,285
Benefit payments, including refunds of member contributions	(69,049,286)	(68,268,268)	(67,320,865)
Administrative expense	(1,352,641)	(1,248,162)	(1,318,016)
Net change in plan fiduciary net position	(24,807,072)	(4,843,434)	52,285,517
Plan fiduciary net position - beginning	540,060,865	544,904,299	492,618,782
Plan fiduciary net position - ending (b)	<u>\$515,253,793</u>	<u>\$540,060,865</u>	<u>\$544,904,299</u>
Employer's net pension liability - ending (a) - (b)	\$339,621,404	\$310,850,580	\$309,379,842
Plan fiduciary net position as a percentage of the total pension liability	60.3%	63.5%	63.8%
Covered payroll	\$108,015,367	\$111,738,352	\$110,748,076
Employer's net pension liability as a percentage of covered payroll	314.4%	278.2%	279.4%

*See Notes to the Schedules on page 35.

Schedule of Employer's Contributions*

	2016	2015	2014
Actuarially Determined Contribution	45,117,403	46,684,500	42,342,620
Contributions in Relation to the Actuarially Determined Contribution	45,117,403	46,684,500	42,342,620
Contribution Deficiency (Excess)	<u>-</u>	<u>-</u>	<u>-</u>
Covered Payroll	108,015,367	\$111,738,352	\$110,748,076
Contributions as a Percentage of Covered Payroll	41.77%	41.78%	38.23%

*These schedules will display ten years of data as the information becomes available.

Notes to the Schedules

Valuation Date

Actuarially determined contribution rates are calculated as of July 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates

	2016
Actuarial Cost Method	Entry Age Normal
Amortization Period	Level percent of pay over a closed period not to exceed 30 years for police and fire employees; level dollar amount over a closed period not to exceed 30 years for general members.
Remaining Amortization Period	20 years for remaining unfunded accrued liability as of July 1, 2006; 20 years for subsequent changes.
Asset Valuation Method	Five-year spread of actual over expected investment earnings with the restriction that the resulting value must be within 90%-110% of market value.
Inflation	3.00%
Salary Increases - General Employees	3.00% to 5.00%
Salary Increases - Police and Fire Employees	3.00% to 4.50%
Investment Rate of Return	7.50%
Retirement Age - General Employees	20% in 1st year of unreduced retirement eligibility; 3% at age 55 increasing to 100% at age 75
Retirement Age - Police and Fire Employees	40% in 1st year of unreduced retirement eligibility; 9% at age 50 increasing to 100% at age 64
Mortality - General Employees	RP-2000 Mortality Table with 2 year set-forward for Males
Mortality - Police and Fire Employees	RP-2000 Mortality Table

Schedule of Investment Returns*

	2016	2015	2014
Annual Money-Weighted Rate of Return, Net of Investment Expense	-0.3%	2.4%	15.5%

**Annual money-weighted rate of return is calculated net of all investments management expenses and additional plan investment related expenses that are reported by the plan's custodian or were provided to NEPC by the RRS. The methodology used to determine the money weighted rate of return is different from the calculation of the fiscal year rate of return (which was -0.1% net of fees). Cash flows have a larger impact on the money-weighted rate of return than the fiscal year rate of return, which uses a time-weighted calculation.*



Main Street Station was first opened in 1901

Supporting Schedules

Financial Section, continued

In this section:

Schedule of Administrative Expenses

Schedule of Investment Expenses

Schedule of Payments to Investment
Consultant

Schedule of Retirement Benefit Payments

Schedule of Administrative Expenses

Year Ended June 30, 2016

Personnel Services

Salaries and Benefits	811,096
Total Personnel Services	811,096

Professional Services

Legal Services	94,794
Actuarial	62,480
Auditing	53,500
Medical Examiners	3,617
Total Professional Services	214,391

Communications

Telephone & Postage	12,998
Printing & Publications	3,319
Total Communications	16,317

Miscellaneous

Depreciation Expense	60,082
Other	19,473
Staff Training, Travel, & Education	12,612
Stipends to Board & IAC Members	12,360
Recruitment	7,545
Supplies	7,405
Total Miscellaneous	119,477
Total Administrative Expenses	\$1,161,281



A look inside Main Street Station

Schedule of Investment Expenses

Year Ended June 30, 2016

Investment Managers:

LSV Asset Management	\$147,498
Loomis, Sayles & Co. (Large Cap)	124,562
Chartwell Investment Partners (Mid Cap)	85,281
Stone Harbor Investment Partners	84,685
Chartwell Investment Partners (Small Cap)	78,677
CenterSquare Investment Management	30,761
Hughes Capital [^]	(3,000)

Commingled Funds:

JP Morgan Asset Management	247,230
Loomis, Sayles & Co. (Credit Opportunistic)	199,717
Acadian Asset Management	185,791
Brandywine Global Investment Management, LLC	164,281
Westwood	115,424
State Street Global Advisors	30,990
Axiom International Investors LLC [^]	(82,500)

Total Investment Managers Expenses* \$1,409,397

Investment Custodian

State Street Corporation	<u>\$259,141</u>
--------------------------	------------------

Total Custodial Expenses \$259,141

**Mutual fund and limited partnership fees are not reflected in this schedule; instead, these investment expenses are netted against investment income in the statement of changes of Plan net position to arrive at a net investment income amount.*

[^] Axiom management fee is reduced out of the Net Asset Value. Hughes Capital was terminated in the prior fiscal year. Negative balances reflect an adjustment to over-accrued investment expenses for each manager.

Schedule of Payments to Investment Consultant

Year Ended June 30, 2016

Investment Consultant:

NEPC	<u>\$298,389</u>
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Total Consultant Expenses: \$298,389

During the fiscal year ended June 30, 2016, the RRS did not direct any soft dollar transactions.

Schedule of Retirement Benefit Payments

Year Ended June 30, 2016

Benefit Payments:

Regular Pension	\$57,703,061
Disability Pension	4,630,234
Survivor Pension	2,201,471
Death Benefits	108,518
DROP Expense	<u>4,203,092</u>

Total Benefits Payments \$68,846,376



Neo-classical columns on a downtown building

Investment Section

The Investment Section provides detailed information regarding the performance of the investment pool. This information includes asset allocation, investment management fees and expenses, and an investment summary.

In this section:

- Investment Consultant Report
- Investment Policy Summary
- Schedules of Investment Results
- Asset Allocation
- Schedule of Fees
- Schedule of Brokerage Commissions
- Investment Summary

Investment Consultant Report



KEVIN M. LEONARD
PARTNER

September 16, 2016

Board of Trustees
Richmond Retirement System
730 East Broad Street
Suite 900
Richmond, VA 23219-1907
RE: Fiscal Year End 2016

Dear Trustees,

NEPC, LLC currently serves as the pension consultant for the Richmond Retirement System (RRS). In our role as the pension consultant, we assist the Board in several manners: determining and executing the overall asset allocation strategy of the Plan, drafting of the investment policy of the Plan (and amendment of when necessary), conducting investment manager searches (both traditional and alternative asset classes); conducting custodial services searches, providing ongoing performance evaluation to each individual investment manager, to each asset class composite, and for the overall investment portfolio as a whole, and providing pertinent education to the Board.

The overall objective of the RRS is to provide service, disability, death and vested retirement benefits to members and their beneficiaries. To ensure a solid foundation for the future of the System, RRS has implemented an investment program designed to achieve the actuarial assumed rate of return of the long term, while prudently managing the risk of the portfolio.

