



Virginia
Retirement
System®

Annual Comprehensive Financial Report

FOR THE FISCAL YEAR ENDED
JUNE 30, 2021

An independent agency
of the Commonwealth of Virginia



VIRGINIA RETIREMENT SYSTEM
FINANCIAL AND STATISTICAL HIGHLIGHTS – ALL PENSION TRUST FUNDS

(EXPRESSED IN THOUSANDS)

	2021	2020	% Change
Activity for the Year:			
Contributions	\$ 3,711,306	\$ 3,479,951	6.65%
Investment Income (Net of Investment Expenses)	\$ 21,503,294	\$ 1,510,525	1,323.56%
Retirement Benefits	\$ 5,522,199	\$ 5,262,256	4.94%
Refunds	\$ 116,186	\$ 107,418	8.16%
Administrative and Other Expenses (Net of Miscellaneous Income)	\$ 53,420	\$ 53,444	-0.04%
Increase (Decrease) in Net Position Held in Trust for Pension Benefits	\$ 19,522,795	\$ (432,642)	
Retirement Benefits as a Percentage of Contributions	148.8%	151.2%	
Retirement Benefits as a Percentage of Contributions and Investment Income	21.9%	105.4%	
Net Position Held in Trust for Benefits at Fiscal Year-End:			
Virginia Retirement System (VRS)	\$ 95,288,645	\$ 76,453,387	24.64%
State Police Officers' Retirement System (SPORS)	\$ 1,050,148	\$ 854,762	22.86%
Virginia Law Officers' Retirement System (VaLORS)	\$ 1,868,924	\$ 1,500,469	24.56%
Judicial Retirement System (JRS)	\$ 673,151	\$ 549,455	22.51%
Investment Performance*:			
One-Year Return on Investments	27.5%	1.4%	
Three-Year Return on Investments	11.3%	5.2%	
Five-Year Return on Investments	10.7%	5.8%	
Participating Employers:			
Counties/Cities/Towns	255	255	
Special Authorities	208	208	
School Boards**	144	144	
State Agencies	228	230	
Total Employers	835	837	-0.24%
Members/Retirees:			
Active Members	344,877	348,826	-1.13%
Retired Members	224,973	219,113	2.67%

* Investment return calculations were prepared using a time-weighted return methodology based on market value and net of investment expenses.

** Of the 144 school boards, 133 also provide coverage for non-teacher employees.



Virginia Retirement System

Annual Comprehensive Financial Report

For the Year Ended June 30, 2021

VRS CODE OF ETHICS

The VRS Code of Ethics is built on our commitment to upholding the highest standards of integrity, ethical principles and professional conduct.

INTEGRITY

Integrity is the ability to act with honesty and be consistent in administering benefits and managing investments. Integrity serves as the foundation for building trust with the public, retirees, members and employers as we provide services.

ACCOUNTABILITY

Accountability is being responsible for decisions made, actions taken and assignments completed. Accountability reinforces our commitment to ethically perform our duties to meet the goals of the agency.

CONFIDENTIALITY

Confidentiality is exercising discretion and performing our ethical duty to protect the personal information of our members, retirees, beneficiaries and employers. We safeguard personal data and sensitive VRS information that is viewed, acquired or otherwise accessible during the course of VRS employment.

INCLUSIVITY

Inclusivity is embracing a diversity of thinking that helps us reach solutions that achieve excellence and meet the needs of our customers. We encourage an open work environment and an ethical culture in which colleagues are treated with respect and are free to raise issues or concerns without fear of retaliation.

AN INDEPENDENT AGENCY OF THE COMMONWEALTH OF VIRGINIA

This report was prepared by the financial, administrative and investment staff of the Virginia Retirement System.



Government Finance Officers Association

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

Presented to

Virginia Retirement System

For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

June 30, 2020

Christopher P. Morrell
Executive Director/CEO

**Certificate of Achievement for Excellence in Financial Reporting,
Annual Comprehensive Financial Report (Annual Report)**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Virginia Retirement System for its *Annual Comprehensive Financial Report* for the fiscal year ended June 30, 2020. This was the 39th consecutive year that VRS achieved this prestigious recognition.

To be awarded the certificate, a government unit must publish an easily readable and efficiently organized annual comprehensive 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 VRS *Annual Comprehensive Financial Report* for fiscal year 2021 continues to conform to the Certificate of Achievement Program requirements and will be submitted to GFOA to determine its eligibility for another certificate.



Government Finance Officers Association

**Award for
Outstanding
Achievement in
Popular Annual
Financial Reporting**

Presented to

Virginia Retirement System

For its Annual Financial Report
for the Fiscal Year Ended

June 30, 2020

Christopher P. Morrell
Executive Director/CEO

**Award for Outstanding Achievement in Financial Reporting,
Popular Annual Financial Report (PAFR)**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded an Award for Outstanding Achievement in Financial Reporting to the Virginia Retirement System for its *Popular Annual Financial Report* (PAFR) for the fiscal year ended June 30, 2020. This was the fifth consecutive year of publication for which VRS was eligible to achieve this prestigious recognition.

To be awarded the certificate, a government unit must publish an easily readable and efficiently organized popular 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 VRS PAFR for fiscal year 2021 continues to conform to the Certificate of Achievement Program requirements and will be submitted to GFOA to determine its eligibility for another certificate.



Public Pension Coordinating Council

**Public Pension Standards Award
For Funding and Administration
2021**

Presented to

Virginia Retirement System

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

Presented by the Public Pension Coordinating Council, a confederation of

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

Alan W. Winkler
NASRA Winkler
Program Administrator

**Public Pension Coordinating Council Standards Award
for Funding and Administration**

VRS received the 2021 Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC) in recognition of the agency's fulfillment of public pension standards. Developed by PPCC, these standards are the benchmark for measuring excellence in defined benefit plan administration. This is the agency's 18th consecutive award from PPCC.

The purpose of the PPCC's awards program 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), the National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR).

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Virginia
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INTRODUCTORY SECTION





Introductory Section

Chair's Letter

Board of Trustees

VRS Organization

Investment Advisory Committee

Defined Contribution Plans Advisory Committee

Executive Administrative Team

Executive Investment Team

Professional Consultants

Letter of Transmittal

Chair's Letter



O'Kelly E. McWilliams III, Chair
Patricia S. Bishop, Director
Ronald D. Schmitz, Chief Investment Officer

P.O. Box 2500 • 1200 East Main Street
Richmond, Virginia 23218-2500
Toll-free: 888-827-3847 • TDD: 804-289-5919

December 10, 2021

**The Honorable Ralph S. Northam, Governor of Virginia,
and Members of the General Assembly:**

I am pleased to present the Virginia Retirement System (VRS) *Annual Comprehensive Financial Report* for fiscal year 2021.

On behalf of the Board of Trustees, I'd like to start by expressing our appreciation for the \$100 million budget allocation to support the state Health Insurance Credit Program and pay off the remaining balance of deferred contributions to the Teacher Plan from the 2010-2012 biennium. We are also gratified by your continued commitment to fully fund the VRS Board-certified contribution rates that help pay member and retiree pensions and benefits. Your continued support enhances the financial health of VRS, enabling it to be viable well into the future, and bolsters our commitment to helping members plan for tomorrow, today.

Despite the resurgence of the pandemic, VRS members continue to serve their communities across the state. The events of the past two years have only strengthened my admiration for those who work on the front lines to provide essential public services. As an agency, VRS now has more than 754,000 members and retirees. We're the 18th largest pension system in the U.S. and the 41st largest in the world. We take our responsibility to those we serve very seriously, and a healthy system helps ensure we meet those obligations.

Through skilled investment strategies and administrative due diligence, VRS consistently pays a monthly benefit to retirees and beneficiaries. In fiscal year 2021, VRS paid \$5.5 billion in benefits. Most VRS retirees live in Virginia, pay taxes and purchase goods and services here—so those monthly benefit payments to retirees fuel an economic engine by recirculating money back into communities across the commonwealth.

VRS continues to advance in providing members and retirees convenient and effective ways to plan for their future and manage their benefits. Retiring online is now available to most VRS members, with timely counseling tips and holistic guidance as they go through the process. New myVRS features simplify and enhance security for tasks that previously required paper forms. And our award-winning myVRS Financial Wellness program offers tailored content, practical tools, assessments and courses to help build strong lifelong financial habits.

We help our members plan for tomorrow, today, by providing benefits during their employment and the resources to learn about those benefits. As our partners, employers are instrumental in helping VRS provide a complete retirement planning experience from the employee's first day on the job

through retirement. For our retirees, we have an obligation to pay them on time, maintain their retiree benefits and assist their families, especially in the most difficult circumstances.

The members of the Board of Trustees share a dedication to the public employees of Virginia, and continuously work to ensure that VRS is well positioned to meet both current and future needs.

INVESTMENT UPDATE

After the economic crisis and market volatility caused by the global pandemic in 2020, the VRS investment portfolio rebounded with robust growth, achieving a 27.5% net return and ending the fiscal year with approximately \$105.0 billion, exceeding the \$100 billion mark for the first time.

During fiscal year 2021, the major asset classes performed as follows:

- Public equity program returned 41.0%
- Fixed income program returned 3.3%
- Credit strategies program returned 18.4%
- Real assets program returned 11.3%
- Private equity program returned 54.1%
- Private investment partnerships 30.8%
- Multi-asset public strategies 20.4%

The portfolio included approximately \$37.2 billion in public equity, \$13.6 billion in fixed income, \$14.2 billion in credit strategies, \$12.1 billion in real assets, \$15.9 billion in private equity, \$2.0 billion in private investment partnerships and \$3.1 billion in the multi-asset public strategies portfolio, as of June 30, 2021.

Part of ensuring a healthy system is having a long-term investment strategy. A year ago during turbulent market conditions, it was challenging to predict the exact course of the future. But VRS' long-term investment strategy prevailed. The health of the trust fund is strong because we remained steady in an uncertain environment and executed our mission to deliver value.

We are pleased to see a strong year, but our continuing focus is on the long-term health of the fund. VRS has endured precisely because of our investment strategy, which focuses on the diversification of plan assets. This strategy also helps ensure a stable contribution rate for our participating employers.

Our dedicated investment team serves as protectors of the trust fund and they take that responsibility very seriously. Investment income has historically funded approximately two-thirds of all benefits, with the remaining one-third derived from contributions. In addition, the outperformance of the portfolio over the 10-year period versus its benchmark adds about \$375 million per year to the trust fund that would not be realized if we simply managed a passive, indexed portfolio.

MEASUREMENT OF MANAGEMENT

Quality customer service is a priority for VRS, as is the efficient delivery of services to our members, retirees and employers. In fiscal year 2020, VRS' total pension administration cost of \$72 remained lower than the peer average of \$105, according to CEM Benchmarking. VRS' total service score was 82, exceeding the peer median of 79. The service score places VRS in the most desirable quadrant of

CEM's cost-effective services chart where we deliver high service at a lower cost when compared to our peers.

In its evaluation of VRS investments, CEM reported in December 2020 that VRS' skilled negotiating in external management costs results in approximately \$40 million a year in savings versus the cost paid by our peers for similar services. In addition, VRS saves approximately \$45.4 million in external management fees annually by managing one-third of plan assets in-house.

DEFINED CONTRIBUTION PLANS UPDATE

During the fiscal year to assist our members in planning and saving for their futures, the VRS Defined Contribution Plans (DCP) team launched enhanced campaigns, communications initiatives and financial planning services.

Working with MissionSquare Retirement, formerly ICMA-RC, under the guidelines of the Coronavirus Aid, Relief and Economic Security (CARES) Act, VRS developed strategic initiatives that included new DCP provisions for coronavirus-related relief, virtual retirement education and promoting interactive online tools. VRS quickly implemented the provisions to provide financial relief for participants and communicate services with a special webpage, messaging, forms, education and call center assistance.

The DCP team continued to explore ways to communicate the value of contributing more to both the Hybrid Retirement Plan and the Commonwealth of Virginia 457 Deferred Compensation Plan. In May, a splash screen was added to Account Access for participants in the COV 457 Deferred Compensation Plan, following the success of this tool with hybrid plan members in 2018. These screens present the participant with an active choice decision in an effort to motivate them to increase contributions. Most hybrid plan members responded quickly, with 96% increasing their contribution. Similarly, 78% of COV 457 participants increased their contributions after seeing the splash screen. The active election voluntary contribution rate increased from 30% to 33% in fiscal year 2021. This represents an additional 5,014 hybrid plan members who actively chose to make a voluntary contribution to the plan, increasing the total population to 41,573. Participants also continued to sign up for Smart Step, which allows them to customize contribution increases over time.

VRS members and retirees now have access to Certified Financial Planning™ services provided through MissionSquare Retirement. VRS members are not required to participate in a defined contribution plan to take advantage of these services, which include one-on-one consultations and live webinars, in addition to goal-specific and comprehensive financial plans. Services are provided at low or no cost to members.

ADVANCEMENTS IN TECHNOLOGY AND SECURITY

This year, VRS reached a major milestone with the launch of online retirement. Our path to this goal began more than a decade ago with the advent of the Modernization program. Our vision was to build a customer-focused, business-driven and technology-enabled portal that eliminates barriers to effective customer service and operational efficiency. Layer by layer, we successfully created a self-service system that tracks members throughout their careers and beyond and provides a secure, comprehensive view for VRS employers, members and retirees.

In addition, three new self-service features in myVRS allow members to make changes online to their beneficiaries, direct deposit accounts and health insurance credit claims. A fourth new feature allows members or retirees who are receiving survivor benefits based on another VRS member's account to view their survivor benefits using their personal myVRS account. Security enhancements within myVRS continue to be introduced.

Maintaining security is a top priority. While our Technology Security Team works each day to enhance our security framework, they also provide training for staff to identify possible threats. The Technology Security management function was also reorganized to meet Commonwealth of Virginia information security standard requirements. Oversight of all day-to-day security and fraud analytics operations falls under the director of security operations. The VRS information security officer now reports directly to the VRS Director, as mandated by commonwealth requirements, and is the lead in agency security awareness training and Virginia Information Technology Agency reporting efforts.

VRS is preparing for and participating in the statewide implementation of Human Capital Management, an enterprise resource planning solution that replaces several state benefits, timekeeping and payroll systems. Staff is also defining governance processes for managing and using Microsoft Dynamics 365, which offers a wide variety of digital tools for employees. Staff will begin using it in fiscal year 2022. Technology services are beginning the transition to the industry-leading Cloud solution as its platform.

FINANCIAL WELLNESS EDUCATION

When VRS implemented the myVRS Financial Wellness program in late 2017, it was among the first public retirement systems to offer financial wellness content through its public website, as well as personalized content based on the member's profile through the secure myVRS member portal. The program educates members with an integrative approach to help them strengthen their financial well-being at every stage of their careers and in retirement.