Although investment manager performance is key in the future “success” of the Plan, the overall asset allocation policy will be the primary determinant of such “success.” Modern portfolio theory maintains that long term investors, who assume prudent levels of risk, will be rewarded with incremental returns above lower returning and risk free assets (i.e. T-Bills). The pension fund, in its asset allocation policy, is required to satisfy the need to pay accumulated/earned retirement benefits today, while at the same time be prepared for “uncertain” future benefits. This balancing of short-term needs versus long-term needs is a key tenant in the overall construction of the portfolio known as the generation of income versus appreciation of assets. To facilitate this demand balance of short term versus long term,

continued on next page

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the Board has adopted a diversified asset allocation structure that is primarily weighted in equity-like asset classes, such as U.S. equities, non-U.S. equities, and alternative investments, which seek return with offsetting investments in fixed income-like asset classes which provide current income and/or stability. Diversification aims to reduce volatility and better equalize the contribution to an overall plan's risk across a variety of asset classes with unrelated return patterns. Our goal is to diversify the System's assets within the traditional and non-traditional asset classes to reduce volatility, achieve above market returns, and to better protect the portfolio against difficult market conditions.

The Board continues to work diligently on restructuring and expanding the alternative investment program, which will further assist in the diversification of the portfolio. Asset classes such as hedge funds are designed to lower the overall volatility of the program, while private equity is designed to provide higher long term performance above what is expected from traditional equity markets. As the allocation strategy evolves year after year, diversification and risk mitigation will continue to be the pillars of the asset allocation structure.

During fiscal year 2016, as well as working on the continued build out of the alternative portfolio, the Investment Advisory Committee undertook a review of the emerging markets portfolio which resulted in the termination of one legacy manager and the hiring of a replacement manager.

NEPC provides RRS with quarterly economic and investment market updates and performance reviews, investment manager monitoring and selection advice, and related investment services for traditional and non-traditional asset classes. Investment performance analysis and comparisons produced by NEPC have been calculated using standard performance evaluation methodologies and are consistent with industry standards. Performance results are calculated using a time-weighted return methodology. The Board's goal of achieving market rates of returns, while mitigating unwarranted risk, is measured against appropriate benchmarks and comparative universes on a quarterly basis. Performance is measured on a most recent quarter, year-to-date, and accumulated trailing annual periods, as well as three and five year periods (full market cycle). Risk-adjusted performance on an absolute basis and a comparative basis is also measured. This review process allows the Board to evaluate and determine whether established goals and objective are being achieved.

RRS Fiscal Year Performance

- For the fiscal-year-ending June 30, 2016, the RRS Total Fund returned -0.1% on a net-of-fees basis (0.4% on a gross-of-fee basis).
- For the trailing three-year-period ending June 30, 2016, the RRS Total Fund returned 5.9% on a net-of-fees basis (6.5% on a gross-of-fee basis).
- For the trailing nine-year-period ending June 30, 2016, the RRS Total Fund returned 4.5% on a net-of-fees basis (4.9% on a gross-of-fee basis).

continued on next page



Relative to peer group comparison of other Public Funds (InvestorForce Public Fund Universe):

- For the fiscal-year-ending June 30, 2016 the net return of -0.1% ranked the RRS in the 62nd percentile (1% being the highest, 100% being the lowest), outpacing 38% of other public funds within the universe.
- For the trailing three-year-period ending June 30, 2016, the net return of 5.9% ranked RRS in the 53rd percentile (1% being the highest, 100% being the lowest), outpacing 47% of other public funds within the universe.
- For the trailing nine-year-period ending June 30, 2016, the net return of 4.5% ranked RRS in the 47th percentile (1% being the highest, 100% being the lowest), outpacing 53% of other public funds within the universe.

Fiscal Year 2016 Market Review

Capital markets remained largely characterized by global Central Bank stimulative action resulting in the continuation of the multi-year valuation expansion in growth assets; though investment outcomes for U.S. investors were mixed as the U.S. Dollar appreciated against most foreign currencies. Political instability, commodity price disruption and the beginning stages of divergent Central Bank policy created a heightened amount of uncertainty and volatility in global markets. Markets experienced bouts of whipsaw-like volatility as investors digested news of increased interest rates domestically, negative interest rates abroad, rapidly falling oil prices and the rise of political populism. Domestic equities, as measured by the S&P 500 Index, posted its eighth consecutive positive fiscal year (ended June) with a +4.0% return. U.S. high quality fixed income investments, as measured by the Barclays Capital Aggregate Index, produced outsized returns as Treasury yields crept toward all-time lows returning +6.0% for the year. International developed markets equities, as measured by the MSCI EAFE Index, underperformed domestic equities by over 14% with a return of -10.2% as European and Asian developed nation currencies devalued with stimulative monetary policy making its way through those struggling economies. Emerging markets, as measured by the MSCI Emerging Markets Index, ended the year trailing developed international equities by approximately two percent, with a return of -12.1%.

NEPC, LLC appreciates the opportunity to serve as your consultant. It is a pleasure to work with the RRS and we look forward to continuing our relationship for the benefit of the Board, staff, and most importantly, the members of the System.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. M. L.', is written over a light blue horizontal line.

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Investment Policy Summary

Introduction

The Board is responsible for the overall management of the assets of the Fund. The Trustees approve the Investment Policy Statement (IPS) and provide overall direction in the executing the policy. The Trustees review investment results in relationship to investment expectations and actuarial assumptions and experience to determine if future changes are needed to either the IPS or the implementation of the IPS.

Purpose of the IPS

The purpose of the IPS is to assist the Board in effectively supervising, monitoring, and evaluating the investment of the Fund assets. The IPS:

1. Makes a clear distinction between the responsibilities of the Board and the service providers hired to help implement the Fund's Investment Policy — the investment consultant, the investment managers, and the bank custodian/trustee.
2. Describes the Fund's risk tolerance, as defined by the asset classes that are considered allowable investments and the percentage allocations to each asset class.
3. Sets forth the criteria to be placed on diversification of portfolio investments.
4. Describes the investment practices that apply to the individual portfolios managed by each of the investment managers.
5. Provides rate-of-return objectives and criteria to monitor and evaluate the performance results achieved by the investment managers.
6. Establishes effective communication procedures between the Board and the investment managers, investment consultant, and bank custodian/trustee.
7. Creates a formal review process for reviewing this Investment Policy Statement.

Objectives

The assets are invested to meet the following objectives:

1. To ensure funds are available to meet current and future obligations of the plan when due.
2. To earn an investment return greater than the actuarial return assumption over time.
3. To assure the Fund's fiscal health.