Our efforts to promote and enhance myVRS Financial Wellness continued during the fiscal year, in collaboration with our partner iGrad. VRS used a range of external and internal communications to engage members and educate employers about this award-winning initiative, including articles in association and state agency publications, social media posts and presentations. The VRS public relations team also scripted and produced two videos promoting resources in the myVRS Financial Wellness platform, featuring Start Here Guides and the Credit Card Paydown Tool, to generate interest and drive members to the platform.

DIVERSITY AND INCLUSION

VRS is committed to building on the work of our Diversity, Equity and Inclusion (DEI) Committee, which has designed programs, presentations and events to create awareness and understanding in the employee population and the members we serve.

While working remotely, VRS staff recognized holidays such as Juneteenth, Ramadan and others on its staff calendar. The VRS human resource staff facilitated conversations with employees to continue to strengthen our foundation as we shape our strategic plan with an emphasis on DEI. We look forward to more conversations, programming and initiatives in the coming year.

Our ongoing commitment to DEI has led VRS to engage women and minority investment managers for years, which we believe has enhanced the VRS portfolio and enabled our comprehensive, inclusive approach to accessing investment opportunities.

AWARDS

VRS and its staff received the following national and local awards during the fiscal year:

- 2021 Eddy Award in the Conversions/403(b) Consolidations Category, presented by Pensions & Investments for communications excellence, recognizing VRS' communications campaign supporting the 2020 updates to the Optional Retirement Plan for Higher Education (ORPHE).
- 2021 Eddy Award in the Financial Wellness Category, recognizing VRS' ongoing communications campaign to engage members in reducing financial stress by improving money-management skills and financial knowledge.
- 2021 Communicator Award of Distinction, presented by the Academy of Interactive & Visual Arts (AIVA), in recognition of marketing effectiveness for VRS' virtual response to the COVID-19 pandemic.
- 2021 National Association of Government Defined Contribution Administrators (NAGDCA) Leadership Awards in two categories – COVID-19 Response and Technology and Interactive Multimedia – honoring excellence and innovation among public sector defined contribution plans.
- Virginia Public Relations Awards, presented by the Public Relations Society of America-Richmond Chapter, received three Capital Awards recognizing outstanding public relations tactics for two videos and the VRS website redesign.
- Certificate of Achievement, Government Finance Officers Association (GFOA) – the highest form of recognition in governmental accounting and financial reporting – for the *Annual Comprehensive Financial Report* for the fiscal year ended June 30, 2020; this is the 39th consecutive year that VRS has been so honored.
- Award for Outstanding Achievement in Financial Reporting, also from GFOA, for the fifth *Popular Annual Financial Report*.
- Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC); this is the 17th award VRS has received from PPCC.

SERVING THOSE WHO SERVE OTHERS

It has been a privilege to serve VRS members, retirees, beneficiaries and employers during this time of change and challenge. VRS remains steadfast in its mission to deliver retirement benefits and services to Virginia's public employees through sound financial stewardship and superior customer service.

Sincerely,



O'Kelly E. McWilliams III
Chair
Virginia Retirement System

Board of Trustees

COMPOSITION OF THE BOARD

Nine members serve on the VRS Board of Trustees. Their appointment is shared between the executive and legislative branches of state government. The Governor appoints five members, including the chair. The Joint Rules Committee of the Virginia General Assembly appoints four members. The General Assembly confirms all appointments.

Of the nine Board members, four must be investment experts, one must be experienced in employee benefit plans, one must be a local government employee, one must be an employee of a Virginia public institution of higher education, one must be a state employee and one must be a public school teacher. The public employee members may be either active or retired.



O'Kelly E. McWilliams III, *Chair*
Mintz
Employee Benefit Plans Professional
Appointed by Governor
Term Expires: 2/28/2022
As Chair: 2/28/2022
Committee Assignments: Administration & Personnel (Chair), Audit & Compliance, Investment Policy (Chair)



Michael P. Disharoon
Palladium Registered Investment Advisors
Investment Professional
Appointed by Governor
Term Expires: 2/28/2023
Committee Assignments: Benefits & Actuarial (Vice Chair), Investment Policy



Joseph W. Montgomery, *Vice Chair*
The Optimal Service Group, Wells Fargo Advisors
Investment Professional
Appointed by Joint Rules Committee
Term Expires: 2/29/2024
Committee Assignments: Administration & Personnel (Vice Chair), Audit & Compliance (Chair), Investment Policy (Vice Chair)



William A. Garrett
Chief of Fire and Rescue Services,
City of Manassas
Local Government Employee
Appointed by Governor
Term Expires: 2/28/2023
Committee Assignments: Benefits & Actuarial (Chair), Investment Policy



The Hon. J. Brandon Bell II, CRPC
Brandon Bell Financial Partners
Investment Professional
Appointed by Governor
Term Expires: 2/28/2026
Committee Assignments: Defined Contribution Plans Advisory (Chair), Investment Policy



Susan T. Gooden, Ph.D.
Virginia Commonwealth University
Higher Education Representative
Appointed by Governor
Term Expires: 2/28/2024
Committee Assignments: Defined Contribution Plans Advisory (Vice Chair), Investment Policy



John M. Bennett
Virginia Commonwealth University (Retired)
State Government Employee
Appointed by Joint Rules Committee
Term Expires: 2/28/2026
Committee Assignments: Benefits & Actuarial, Investment Policy



W. Brett Hayes
Wells Fargo Advisors Financial Network
Investment Professional
Appointed by Joint Rules Committee
Term Expires: 2/28/2023
Committee Assignments: Audit & Compliance (Vice Chair), Administration & Personnel, Investment Policy



Troilen Gainey Seward, Ed.S.
Dinwiddie County Public Schools (Retired)
Public Schools Employee
Appointed by Joint Rules Committee
Term Expires: 2/28/2022
Committee Assignments: Administration & Personnel, Investment Policy

VRS Organization

BOARD OF TRUSTEES



Patricia S. Bishop
Director



Ronald D. Schmitz
Chief Investment Officer



Jennifer P. Schreck
Internal Audit Director

INVESTMENT ADVISORY COMMITTEE

Lawrence E. Kochard, Ph.D., Chair

Chief Investment Officer, Makena Capital Management

Term Expires: 2/16/2023

As Chair: 5/31/2023

Hance West, Vice Chair

Chief Investment Officer and Managing Director,
Investure

Term Expires: 12/31/2021

Deborah Allen Hewitt, Ph.D.

Retired Clinical Professor, The College of William and Mary

Term Expires: 10/16/2022

Michael Beasley

Retired Chairman Emeritus, Strategic Investment Solutions Inc.

Term Expires: 6/20/2023

Théodore Economou

Head of Asset Management,
Symbiotics, (Switzerland) SA

Term Expires: 9/13/2022

Thomas S. Gayner

Co-Chief Executive Officer, Markel Corporation

Term Expires: 2/19/2023

Nancy G. Leake

Retired Partner, Partners Group (USA) Inc.

Term Expires: 12/31/2021

W. Bryan Lewis

Vice President and Chief Investment Officer,
United States Steel Corporation

Term Expires: 3/31/2022

Rod Smyth

Director of Investments, RiverFront Investment Group

Term Expires: 6/20/2023

DEFINED CONTRIBUTION PLANS ADVISORY COMMITTEE

The Hon. J. Brandon Bell II, Chair

Member, VRS Board of Trustees

Brandon Bell Financial Partners

Term Expires: 6/30/2022

Susan T. Gooden, Ph.D., Vice Chair

Member, VRS Board of Trustees

Virginia Commonwealth University

Term Expires: 6/30/2023

Ravindra Deo

Executive Director, Federal Retirement Thrift Investment Board

Term Expires: 6/20/2022

Shannon T. Irvin

Assistant Superintendent for Administration, Nelson County Public Schools

Term Expires: 6/30/2023

Rick Larson

Assistant Vice President for Human Resources, Training and Performance,
James Madison University

Term Expires: 6/30/2023

Brenda O. Madden

Senior Vice President and Human Resources Director, Davenport & Company

Term Expires: 6/20/2022

David A. Winter

Owner, Winter HR Consulting LLC

Term Expires: 6/30/2023

The committee has two vacancies pending appointment.

Executive Administrative Team

Patricia S. Bishop

Director

Jeanne L. Chenault

Director of Public Relations

Michael P. Cooper

Chief Operating Officer

Barry C. Faison

Chief Financial Officer

Robert L. Irving

Director of Customer Services

LaShaunda B. King

Executive Assistant

Paula G. Reid

Director of Human Resources

Mark A. Rein

Chief Technology and Security Officer

Jennifer P. Schreck

Internal Audit Director

Cynthia D. Wilkinson

Director of Policy, Planning and Compliance

Executive Investment Team

Ronald D. Schmitz

Chief Investment Officer

John P. Alouf, CFA

Director, Private Equity

Parham Behrooz, CFA

Co-Director, Fixed Income Management

John T. Grier, CFA

Managing Director, Public Market Assets

Kenneth C. Howell, CFA

Managing Director, Private Market Assets

Ross M. Kasarda, CFA

Director, Risk Management

Kristina P. Koutrakos, CAIA

Director, Portfolio Strategy

Matthew L. Lacy, CFA

Director, Portfolio Integration

Chung S. Ma, CFA

Managing Director, Portfolio Solutions Group

Curtis M. Mattson, CPA

Chief Administrative Officer

Stephen R. McClelland, CFA, CAIA

Director, Credit Strategies

Walker J. Noland, CFA

Director, Real Assets

B. Greg Oliff, CFA

Co-Director, Fixed Income Management

Steven P. Peterson, Ph.D.

Program Director, Research & IDS

Daniel C. Schlusser

Director, Internal Equity Management

Daniel B. Whitlock, CFA, CAIA

Director, Global Equity

Professional Consultants

ACTUARY**Ed Koebel, EA, MAAA, FCA**

Chief Executive Officer,
Cavanaugh Macdonald Consulting LLC

AUDITOR**Staci A. Henshaw, CPA**

Auditor of Public Accounts,
Commonwealth of Virginia

VRS DEFINED CONTRIBUTION PLANS**Kathleen Wilson**

MissionSquare Retirement
(formerly ICMA-RC)

**COMMONWEALTH OF VIRGINIA
VOLUNTARY GROUP LONG TERM CARE
INSURANCE PROGRAM****Kathy Qualk**

Genworth Financial

LEGAL COUNSEL**Office of the Attorney General**

Commonwealth of Virginia

LIFE INSURANCE CARRIER**NaTosha D. Palmer**

Securian Financial

MASTER CUSTODIAN**BNY Mellon****VIRGINIA SICKNESS AND DISABILITY
PROGRAM AND VIRGINIA LOCAL
DISABILITY PROGRAM****Sally P. Kennedy**

ReedGroup

Letter of Transmittal



Patricia S. Bishop, Director
Barry C. Faison, Chief Financial Officer

P.O. Box 2500 • 1200 East Main Street
Richmond, Virginia 23218-2500
Toll-free: 888-827-3847 • TDD: 804-289-5919

December 10, 2021

To the Members of the Board of Trustees:

We are pleased to submit the *Annual Comprehensive Financial Report (Annual Report)* of the Virginia Retirement System (the System) for the fiscal year ended June 30, 2021. In addition to the Introductory Section, the System's *Annual Report* contains a Financial Section, Investment Section, Actuarial Section and Statistical Section. VRS' *Annual Comprehensive Financial Report* for fiscal year 2021 has been prepared in accordance with Section 51.1-1003 of the *Code of Virginia* (1950), as amended, which requires every retirement system to publish an annual report, and Section 4-11.00 of Chapter 552 of the 2021 Virginia Acts of Assembly, which requires an annual detailed statement of financial condition. The report is delivered to the Governor, members of the Cabinet and the members of the Virginia General Assembly. The report is also available on the VRS website at varetire.org.

VRS Overview

Administration: VRS is an independent state agency. As provided under the *Constitution of Virginia*, VRS funds are separate from other state funds and can be used only to administer and pay benefits for members, retirees and beneficiaries. The Board of Trustees administers and is trustee of the funds of:

- the Virginia Retirement System Trust, including Plan 1, Plan 2, the defined benefit component of the Hybrid Retirement Plan, and Plan 1 and Plan 2 hazardous duty benefits for political subdivision employees;
- the State Police Officers' Retirement System Trust, including Plan 1 and Plan 2;
- the Virginia Law Officers' Retirement System Trust, including Plan 1 and Plan 2;
- the Judicial Retirement System Trust, including Plan 1 and Plan 2, and the defined benefit component of the Hybrid Retirement Plan for judges;
- the Virginia Sickness and Disability Program (VSDP) Trust for state employees, including VSDP long-term care;
- the Virginia Local Disability Program (VLDP) Trust for eligible school division and political subdivision employees, including VLDP long-term care;
- a disability retirement option for certain members not covered under VSDP or VLDP;
- the Hybrid 457 Deferred Compensation Plan;
- the Hybrid 401(a) Cash Match Plan;
- the Optional Retirement Plan for Political Appointees, the Optional Retirement Plan for School Superintendents and the Optional Retirement Plan for Higher Education (ORPHE);
- the Commonwealth of Virginia 457 Deferred Compensation Plan;
- the Virginia Cash Match Plan;
- the Virginia Supplemental Retirement Plan;
- the Group Life Insurance Program;
- the Retiree Health Insurance Credit Program; and
- the Line of Duty Death and Health Benefits Trust Fund.

In addition, the Board administers or has substantial oversight responsibilities for the Benefit Restoration Plan, the Commonwealth of Virginia Voluntary Group Long Term Care Insurance Program, and the Volunteer Firefighters’ and Rescue Squad Workers’ Service Award Fund Program, as well as benefit eligibility determinations under the Line of Duty Act in Title 9.1 of the *Code of Virginia*.

The system also has full investment responsibility for other custodial funds, which include the Commonwealth Health Research Fund (CHRF), the Commonwealth’s Attorneys Training Fund (CATF) and the VRS Investment Portfolio (VRSIP).

More than 800 employers participate in VRS on behalf of their employees. They include state agencies, public colleges and universities, school boards, political subdivisions and special authorities.