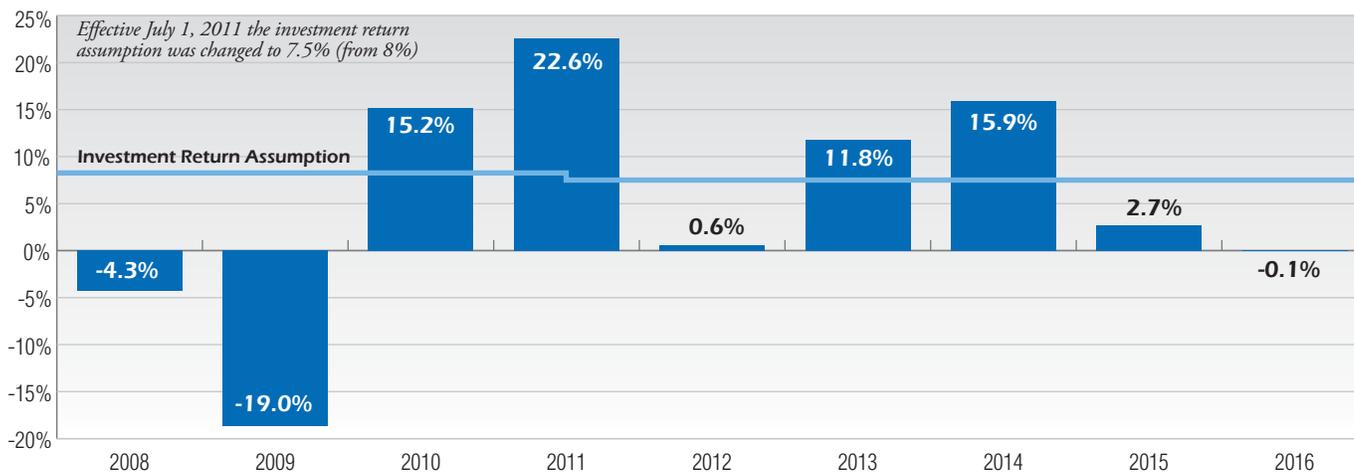
Time Horizon

For purposes of planning, the time horizon for investments is long-term. Capital values fluctuate over shorter periods, and the Board recognizes that the possibility of capital loss does exist. The Board has adopted a long-term investment horizon in order to carefully weigh the probability of investment loss against the long-term potential for investment gains. Fund assets will be invested in a prudent manner to ensure diversification of investment risks and opportunities.

For a copy of the Investment Policy Statement, please contact the Richmond Retirement System at 730 East Broad Street, Suite 900, Richmond, VA 23219.

Schedules of Investment Results

Fiscal Year Returns (Net of Fees)



Investment Performance* (Net of Fees)

One, Three, & Five Years Ending June 30, 2016

Asset Category	Note	1 YEAR		3 YEARS		5 YEARS	
		% Rate of Return	% Benchmark	% Rate of Return	% Benchmark	% Rate of Return	% Benchmark
U.S. Equity	(a)	-1.1%	2.1%	9.9%	11.1%	10.5%	11.6%
International Equity	(b)	-8.3%	-10.2%	1.8%	1.2%	-0.2%	0.1%
Total Equity	(c)	-3.4%	-3.7%	7.3%	6.0%	7.2%	5.4%
Total Fixed Income	(d)	2.8%	5.8%	3.2%	4.2%	4.1%	4.0%
Total Fixed Income	(e)	2.8%	5.8%	3.2%	4.2%	4.1%	4.0%
Hedge Funds	(f)	-5.2%	-5.5%	2.1%	1.9%	1.8%	1.6%
Real Estate	(g)	12.6%	11.8%	11.4%	13.0%	11.6%	12.7%
Private Equity	(h)	13.0%	3.1%	11.4%	10.9%	9.4%	11.4%
Private Debt	(i)	5.9%	-1.1%	7.1%	2.2%	n/a	n/a
Cash	(j)	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
Total Plan	(k)	-0.1%	0.6%	5.9%	5.8%	6.0%	6.0%

Benchmarks:

- | | | |
|------------------------------|---|---|
| (a) Russell 3000 | (e) Barclays Universal Index | (i) Credit Suisse Leveraged Loan (1 Qtr. Lag) |
| (b) MSCI ACWI ex US | (f) HFRI Fund of Funds Composite Index | (j) 91-Day Treasury Bills |
| (c) MSCI ACWI | (g) NCREIF ODCE | (k) Total Plan Policy Index |
| (d) Barclays Universal Index | (h) Cambridge Associates US All PE (1 Qtr. Lag) | |

* Source: NEPC Investment Performance Analysis Report, June 30, 2016. NEPC uses a time-weighted performance calculation. Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of Return are annualized when the time period is longer than a year.

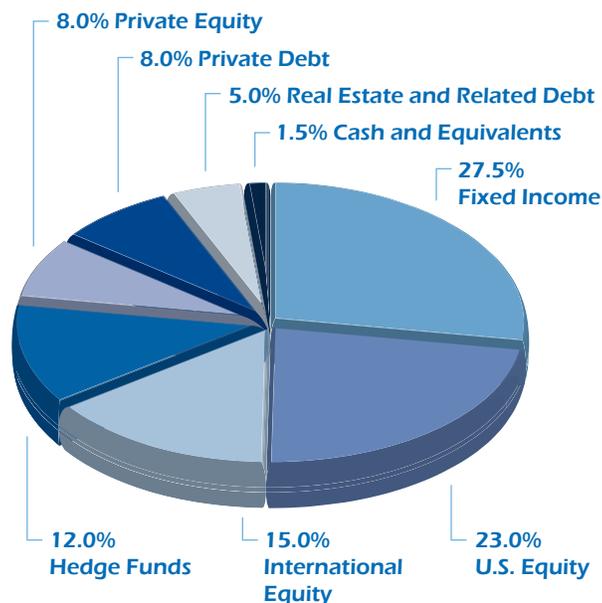
Asset Allocation

Asset Class	Target Allocation	Actual Allocation*
U.S. Equity		
Large Cap Passive U.S. Equities	8.00%	11.66%
Large Cap U.S. Value	5.00%	4.52%
Large Cap Growth	5.00%	4.42%
SMID Cap Growth U.S. Equities	2.50%	2.14%
SMID Cap Value U.S. Equities	2.50%	2.73%
Total	23.00%	25.47%
International Equity		
Developed International Equities	8.00%	9.13%
Emerging International Equities	7.00%	6.91%
Total	15.00%	16.04%
Fixed Income		
TIPS	0.00%	0.65%
Global Multi-Sector Fixed Income	22.50%	23.54%
Opportunistic Fixed Income	5.00%	5.24%
Total	27.50%	29.43%
Other		
Hedge Funds	12.00%	12.31%
Private Equity	8.00%	3.01%
Private Debt	8.00%	5.27%
Real Estate and Related Debt	5.00%	6.87%
Total	33.00%	27.46%
Cash and Equivalents		
	1.50%	1.60%
Total	1.50%	1.60%
Total	100.00%	100.00%

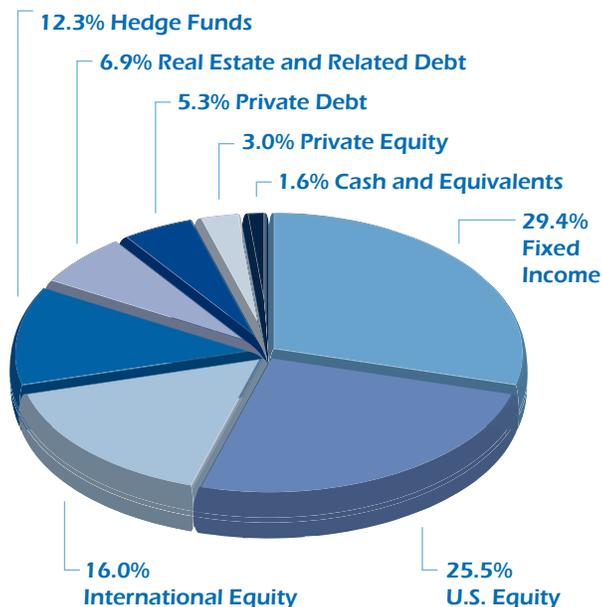
* Actual allocation based upon fair market value presented in the Statement of Fiduciary Net Position.

*May not add to 100% due to rounding.

Target Allocation



Actual Allocation



Schedule of Investments

Ten Largest Equity Holdings at June 30, 2016

Description	Share/Par	Fair Value
Amazon.com Inc.	2,383	\$1,705,322
Facebook Inc. A	14,779	1,688,944
Cisco Systems Inc.	51,496	1,477,420
Visa Inc. Class A	19,884	1,474,796
Monster Beverage Corp	8,486	1,363,785
Oracle Corp	32,937	1,348,111
Coca Cola Co.	27,174	1,231,797
Procter & Gamble Co.	13,728	1,162,350
Qualcomm Inc.	20,600	1,103,542
SEI Investments Co.	19,172	922,365
Total Ten Largest Equity Holdings		<u><u>\$13,478,432</u></u>

Fair Value of Cash, Investment Payables & Receivables, and Investments, June 30, 2016

\$550,274,652

Percentage of Ten Largest Equity Holdings

2.45%

A complete listing of the holdings at June 30, 2016 is available from the RRS's executive office.

Ten Largest Fixed Income Holdings at June 30, 2016

Description	Share/Par	Fair Value
U.S. Treasury Notes 2% due 15 Nov 2021	1,300,000	\$1,362,712
U.S. Treasury Notes 1.125% due 28 Feb 2021	1,350,000	1,359,491
U.S. Treasury Notes 1.625% due 15 Feb 2026	1,050,000	1,061,813
Fannie Mae Mortgage Pass-Through 3.5% due 14 Jul 2046	850,000	896,886
U.S. Treasury Notes 3% due 15 Nov 2045	675,000	776,142
Fannie Mae Mortgage Pass-Through 3% due 14 Jul 2046	600,000	622,662
RBSCF Trust 1% due 13 Jan 2032	500,000	550,689
Freddie Mac Mortgage Pass-Through 4% due 14 Jul 2046	450,000	481,640
U.S. Treasury Notes 3.875% due 15 May 2018	425,000	451,448
Fannie Mae Mortgage Pass-Through 4% due 14 Jul 2046	375,000	402,060
Total Ten Largest Fixed Income Holdings		<u><u>\$7,965,543</u></u>

Fair Value of Cash, Investment Payables & Receivables, and Investments, June 30, 2016

\$550,274,652

Percentage of Ten Largest Fixed Income Holdings

1.45%

A complete listing of the holdings at June 30, 2016 is available from the RRS's executive office.

*Schedule does not include equity and fixed income securities held by mutual funds.

Schedule of Fees

For Fiscal Year Ending June 30, 2016

	Assets Under Management	Related Fees*
Investment Manager's Strategy		
U.S. Equities	\$134,912,494	\$529,195
Global Fixed Income	94,768,118	373,313
International Equities	84,950,534	145,939
Hedge Funds	65,205,502	-
Real Estate and Related Debt	36,360,485	287,027
U.S. Fixed Income	33,334,805	60,514
Private Debt	27,912,140	-
Opportunistic Fixed Income	27,745,095	-
Private Equity	15,919,139	-
Cash and Cash Equivalents	<u>8,455,536</u>	<u>13,409</u>
Total Long-Term Investments	<u>529,563,848</u>	<u>1,409,397</u>
Net Cash Collateral from Securities Lending	24,958,666	-
Investment Payables	(6,813,141)	-
Investment Receivables	2,549,529	-
Other Receivables	<u>15,750</u>	-
Total	<u>\$550,274,652</u>	<u>\$1,409,397</u>
Other Investment Service Fees		
Consultant		298,389
Custodian		259,141
Securities Lending Agent		<u>43,852</u>
Total Investment Service Fees		<u>\$2,010,779</u>

*Mutual fund and limited partnership fees are not reflected in this schedule; instead, these investment expenses are netted against investment income in the statement of changes of Plan net position to arrive at a net investment income amount..

Schedule of Brokerage Commissions

Commissions in Excess of \$10,000

For the Fiscal Year Ended June 30, 2016

Broker Name	Shares/Par	Commission	Per Share
Broadcort Capital (through Merrill Lynch)	670,885	\$25,434	\$0.04
Other*	<u>631,621,426</u>	<u>39,404</u>	0.00
Total Commissions	<u>\$632,292,311</u>	<u>\$64,838</u>	

*Other includes all commissions to brokerage firms receiving less than \$10,000 during the fiscal year ended 6/30/2016.



Investment Summary

	Fair Value	% of Total Fair Value
<i>As of June 30, 2016</i>		
Equities		
<i>U.S. Equities</i>		
Information Technology	\$17,495,990	3.30%
Consumer	12,532,778	2.37%
Financial	8,197,743	1.55%
Healthcare	7,657,248	1.45%
Industrials	5,584,893	1.05%
Energy	3,607,417	0.68%
Utilities	1,604,658	0.30%
Telecommunications	1,115,212	0.21%
Materials	875,258	0.17%
Other	76,241,297	14.40%
Total U.S. Equities	134,912,494	25.48%
International Equities	84,950,534	16.04%
Total Equities	219,863,028	41.52%
Fixed Income		
<i>U.S. Fixed Income</i>		
Corporate Bonds	9,650,932	1.82%
Mortgage Pass-Through	5,706,717	1.08%
U.S Treasury	5,287,141	1.00%
CMO	3,279,980	0.62%
Asset Backed	675,421	0.13%
Agency	119,683	0.02%
Other	8,614,931	1.63%
Total U.S. Fixed Income	33,334,805	6.29%
Opportunistic Fixed Income	27,745,095	5.24%
Global Fixed Income	94,768,118	17.90%
Total Fixed Income	155,848,018	29.43%
Other Investments		
Hedge Funds	65,205,502	12.31%
Real Estate and Related Debt	36,360,485	6.87%
Private Debt	27,912,140	5.27%
Private Equity	15,919,139	3.01%
Total Other Investments	145,397,266	27.46%
Short-Term Investments		
Cash and Equivalents	8,455,536	1.60%
Total Short-Term Investments	8,455,536	1.60%
Total Investments	\$529,563,848	100.00%

*May not add to 100% due to rounding.



A building in downtown Richmond



The Virginia War Memorial

Actuarial Section

The Actuarial Section presents information relating to the funded status of the pension plan. Additionally, this section provides detailed information about actuarial assumptions, includes retirement trend data, and summarized provisions and changes.

In this section:

- Actuary's Report
- Actuarial Assumptions and Methods
- Schedule of Active Members Valuation Data
- Schedule of Beneficiaries Added to and Removed from Rolls
- Analysis of Financial Experience

Actuary's Report



4510 Cox Road, Suite 200
Glen Allen, VA 23060
sageviewadvisory.com

September 14, 2016

Board of Trustees
The Richmond Retirement System
Richmond, Virginia

Ladies and Gentlemen:

Actuarial valuations of the Richmond Retirement System are performed annually. The results of the latest actuarial valuation of the System, which was prepared as of July 1, 2016, are summarized in this letter.

The valuation reflects the benefits in effect on the valuation date, and was prepared on the basis of the data submitted by the City using generally accepted actuarial principles and methods.

The Financing Objective and City's Contribution Rate

The financing objective of the System is to:

- (a) Fully fund all current costs based on the normal contribution rate payable by the City determined under the funding method; and
- (b) Liquidate the unfunded actuarial liability based on actuarial liability contributions payable by the City over an amortization period of no more than 30 years, with contributions increasing 4% per year for Police/Fire employees and level contributions for General employees.

The July 1, 2016 valuation develops contribution rates for the fiscal year ending June 30, 2018. These contribution rates, which are based on the covered payroll as of July 1, 2016, are as follows:

	General Employees	Police & Fire	Total
Beginning of Year	41.50%	39.12%	40.29%
Bi-Weekly	43.03%	40.56%	41.77%

The above rates should be adjusted to reflect the actual budgeted payroll for the fiscal year ending June 30, 2018 if it is different than the covered payroll on which they are based.