Fiduciary Responsibility of the Board

The VRS Board of Trustees (the Board) has full power to invest and reinvest the trust funds of the System. To fulfill its responsibility, the Board has adopted various investment policies and guidelines. The Board’s investment objective for the VRS portfolio is to maximize long-term investment returns while targeting an acceptable level of risk. Primary risk measures are volatility in the plan’s assets, funded status and contribution rates. As set forth in Section 11 of Article X of the *Constitution of Virginia*, the funds of the

VRS Milestones (1908-Present)

<p>1908 Retired Teachers Fund created.</p> <p>1942 Virginia Retirement System (VRS) created for teachers and state employees.</p> <p>1944 Political subdivisions have the option to join VRS.</p> <p>1950 State Police Officers’ Retirement System (SPORS) created.</p> <p>1960 Group Life Insurance Program created.</p> <p>1970 Cost-of-Living Adjustment (COLA) established; Judicial Retirement System (JRS) created.</p> <p>1990 Health Insurance Credit for state retirees established.</p> <p>1992 Health Insurance Credit for retired teachers and political subdivision employees established.</p> <p>1995 Optional Group Life Insurance Program established.</p> <p>1999 Virginia Sickness and Disability Program (VSDP) for state employees established; Virginia Law Officers’ Retirement System (VaLORS) created.</p> <p>2002 VSDP Long-Term Care Plan established.</p> <p>2010 VRS Plan 2 created for members hired or rehired on or after July 1, 2010.</p> <p>2012 General Assembly passed legislation creating a Hybrid Retirement Plan with implementation in 2014; Virginia Local Disability Program (VLDP) created as a benefit for political subdivisions and schools with implementation in 2014.</p> <p>2014 VRS Hybrid Retirement Plan, a combined defined benefit and defined compensation plan, became the retirement plan for new members (with the exception of hazardous duty members) hired on or after January 1, 2014.</p>	<p>2015 VRS added a Roth option to the Commonwealth of Virginia 457 Deferred Compensation Plan and the General Assembly permitted school divisions the option to offer an employer-sponsored hybrid 403(b) plan for Hybrid Retirement Plan voluntary contributions.</p> <p>2016 The enhanced myVRS was launched, increasing self-service functionality for members.</p> <p>2017 Self-service purchase of prior service, enhanced security and features for retirees added to myVRS, along with tools to help college and university faculty members and political appointees compare retirement plan options and make their plan election online. Financial wellness program for members added to myVRS.</p> <p>2019 VRS took a major step forward in member-record management, moving from a legacy mainframe to a web-based environment and adding new retirement application processing, retirement payments and disbursement, retiree health insurance maintenance and post-retirement maintenance.</p> <p>2020 In a nimble response to the global COVID-19 pandemic, VRS provided timely information to members, employers and retirees on subjects including financial matters, the CARES Act, market volatility and myVRS resources.</p> <p>2021 VRS reached its long-held goal of online retirement, providing exceptional member service by leveraging technology to improve member outcomes. VRS also added online management of beneficiaries, direct deposit, health insurance credit and survivor accounts in myVRS. In addition, VRS received national recognition for its response to the pandemic.</p>
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retirement system shall be deemed separate and independent trust funds; shall be segregated from all other funds of the Commonwealth; and shall be invested and administered solely in the interests of members, retirees and beneficiaries. The Board retains a professional investment staff, as well as outside managers, to advise and assist in the implementation of these policies and objectives.

The assets of the System are invested in a prudent manner that is intended to provide for the adequate funding of VRS' pension liability. Section 51.1-124.30(C) of the *Code of Virginia* states that "... the Board shall invest the assets of the Retirement System with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims."

Accordingly, the Board must sufficiently diversify the portfolio to minimize the risk of large losses unless, under the circumstances, it is clearly prudent not to do so.

Accounting System and Internal Control

The financial statements included in the *Annual Report* for fiscal year 2021 are the responsibility of the System's management and have been prepared in accordance with generally accepted accounting principles (GAAP) for government accounting and reporting promulgated by the Governmental Accounting Standards Board (GASB).

The accrual basis of accounting is used in the preparation of the financial statements. Revenues are taken into account when they are earned and become measurable; expenses are recorded when the liabilities are incurred.

Investments are reported at fair value as determined by the System's master custodian. Capital assets are recorded at cost and depreciated over their estimated useful life.

Contributions to the System are based on the principle of level-cost funding and are developed using the entry age normal cost method, with current service financed on a current basis and prior service amortized over a 20-year closed period. Legacy unfunded liability as of June 30, 2013, is being amortized over a 30-year closed period, while deferred contributions from the 2010-2012 biennium are being recognized over a 10-year closed period. In management's opinion, the financial statements fairly present the plan net position of the System at June 30, 2021, and the changes in its plan net position for the period then ended.

GASB Statement Number 34 requires the System to include additional information in the *Annual Report*. This information is provided in Management's Discussion and Analysis (MD&A) and includes an introduction as well as an overview and analysis of the System's financial activities for the current fiscal year and the two preceding years. The Letter of Transmittal is designed to complement and should be read in conjunction with the MD&A, found in the Financial Section immediately following the report of the independent auditor.

GASB Statement Number 67 focuses on financial reporting for state and local pension administrators and is addressed in the Financial Section. GASB Statement Number 68 establishes accounting and financial reporting requirements for state and local governments that provide their employees with pensions and prepare annual financial statements. To assist employers in meeting the GASB 68 standard, VRS developed a resource center available to employers via the VRS website. The online resources included GASB 68 audit opinions and disclosure guidance, contribution rates, valuation reports and GASB 67/68 guidance documents.

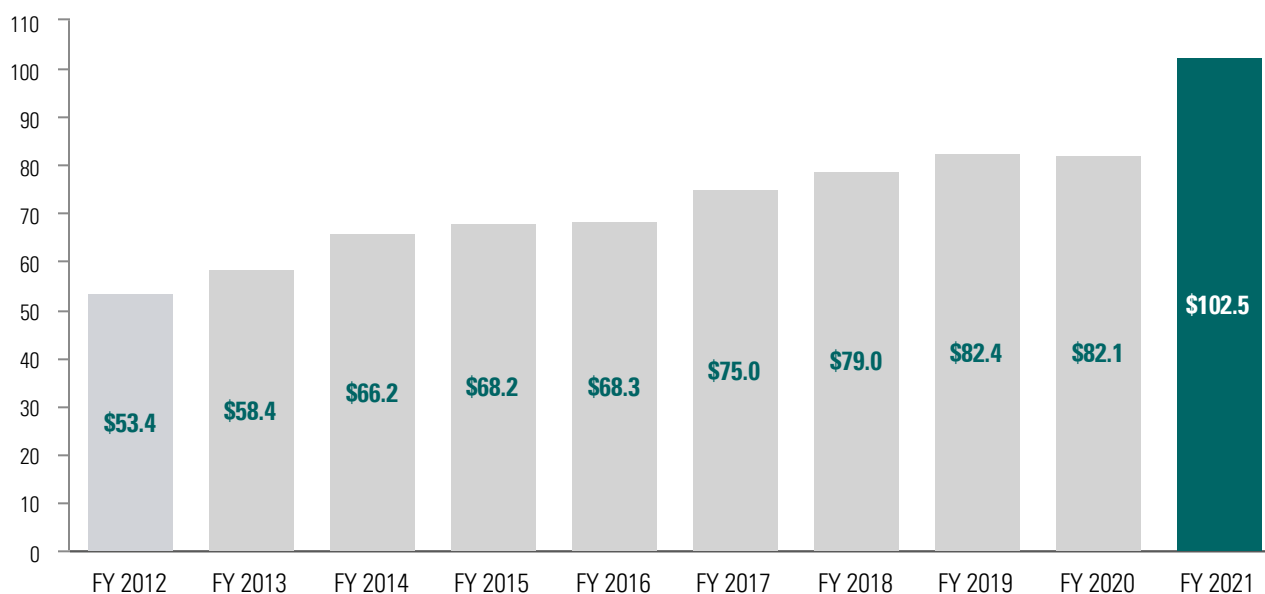
For other post-employment benefits (OPEBs), GASB Statement Number 74 focuses on financial reporting for state and local plan administrators and is also addressed in the Financial Section. GASB Statement Number 75 establishes accounting and financial reporting requirements for state and local governments that provide their employers with OPEB benefits and prepare annual financial statements. To assist employers in meeting the GASB 75 standard, VRS developed additional OPEB-specific resources for employers and added those resources to the VRS website. Those online resources included GASB 75 audit opinions and disclosure guidance, contribution rates, valuation reports and GASB 74/75 guidance documents.