The contribution rates and amounts displayed above are sufficient to support the benefits of the System and administrative expenses, and achieve the financing objective set forth above.

continued on next page



Net Pension Liability

Under GASB 67, the Net Pension Liability is the excess, if any, of the Total Pension Liability over the Fiduciary Net Position. The Total Pension Liability is determined under the Entry Age actuarial cost method. The Net Pension Liability as of June 30, 2016 and June 30, 2015 is as follows:

	June 30, 2016	June 30, 2015
Total Pension Liability	\$854,875,197	\$850,911,445
Fiduciary Net Position	\$515,253,793	\$540,060,865
Net Pension Liability	\$339,621,404	\$310,850,580
Fiduciary Net Position as a Percentage of Total Pension Liability	60.3%	63.5%

Legislative and Administrative Changes

There were no legislative or administrative changes during the fiscal year ended June 30, 2016.

Actuarial Assumptions and Methods

Actuarial assumptions are adopted by the Board, upon review of recommendations made by the actuary. An experience study was conducted for the five-year period ended June 30, 2013. This study resulted in the Board adopting several changes in assumptions, at the recommendation of the actuary, in order to better anticipate emerging experience. The Board also adopted the Entry Age actuarial cost method (required under GASB67 for financial reporting purposes) for purposes of determining contribution rates. Previously the Projected Unit Credit method was used. Finally, the Board reviewed the investment return assumption and voted to maintain the current 7.5% assumption.

The unfunded actuarial liability as of July 1, 2006 is being amortized over a period of 20 years; subsequent changes in unfunded actuarial liability (with the exception of changes due to COLA) are also being amortized over a period of 20 years, with contributions increasing 4% per year for Police & Fire employees and level contributions for General employees. Increases in unfunded actuarial liability due to COLA are funded via a first year lump sum payment with the remaining increase amortized over a period of five to ten years. The portion funded via a lump sum and the portion amortized are based on the System’s funded status in accordance with a schedule adopted by the Board of Trustees. As of the valuation date all prior ad hoc COLA amounts are fully amortized.

For purposes of determining contribution rates, the difference between actual investment earnings and expected investment earnings is recognized over a five-year period, with the restriction that the actuarial asset value cannot be less than 90% or more than 110% of market value. This smoothing method is utilized in order to smooth the impact of short term market fluctuations on the System’s contribution rates and funded status. For purposes of financial reporting beginning with the fiscal year ended June 30, 2014, assets are reported at fair market value.

Samples of the actuarial assumptions and descriptions of the actuarial cost method and asset valuation method are set forth in the outline of actuarial assumptions and methods included in the report.

continued on next page

System Assets and Participant Data

The individual data for members of the System as of the valuation date were reported to the actuary by the City. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness in comparison with the data submitted for the previous valuation. It is our understanding that the independent auditor of the System has also made an examination of the data.

The value of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System Staff which will be audited by the independent auditor of the System. Assets have been reduced by the value of DROP accounts as those accounts are recognized as benefits payable from the System.

Financial Results and Membership Data

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report and the related membership data schedules. We were responsible for providing information for all schedules included in the Actuarial Section as well as certain schedules included in other sections of the consolidated annual financial report for the fiscal year ended June 30, 2016. These schedules include the Schedule of Active Members Valuation Data, Schedule of Beneficiaries Added to and Removed from Rolls, and the Reasons for Change in Contribution Rates.

Defined Contribution Plan

The City also sponsors a 401(a) Defined Contribution Plan for General employees hired on or after July 1, 2006 and other employees who have elected to participate in that plan in lieu of the Richmond Retirement System’s defined benefit plan. We have prepared an analysis of the Defined Contribution Plan with respect to Virginia Code Title 51.1-800 and believe it is in compliance.

Respectfully submitted,

SageView Consulting Group



William M. Dowd, FCA, EA
Managing Principal



William J. Reid, FCA, EA
Principal

Actuarial Assumptions and Methods

Actuarial Cost Method

For fiscal year ended June 30, 2016 the actuarial cost method used to determine the actuarial liability and the normal cost is the Entry Age Actuarial Cost Method.

The accrued liability and the normal cost are used to determine the City of Richmond's contribution requirement. The July 1, 2014 valuation developed contribution rates for the fiscal year ending June 30, 2016 using the Entry Age Actuarial Cost Method.

The investment return assumption of 7.5% was adopted July 1, 2011. Other actuarial assumptions and methods are as follows.

Actuarial Assumptions

Interest

7.5% per annum, compounded annually.

Mortality

Active Lives and Service Retirements

General Employees:
RP-2000 Mortality Table with 2-year set-forward for males

Police and Fire Employees:
RP-2000 Mortality Table

Disabled Lives

General Employees:
PBGC disabled life table for retirees receiving Social Security

Police and Fire Employees:
PBGC disabled life table for retirees not receiving Social Security

Turnover

General Employees: An attained age table with the following typical rates:

Age	Rate
25	0.1668
35	0.1039
45	0.0574
55	0.0219
60	0.0137

Police and Fire Employees: An attained age table with the following typical rates:

Age	Rate
25	0.0567
35	0.0310
45	0.0068
55	0.0011
60	-

Retirement

General Employees: A select and ultimate table with the following typical rates; 20% for the first year in which the employee is eligible for unreduced immediate retirement benefits, and:

Age	Rate
55-57	0.03
58-59	0.06
60	0.03
61	0.09
62	0.20
63	0.10
64	0.20
65	0.25
66-70	0.30
71-74	0.50
75	1.00

Police and Fire Employees: A select and ultimate table with the following typical rates; 40% for the first year in which the employee is eligible for unreduced immediate retirement benefits, and:

Age	Rate
50	0.09
51-54	0.12
55-56	0.15
57-58	0.09
59-63	0.50
64	1.000

Disability

General Employees: An attained age table with the following typical rates:

Age	Rate
25	0.000436
35	0.000436
45	0.001169
55	0.003429
60	0.004900

Police and Fire Employees: An attained age table with the following typical rates:

Age	Rate
25	0.000172
35	0.000172
45	0.000615
55	0.002707

Duty Disability

General Employees: An attained age table with the following typical rates:

Age	Rate
25	0.000037
35	0.000037
45	0.000130
55	0.000573

Police and Fire Employees: An attained age table with the following typical rates:

Age	Rate
25	0.000163
35	0.000244
45	0.000871
55	0.003835

Salary Increases

General Employees: An attained age table with the following typical rates:

Age	Rate
25	0.040
35	0.035
45	0.035
55	0.030
60	0.030

Police and Fire Employees: An attained age table with the following typical rates:

Age	Rate
25	0.045
35	0.045
45	0.030
55	0.030
60	0.030

Cost-of-Living Adjustments

None assumed.

Asset Valuation Basis

For purposes of determining contribution rates, five-year spread of the difference between actual investment earnings and assumed investment earnings at 7.5% was used. The resulting actuarial asset value cannot be less than 90% or greater than 110% of market value.

Schedule of Active Members Valuation Data

General Defined Benefit Plan Members *(Dollars in Thousands)*

Valuation Date	Members	Annual Payroll	Average Salary	Percent Increase (Decrease)
6/30/16	941	\$53,267	\$57	1.6
6/30/15	1,014	56,518	56	4.5
6/30/14	1,075	57,323	53	3.4
6/30/13	1,256	64,794	52	0.2
6/30/12	1,375	70,773	51	1.6
6/30/11	1,510	76,521	51	1.1
6/30/10	1,644	82,411	50	1
6/30/09	1,778	88,214	50	3.7
6/30/08	1,886	90,250	48	4.7

Police and Fire Defined Benefit Plan Members *(Dollars in Thousands)*

Valuation Date	Members	Annual Payroll	Average Salary	Percent Increase (Decrease)
6/30/16	970	\$54,749	\$56	2.7
6/30/15	1,005	55,220	55	1.8
6/30/14	990	53,425	54	0.2
6/30/13	963	51,872	54	-2.3
6/30/12	985	54,287	55	0
6/30/11	988	54,450	55	-2.7
6/30/10	972	55,062	57	-1.4
6/30/09	1,004	57,654	57	4.4
6/30/08	992	54,583	55	1.9

Defined Contribution 401(a) Plan Members *(Dollars in Thousands)*

Valuation Date	Members	Annual Payroll	Average Salary	Percent Increase (Decrease)
6/30/16	1938	\$97,097	\$50	0.2
6/30/15	1,890	94,457	50	3.4
6/30/14	1,865	90,102	48	0.0
6/30/13	1,765	85,235	48	2.7
6/30/12	1,735	81,603	47	-1.2
6/30/11	1,656	78,861	48	1.2
6/30/10	1,632	76,819	47	1.4
6/30/09	1,614	74,938	46	3.1
6/30/08	1,402	63,161	45	4.2

Schedule of Beneficiaries Added to and Removed from Rolls

(Dollars in Thousands)

Ended	Added	Annual Allowances		Total	Annual Allowances	% Change	Average Annual Allowances	Retirees as a Percent of Active Members		
		Added	Removed					Removed	Number	Pay
6/30/16	153	\$2,272	145	\$1,596	4,322	\$69,034	1.0%	\$16	226.2%	63.9%
6/30/15	163	\$1,667	161	\$1,517	4,314	\$68,358	0.2%	\$16	213.7%	61.2%
6/30/14	285	\$5,087	143	\$1,654	4,312	\$68,208	5.3%	\$16	208.8%	61.6%
6/30/13	182	\$1,917	143	\$1,483	4,170	\$64,775	0.7%	\$16	187.9%	55.5%
6/30/12	206	\$2,885	153	\$1,630	4,131	\$64,341	2.0%	\$16	175.0%	51.4%
6/30/11	217	\$4,038	136	\$1,462	4,078	\$63,086	4.3%	\$15	163.3%	48.2%
6/30/10	205	\$3,580	171	\$1,581	3,997	\$60,511	3.4%	\$15	152.8%	44.0%
6/30/09	159	\$1,703	117	\$1,123	3,963	\$58,512	1.0%	\$15	142.5%	40.1%
6/30/08	239	\$3,628	159	\$1,525	3,921	\$57,932	3.8%	\$15	136.2%	40.0%
6/30/07	186	\$3,539	120	\$1,120	3,841	\$55,830	4.5%	\$15	125.7%	37.7%
6/30/06	235	\$3,318	180	\$1,431	3,775	\$53,411	3.7%	\$14	107.1%	32.7%
6/30/05	248	\$3,709	160	\$1,469	3,720	\$51,524	4.5%	\$14	103.1%	32.4%
6/30/04	289	\$6,231	112	\$937	3,632	\$49,283	12.0%	\$14	99.4%	31.2%
6/30/03	193	\$2,806	123	\$1,027	3,455	\$43,989	4.2%	\$13	84.6%	25.5%
6/30/02	198	\$4,765	146	\$932	3,385	\$42,210	10.0%	\$12	82.2%	25.3%

Analysis of Financial Experience

Reasons for Change in the Net Pension Liability

The unfunded actuarial liability was \$339,621,404 as of June 30, 2016. The increase from the prior year was primarily due to the investment return on the value of assets being less than expected.

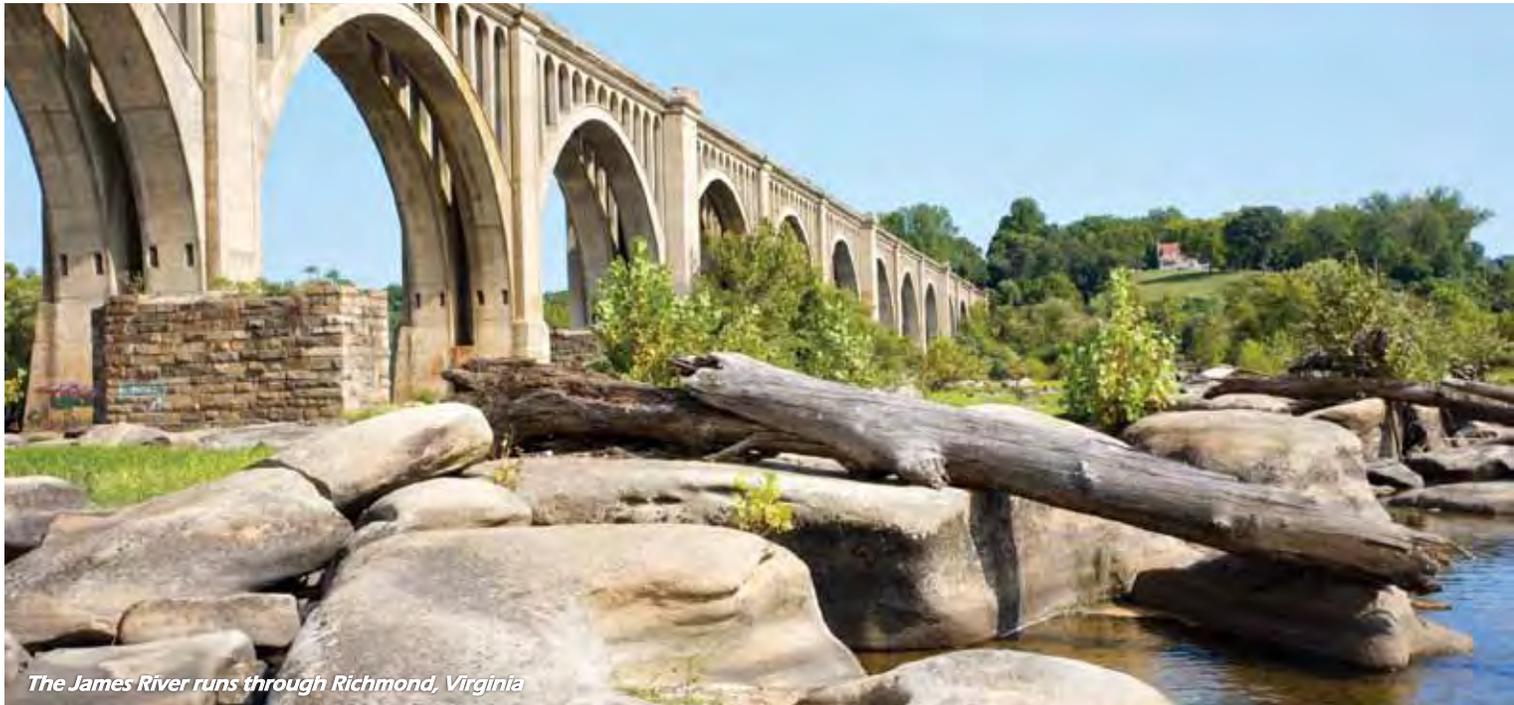
Reasons for Change in Funded Status

The funded status decreased from 63.5% as of June 30, 2015 to 60.3% as of June 30, 2016. The decrease is primarily due to the investment return on the value of assets being less than expected.

Reasons for Change in Contribution Rates

The overall employer contribution rate, as of the beginning of the year, decreased from 39.11% for the fiscal year ending June 30, 2015 to 38.45% for the fiscal year ending June 30, 2016. The decrease of 0.66% is due to the following reasons:

Decrease due to investment gain on actuarial value of assets:	-1.29%
Decrease due to changes in assumptions:	-1.90%
Increase due to changes in methods	0.98%
Increase due to changes in benefit provisions:	0.72%
Increase due to reduction in covered payroll	1.95%
Decrease due to other experience factors:	-1.12%
Total:	-0.66%



The James River runs through Richmond, Virginia



A view of Richmond's inner-city office buildings

Statistical Section

The Statistical Section presents detailed historical information regarding the pension plan administered by the RRS. This information includes a 10-year overview of changes in net position, plan membership, contributions, plan additions and deductions, benefits and refunds. Included in this analysis is statistical information regarding retirees.