The System's management is responsible for maintaining a system of adequate internal accounting controls designed to provide reasonable assurance that transactions are executed in accordance with management's general or specific authorization, and are recorded as necessary to maintain accountability for assets and to permit preparation of financial statements in accordance with GAAP. The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits that are likely to be derived from that control. The internal control system includes the organizational plan; the appropriate segregation of duties and responsibilities and sound practices in the performance of duties; and personnel with capabilities commensurate with their responsibilities.

PLAN NET POSITION RESTRICTED FOR BENEFITS

AS OF JUNE 30

(EXPRESSED IN BILLIONS)



The System also has an internal audit program that reports to the Audit Committee of the Board of Trustees, and the budget for the System's administrative expenses is approved by the Board and appropriated by the Virginia General Assembly.

The retirement funds held by the System are constitutionally established as independent trust funds dedicated to the exclusive benefit of its members, retirees and beneficiaries. In management's opinion, the internal controls in effect during the fiscal year ended June 30, 2021, adequately safeguard the System's assets and provide reasonable assurance regarding the proper recording of financial transactions.

Funding

PENSION PLANS

Calculations for the System's defined benefit pension plans for financial reporting purposes were made in accordance with Governmental Accounting Standards Board Statement No. 67, *Financial Reporting for Pension Plans*. The most recent valuation for this presentation was prepared as of June 30, 2021. The total pension liability was determined based on the actuarial valuation as of June 30, 2020, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021.

Based on these calculations, the Plan Fiduciary Net Position as a percentage of the Total Pension Liability was 86.44% for the VRS State Plan, 85.46% for the VRS Teacher Plan and 97.25% for the aggregate total of the VRS Political Subdivision Plans. For the SPORS, VaLORS and JRS plans, the Plan Fiduciary Net Position as a percentage of the Total Pension Liability was 81.27%, 78.18% and 90.17%, respectively.

This compares to opening plan fiduciary net position as a percentage of the total pension liability at June 30, 2020, for the VRS State Plan, the VRS Teacher Plan and the aggregate total of the VRS Political Subdivision Plans, of 72.15%, 71.47% and 83.44%, respectively. For SPORS, VaLORS and JRS, the percentage of total pension liability was 70.34%, 65.74% and 79.92%, respectively, at June 30, 2020. Further information on this valuation is included in the Financial Section and the Actuarial Section. Contributions for fiscal year 2021 were based on the June 30, 2019, actuarial valuation. In accordance with Section 51.1-145 of the *Code of Virginia*, the General Assembly funded 100% of the VRS Board-certified rates for fiscal year 2021. Retirement contribution rates are discussed in further detail in the Financial Section.

OPEB PLANS

Calculations for the System's Other Post-Employment Benefit (OPEB) plans for financial reporting purposes were made in accordance with Governmental Accounting Standards Board Statement No. 74, *Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans*. The most recent valuation for this presentation was prepared as of June 30, 2021. The total OPEB liability was determined based on the actuarial valuation as of June 30, 2020, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021.

Based on these calculations, the plan fiduciary net position as a percentage of the total OPEB liability was 67.45% for the Group Life Insurance Fund, 19.75% for the state employee Health Insurance Credit, 13.15% for the teacher employee Health Insurance Credit, 40.52% for the aggregate total of the VRS political subdivision plans for Health Insurance Credit, 19.86% for the state-funded Health Insurance Credit for constitutional officers, 15.66% for the state-funded Health Insurance Credit for social services employees, and 27.86% for the state-funded Health Insurance Credit for Registrars. In addition, the plan fiduciary net position as a percentage of the total OPEB liability was 229.01% for the Disability Insurance Program and 1.68% for the Line of Duty Act plan. The Virginia Local Disability Program plans for teachers and political subdivisions were 114.46% and 119.59%, respectively.

This compares to the opening plan fiduciary net position as a percentage of the total OPEB liability at June 30, 2020, of 52.64% for the Group Life Insurance Fund, 12.02% for the state employee Health Insurance Credit, 9.95% for the teacher employee Health Insurance Credit, 31.57% for the aggregate total of the VRS political subdivision plans for Health Insurance Credit, 15.78% for the state-funded Health Insurance Credit for constitutional officers, 13.06% for the state-funded Health Insurance Credit for social

services employees and 21.18% for the state-funded Health Insurance Credit for registrars. In addition, the plan fiduciary net position as a percentage of the total OPEB liability was 181.88% for the Disability Insurance Program and 1.02% for the Line of Duty Act Program. The Virginia Local Disability Program plans for teachers and political subdivisions were 78.28% and 76.84%, respectively. Further information on this valuation is included in the Financial Section and the Actuarial Section.

Contributions for fiscal year 2021 were based on the June 30, 2019, actuarial valuation. The rates certified by the VRS Board of Trustees for the OPEB plans were fully funded by the Governor and General Assembly, except for the Line of Duty Act Program for which rates are not applicable. Contribution rates for each of these OPEB plans are discussed in further detail in the Financial Section.

Investments

At June 30, 2021, the total value of the VRS managed investment portfolio was \$105.0 billion, an increase from the investment balance of \$83.7 billion at June 30, 2020. The increase was due to increased investment and contribution activity. The Fixed Income, Credit Strategies, Real Assets, Private Investment Partnerships and Multi-Asset Public Strategies portfolio returns exceeded their benchmarks this year.

The System's net position restricted for benefits at June 30, 2021, totaled \$102.5 billion, representing an increase from the net position of \$82.1 billion as of June 30, 2020.

Information regarding the investment professionals who provide services for the VRS Investment Pool for the pension and OPEB plans can be found on pages 161 through 163 in the Investment Section. The schedule of commissions and investment manager expenses is located on page 164 of that section.

Additional information on the System's investment policies and strategies as well as the portfolio's composition and investment return information is included in the Investment Section.

Legislative Updates

During the 2021 session, the Virginia General Assembly enacted the following bills that affect the Virginia Retirement System and retirees covered under VRS.

2021 BILLS

HOUSE BILL 2181 AND SENATE BILL 1251: MAKES VRS-REQUESTED TECHNICAL AMENDMENTS. Technical amendments to provisions of the *Code of Virginia* relating to VRS include:

- Changing the required minimum distribution provisions to reflect recent changes in federal law.
- Conforming terminology related to disability retirement.

HOUSE BILL 2312 AND SENATE BILL 1406: CREATES THE VIRGINIA CANNABIS CONTROL AUTHORITY. The Virginia Cannabis Control Authority will fall under the Secretary of Public Safety and Homeland Security.