In this section:

- Schedule of Changes and Growth in Net Position
- Schedule of Retirees and Beneficiaries by Type of Retirement
- Schedule of Participating Employer and Component Unit (Current Year and Ten Years Ago)
- Schedule of Average Benefit Payments
- Schedule of Membership

Schedule of Changes and Growth in Net Position

Pension Trust Fund *(Dollars in Thousands)*

For the year ended June 30

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Net Position Available— Beginning of Year	<u>\$540,061</u>	<u>\$544,904</u>	<u>\$492,619</u>	<u>\$461,761</u>	<u>\$489,987</u>	<u>\$417,669</u>	<u>\$386,358</u>	<u>\$511,657</u>	<u>\$559,529</u>	<u>\$497,054</u>
Additions										
Employer Contributions	44,926	46,537	42,295	40,402	38,884	39,718	32,079	33,192	31,936	30,889
Member Contributions	1,976	2,347	2,118	2,093	2,217	2,421	2,486	2,579	2,800	2,545
Investment Income (Loss)	(1,498)	15,641	76,463	54,219	1,896	93,770	59,128	(97,507)	(27,346)	82,273
Revenue for DC Plan Expenses	191	148	48	44	31	52	51	49	90	—
Total Additions	<u>45,595</u>	<u>64,673</u>	<u>120,924</u>	<u>96,758</u>	<u>43,028</u>	<u>135,961</u>	<u>93,744</u>	<u>(61,686)</u>	<u>7,479</u>	<u>115,707</u>
Deductions										
Benefit Payments	68,846	68,140	67,274	64,673	70,037	62,392	61,222	62,835	54,134	51,584
Refunds	203	128	47	102	49	81	118	102	54	535
Administrative/ Depreciation Expenses	1,353	1,248	1,318	1,125	1,166	1,169	1,094	1,095	1,162	1,114
Total Deductions	<u>70,402</u>	<u>69,516</u>	<u>68,639</u>	<u>65,900</u>	<u>71,253</u>	<u>63,643</u>	<u>62,434</u>	<u>64,033</u>	<u>55,351</u>	<u>53,233</u>
Change in Net Position	<u>(24,807)</u>	<u>(4,843)</u>	<u>52,285</u>	<u>30,858</u>	<u>(28,225)</u>	<u>72,318</u>	<u>31,310</u>	<u>(125,719)</u>	<u>(47,872)</u>	<u>62,474</u>
Net Position Available— End of Year	<u>\$515,254</u>	<u>\$540,061</u>	<u>\$544,904</u>	<u>\$492,619</u>	<u>\$461,761</u>	<u>\$489,987</u>	<u>\$417,669</u>	<u>\$386,359</u>	<u>\$511,657</u>	<u>\$559,529</u>

Schedule of Retirees and Beneficiaries

Amount of Monthly Benefit	Number of Retirees	Type of Retirement ¹							Option Selected ²					
		A	B	C	D	E	F	G	Life	1	2	3	4	5
\$1-\$100	358	-	23	322	12	1	-	-	313	14	1	6	0	24
\$101-\$200	361	5	42	298	8	1	3	4	295	23	3	0	2	38
\$201-\$300	232	16	55	142	7	1	9	2	182	14	0	6	2	28
\$301-\$400	233	11	86	104	12	-	12	8	158	16	1	3	2	53
\$401-\$500	195	14	73	75	5	3	22	3	144	9	0	1	0	41
\$501-\$600	188	15	76	62	11	6	12	6	132	3	1	4	2	46
\$601-\$700	154	13	79	44	7	-	9	2	98	5	0	4	3	44
\$701-\$800	137	15	72	23	9	3	13	2	84	2	1	2	0	48
\$801-\$900	141	14	78	18	11	8	10	2	78	5	1	1	3	53
\$901-\$1000	135	17	74	18	3	7	13	3	72	3	0	3	4	53
Over \$1000	2,188	322	1,591	45	43	102	84	1	1,438	126	41	104	92	387
Total	4,322	442	2,249	1,151	128	132	187	33	2,994	220	49	134	110	815

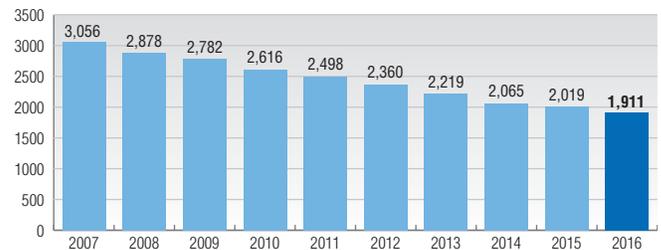
¹Types of Retirement

- A Normal Retirement** — A general employee age 65 or a sworn public safety officer age 60 or older.
- B Early Service** — A general employee at least age 55, with five years of creditable service, or a sworn public safety officer at least age 50, with five years of creditable service.
- C Deferred Service** — A former vested general employee age 65 or older or a former vested sworn public safety officer age 60 or older.
Deferred Early Service — A former vested general employee at least age 55 but less than age 65 or a sworn public safety officers at least age 50 but less than age 60.
- D Beneficiary (normal, early, deferred retirement)** — Surviving beneficiary of a deceased retiree who is receiving a retirement allowance payable monthly for life.
- E Compensable Disability** — An employee who retires from active service due to a job-related disability.
- F Ordinary Disability** — A vested employee who retires from active service due to a non-job-related disability.
- G Beneficiary (disability)** — Beneficiary of a deceased disability retiree who is receiving a retirement allowance payable monthly for life.

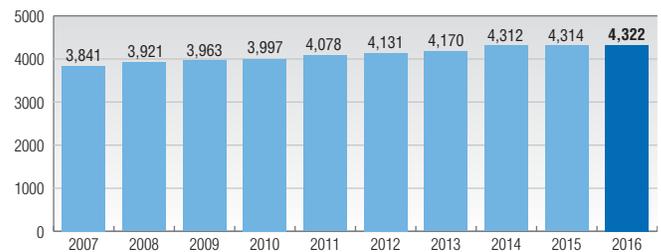
²Option Selected

- LIFE** — Basic Benefit
- Option 1** — 100% Joint and Survivor Benefit
- Option 2** — 75% Joint and Survivor Benefit
- Option 3** — 50% Joint and Survivor Benefit
- Option 4** — 25% Joint and Survivor Benefit
- Option 5** — Social Security (Smooth-Out)

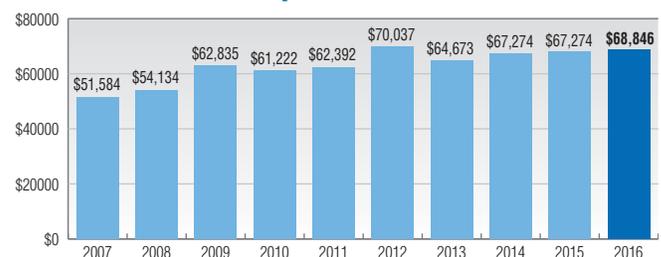
Number of Active Defined Benefit Plan Members



Number of Retirees and Beneficiaries



Retirement Benefit Expenses (Dollars in Thousands)



Schedule of Participating Employer and Component Unit Current Year and Ten Years Ago

Participating Employer and Component Unit	2016		2006	
	Covered Employees	Percentage of Total System	Covered Employees	Percentage of Total System
City of Richmond	1,873	98.0%	3,342	94.8%
Richmond Behavioral Health Authority	38	2.0%	184	5.2%
Total	1,911	100.0%	3,526	100.0%

Benefit Payment Options:

Basic Benefit

This form of payment provides a monthly benefit for life. However, when member dies, all benefits stop. There are no monthly payments to a beneficiary after death.