- Employees of the authority will be VRS members. Some members will be eligible for VaLORS benefits.
- Special agents of the new authority are eligible for Line of Duty Act (LODA) benefits.
- The CEO and Special Assistant are appointees, with the option to join the Optional Retirement Plan for Political Appointees (ORPPA).
- Sections of the bill that impact VRS become effective July 1, 2021.

HOUSE BILL 2322 AND SENATE BILL 1469. ESTABLISHES OPIOID ABATEMENT AUTHORITY AND FUND. VRS will manage and invest the Opioid Abatement Fund alongside the VRS Trust Fund.

SENATE BILL 1221: LOUDOUN COUNTY; OPERATION OF LOCAL HEALTH DEPARTMENT. Allows Loudoun County to enter a contract with the Department of Health for the local administration of local health services. Currently, the local department of health is operated as a joint venture between the state and local governments. The bill moves affected employees from state employment to employment with Loudoun County.

WORKERS' COMPENSATION BILLS

HOUSE BILL 1818 AND SENATE BILL 1275: ADDS HYPERTENSION AND HEART DISEASE PRESUMPTIONS FOR ELIGIBLE EMS PERSONNEL. Makes salaried or volunteer emergency medical services (EMS) personnel eligible for the hypertension and heart disease presumptions.

- Covers salaried or volunteer EMS personnel, as defined in § 32.1-111.1, employed by any locality that has legally adopted a resolution declaring it will provide one or more presumptions under the subsection.
- The legislation is prospective only, effective July 1, 2021.

HOUSE BILL 1985: ADDS COVID-19 PRESUMPTION FOR HEALTHCARE PROVIDERS. Adds COVID-19 as workers' compensation presumption. COVID-19 will be considered a presumption for the following:

- Health care providers, as defined in § 8.01-581.1, who as part of the provider's employment is directly involved in diagnosing or treating persons known or suspected to have COVID-19.
- The presumption covers death or disability on or after March 12, 2020, and prior to December 31, 2021.
- Certain criteria must be met depending on the date of death or disability. Certain vaccine conditions apply.

HOUSE BILL 2207 AND SENATE BILL 1375: ADDS COVID-19 AS WORKERS' COMPENSATION PRESUMPTION.

COVID-19 will be considered a presumption for the following:

- Firefighters
- Emergency medical services personnel
- Law enforcement officers
- Correctional officers
- Regional jail officers
- The presumption covers death or disability on or after July 1, 2020, and prior to December 31, 2021.

OTHER LEGISLATION

SENATE JOINT RESOLUTION 308: STUDY COVID-19'S IMPACT ON SCHOOL SYSTEMS. Directs the Joint Legislative Audit and Review Commission to study the impact of COVID-19 on Virginia's public schools, students and school employees, including, among other things, determining the impact of the COVID-19 pandemic on staffing levels, including the impact of teacher and school employee retirements and resignations on delivery of instruction and the ability of local school boards to fully staff their needs. The study will also examine employment levels and local budgets.

STATE BUDGET

ITEM 277: REPAYMENT OF DEFERRED CONTRIBUTIONS. Provides \$100 million to VRS in fiscal year 2021 to reduce unfunded liabilities of the teacher retirement plan and state health insurance credit:

- \$61.3 million will pay off the balance of deferred contributions in the teacher plan a year earlier than expected.
- \$38.7 million will increase funding levels of the health insurance credit program for state employees.

ITEM 492 H: REQUIRE ANNUAL REPORT ON LODA ELIGIBILITY DETERMINATIONS. Requires VRS and the Virginia Department of Human Resource Management to provide an annual report to the governor and General Assembly that includes statistics and demographic details related to LODA eligibility determinations. The Governor's recommendation removes the LODA means testing for any disabled person, as defined in § 9.1-400(B), who was injured in the line-of-duty in February 2016 but whose date of disability for purposes of LODA is in March 2019 and provides that a spouse of such person will not lose health insurance coverage upon divorce or remarriage.

Membership

MEMBER AND RETIREE HIGHLIGHTS. The total VRS membership increased from 727,705 members, retirees and beneficiaries in fiscal year 2020 to 754,033 in fiscal year 2021, representing an increase of 3.62%.

The following are highlights from the fiscal year:

- The number of active VRS members decreased (1.13)%, from 348,826 to 344,877.
- The number of retirees and beneficiaries increased 2.67% from 219,113 to 224,973.
- VRS paid \$5,522.2 million in retirement benefits during fiscal year 2021, compared to \$5,262.3 million in retirement benefits in fiscal year 2020.
- The number of inactive and deferred members increased 15.28% from 159,766 to 184,183.
- A total of 87,568 members held accounts through the Commonwealth of Virginia Deferred Compensation Plan at the end of the fiscal year. Of these participants, 72,511 received a cash match through the Virginia Cash Match Plan.

(Continued)

AIMING FOR EXCELLENCE. VRS personnel continued to meet or exceed target goals for operational measures, as the following highlights show:

OPERATIONAL MEASURES	TARGET	FY 2021 RESULT
Timeliness of Monthly Financial Account Reconciliations	95.00% or more of monthly financial control reconciliations completed by the last business day of the following month.	100.00% of monthly financial control reconciliations completed by the last business day of the following month.
Timeliness of Response to Messages Received by the Customer Counseling Center	The average response time is less than 1.00 business days.	The average response time is 0.39 business days.
Timeliness of Monthly Retirement Disbursements	100.00% of monthly retirement disbursements processed no later than the first business day of the month.	100.00% of monthly retirement disbursements processed no later than the first business day of the month.
Timeliness of Service Retirements Processed	95.00% of service retirements processed so that retiring members are set up to receive retirement benefits on the first retirement payment date for which they are eligible.	99.89% of service retirements processed so that retiring members are set up to receive retirement benefits on the first retirement payment date for which they are eligible.
Accuracy of Disability Retirements Processed	99.00% of disability retirements processed for which the corresponding benefit payment correctly reflects the member's service record.	99.99% of disability retirements processed for which the corresponding benefit payment correctly reflects the member's service record.
Timeliness of Employer Contribution Confirmations	97.00% of employer contribution confirmation snapshots are completed by the end of the month in which they are due.	100.00% of employer contribution confirmation snapshots are completed by the end of the month in which they are due.
Timeliness of Workflow Documentation Imaging	99.50% of documents VRS receives are imaged within one business day of receipt.	100.00% of documents VRS receives are imaged within one business day of receipt.
Planned IT System Availability	Critical business systems are available 99.50% of the time during periods of planned availability.	Critical business systems are available 99.98% of the time during periods of planned availability.
Employee Professional Development	85.00% of eligible full-time VRS administration employees receive at least eight hours of professional development.	99.00% of eligible full-time VRS administration employees receive at least eight hours of professional development.