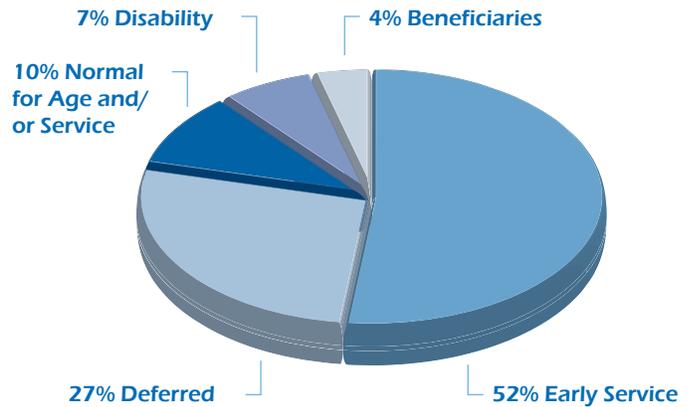
Social Security (Smooth-Out) Option

This form of payment provides an increased monthly benefit prior to age 65. When a member reaches age 65, retirement benefits will be reduced by the projected amount of their primary Social Security benefit. The purpose of this option is to provide for a more level total retirement income before and after age 65, taking into account the federal Social Security benefits. There are no monthly payments to a beneficiary after the member's death.

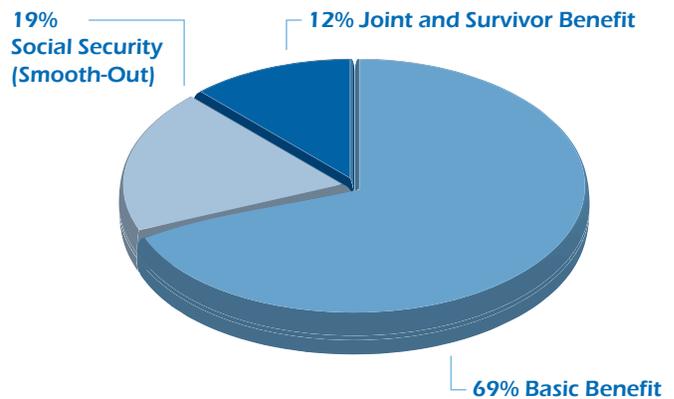
Joint and Survivor Benefit Option

This form of payment provides a reduced benefit during a member's lifetime. Upon the member's death, the same amount or a designated fraction (25%, 50% or 75%) will continue to be paid to a designated beneficiary, if living.

Retirement Types



Benefit Payment Options



Schedule of Average Benefit Payments

Retirements Effective July 1, 2007 to June 30, 2016

	Years of Creditable Service						
	0-5	5-10	10-15	15-20	20-25	25-30	30+
FY 2016							
Average monthly benefit	\$0	\$217	\$1,019	\$1,395	\$1,769	\$3,227	\$3,538
Average final salary	\$0	\$26,320	\$53,657	\$48,659	\$56,612	\$69,436	\$65,794
Number of retired members	0	28	15	18	20	36	22
FY 2015							
Average monthly benefit	\$616	\$270	\$734	\$1,081	\$1,298	\$2,994	\$2,834
Average final salary	\$116,696	\$29,673	\$46,794	\$51,058	\$57,990	\$64,902	\$56,033
Number of retired members	3	40	33	19	8	20	19
FY 2014							
Average monthly benefit	\$0	\$270	\$631	\$1,265	\$1,920	\$2,624	\$2,824
Average final salary	\$0	\$28,316	\$38,490	\$45,144	\$49,749	\$55,108	\$50,571
Number of retired members	0	41	40	15	24	39	100
FY 2013							
Average monthly benefit	\$199	\$264	\$508	\$819	\$1,499	\$2,582	\$3,142
Average final salary	\$75,193	\$30,468	\$31,411	\$40,595	\$50,062	\$61,874	\$58,771
Number of retired members	2	37	30	16	21	30	38
FY 2012							
Average monthly benefit	\$322	\$299	\$457	\$677	\$2,032	\$2,792	\$2,722
Average final salary	\$40,323	\$33,962	\$33,936	\$31,863	\$52,933	\$60,187	\$50,971
Number of retired members	1	32	25	18	15	31	68
FY 2011							
Average monthly benefit	\$26	\$285	\$562	\$1,041	\$1,884	\$3,026	\$2,814
Average final salary	\$30,691	\$29,926	\$29,721	\$51,322	\$55,280	\$64,226	\$52,330
Number of retired members	1	43	22	23	28	34	62
FY 2010							
Average monthly benefit	\$105	\$204	\$472	\$709	\$2,007	\$3,122	\$2,766
Average final salary	\$28,580	\$25,991	\$35,365	\$33,647	\$55,308	\$64,977	\$51,989
Number of retired members	1	33	18	16	27	37	48
FY 2009							
Average monthly benefit	\$0	\$177	\$538	\$812	\$1,307	\$2,674	\$2,396
Average final salary	\$0	\$22,323	\$34,916	\$37,829	\$42,471	\$60,212	\$46,044
Number of retired members	0	41	21	17	16	20	36
FY 2008							
Average monthly benefit	\$102	\$229	\$593	\$695	\$1,653	\$2,088	\$2,500
Average final salary	\$19,692	\$21,941	\$40,280	\$34,364	\$48,623	\$45,546	\$48,974
Number of retired members	1	51	16	25	29	27	50
FY 2007							
Average monthly benefit	\$0	\$325	\$564	\$639	\$854	\$2,137	\$2,579
Average final salary	\$0	\$35,270	\$29,671	\$35,828	\$53,399	\$47,612	\$48,148
Number of retired members	0	32	20	16	37	30	54

Schedule of Membership June 30, 2016

Active Defined Benefit Plan Members — By Departments and Agencies

Animal Care & Control	3
Assessor of Real Estate	8
City Auditor	2
City Clerk	3
City Council	3
Community Wealth Building	1
Department of Budget & Strategic Planning	4
Department of Community Development	33
Department of Economic Development	8
Department of Emergency Communications	23
Department of Finance	23
Department of Fire & Emergency Services	338
General Employees	6
Firefighters	332
Department of Health	1
Department of Human Resources	5
Department of Information Technology	25
Department of Parks, Recreations & Community Facilities	80
Department of Procurement Services	1
Department of Public Utilities	248
Department of Public Works	171
Department of Social Services	123
Human Services	3
Juvenile Justice Services	21
Law Department	11
Minority Business Enterprise	1
Office of the Chief Administrative Officer	2
Office of the Mayor	3
Public Library	27
Richmond Behavioral Health Authority	38
Richmond Police Department	697
General Employees	59
Police Officers	638
Richmond Public Schools	3
Richmond Retirement System	2
Total	1,911
Retired Members	
General Employees	3,058
Police & Fire Employees	1,259
City Council Members	5
Total	4,322
Terminated Vested Defined Benefit Plan Members	
General Employees	1,401
Police & Fire Employees	217
City Council Members	-
Total	1,618
Active Defined Contribution 401(a) Plan Members	
General Employees	1,886
Police & Fire Employees	52
Total	1,938
401(a) Participating Members Terminated Vested	271
Total Membership	10,060

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www.richmondgov.com/retirement

Richmond Retirement System

RRS

Building your financial future