Education and Counseling

In addition to these achievements, VRS staff provided counseling, education, workshops and training opportunities for members and employers throughout the state during fiscal year 2021:

- The VRS Customer Contact Center answered 181,844 calls and provided 7,312 email responses.
- The Member Counseling Team conducted 121 statewide retirement education and group counseling sessions with a total of 5,224 attendees, and participated in 13 virtual benefit fairs with 1,147 attendees. The team also held 1,799 telephone and virtual counseling sessions for members and retirees. In addition to piloting various new myVRS features, the team guided 118 members through the online retirement process to seek individualized feedback about the process.
- The Hybrid Counseling Team conducted 51 Plan Features & Benefits presentations with MissionSquare Retirement (formerly ICMA-RC), attended by 1,154 Hybrid Retirement Plan members. Hybrid Retirement Plan member counselors participated in four virtual benefit fairs with 30 attendees. In addition, MissionSquare Retirement held 331 Hybrid Overview Sessions with 1,984 attendees.
- The Education and Training Team converted its instructor-led training sessions to virtual training and provided 16 sessions for employers, with 291 attendees; 16 e-courses for employers, with 517 views; and 12 employer webinars with 141 attendees. There were a total of 19,323 views of 29 member training videos, on subjects ranging from the Hybrid Retirement Plan to the Line of Duty Act.
- The Employer Representatives continued to organize employer roundtables and conduct employer site visits, which focus on the full scope of VRS products and services. In total, they conducted 82 virtual employer site visits and 101 virtual employer roundtables, with 2,563 participants (representing 531 employers) in attendance, and offered technical assistance and guidance to 353 new benefit administrators at participating employers.
- In addition, the Employer Representatives assisted two political subdivisions joining VRS; one employer electing the Group Life Insurance Program; six employers electing the enhanced benefit for hazardous duty employees; four employers electing the enhanced retirement multiplier for hazardous duty employees; 12 employers electing the enhanced health insurance credit; two employers electing to offer tax-deferred purchase of prior service; two employers electing to offer the Commonwealth of Virginia 457 Deferred Compensation Plan; one employer electing to offer the optional retirement plan for school superintendents; and two new state agencies joining VRS.
- The VRS website (varetire.org) received 3.2 million total page views. myVRS, the secure online member account portal, led again as one of the top destinations.
- The average “open rate” for *Employer Update* was 44.1%, well above the government industry average.
- *Member News* had 417,705 subscribers, with an “open rate” of 43.22%.

Innovations

The transformation of business processes and technology at VRS has been a multi-year undertaking focused on providing comprehensive access to information and delivery of services throughout a member's career. This year marked a significant achievement as the final features of this transformation were added to myVRS, including our ultimate goal of online retirement.

Online retirement provides our members an intuitive retirement experience with information at each step in the process to aid them in making a well-informed decision while reducing reliance on paper forms. In

addition, VRS launched three online self-service features that allow members and retirees to add and change their beneficiaries, manage direct deposit accounts and manage health insurance credit information. Another new feature enables survivors to register for a myVRS account, which allows them to view and maintain the benefits they receive as a survivor of a VRS retiree.

As new features are added, VRS continues to enhance myVRS security. Cyberfraud analytics services were implemented to enhance online account authentication and registration processes. These additions not only protect security but also reinforce myVRS' holistic online experience for VRS members and retirees.

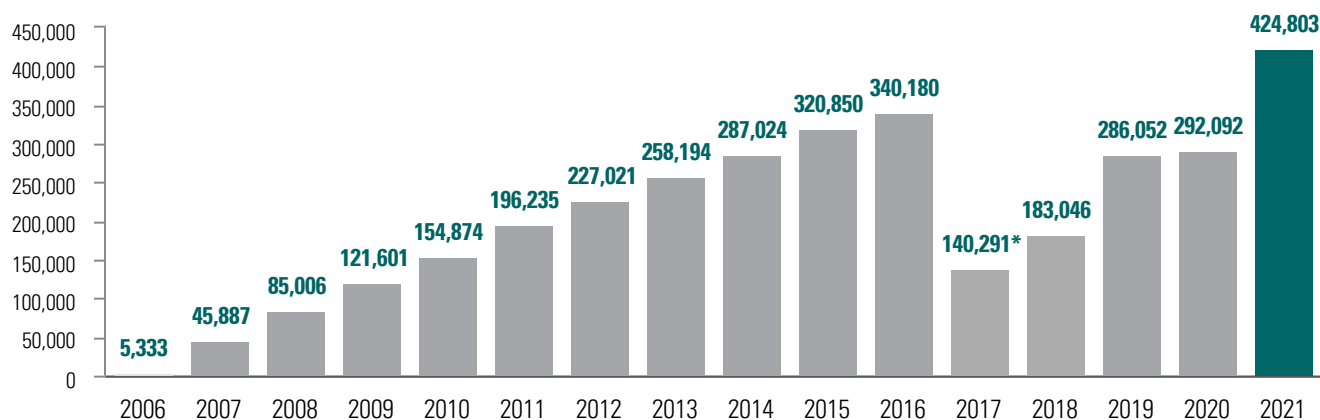
Internally, VRS is preparing for the statewide implementation of Human Capital Management, an enterprise resource planning solution that replaces several state finance, benefits, attendance and payroll systems. VRS serves three roles in the new system, which include using the system as a state employer, serving as the reporting agency for member retirement contributions and acting as the “employer” for retirees who receive monthly benefit payments. Releases are scheduled in fiscal year 2022.

VRS replaced its Enterprise Financial System with a cloud-based solution. This solution will be VRS' business management software for procurement, financial reporting and travel and expenses. It will provide a more robust workflow for business processes, allowing for better communications and efficiency.

The secure online myVRS system continues to attract users. During the fiscal year, myVRS continued to serve as a valuable resource for members, retirees and employers:

- The cumulative number of registered users as of June 30, 2021, was 424,803.
- In fiscal year 2021, there were 55,082 member and retiree registrations.
- Members are taking greater advantage of the myVRS Retirement Planner and Benefit Estimator to plan their futures and adjust their savings goals, creating 184,548 retirement plans and 436,600 benefit estimates in fiscal year 2021.

myVRS MEMBER USERS



* First-time and returning users of myVRS were required to register with enhanced security features in fiscal year 2017.

The myVRS Financial Wellness program, now in its fourth year, seeks to help members make informed decisions on current financial matters while saving for the future. VRS' nationally recognized, award-winning program provides a personalized customer experience, consistent with industry best practices for engaging users, in collaboration with our partner iGrad.

Page views of myVRS Financial Wellness for fiscal year 2021 totaled 22,776 through myVRS and 52,098 through the public website. There were 4,516 registrations, with 643 course completions, during the fiscal year.

The myVRS Financial Wellness program responded nimbly during the pandemic by providing timely information to members on a number of budgeting, managing credit and other money-management issues, particularly important during a time of economic volatility and social change.

Acknowledgments

In a time of fast changes and milestone accomplishments, VRS remains focused on its mission: efficient service and benefits delivery and responsible stewardship of the funds in our care. This focus extends to empowering our members to be active partners in planning their futures by making voluntary contributions to the Hybrid Retirement Plan, monitoring and managing information in their myVRS accounts, participating in supplemental deferred compensation plans and exploring the features of myVRS Financial Wellness.

These efforts have been bolstered by our multi-year transformation of business processes and technology at VRS, which capped this year with the addition of online retirement and other features to myVRS. While continuing to work remotely through the fiscal year, and responding to pandemic-related customer needs in addition to usual workloads, VRS staff remained connected and committed to providing exceptional service to our members, retirees, beneficiaries, employers and stakeholders.

These achievements, among others, have been achieved through the dedication of VRS staff, the support of VRS' participating employers and business partners and the leadership of the Board of Trustees. We are grateful to each of these individuals and representatives.

In closing, we wish to recognize and thank Governor Ralph S. Northam and the members of the General Assembly for their continuing commitment to the financial security of the members, retirees and beneficiaries of the Virginia Retirement System. Together, we continue to serve those who serve others.

Respectfully submitted,



Patricia S. Bishop
Director



Barry C. Faison
Chief Financial Officer

FINANCIAL SECTION





Financial Section

Independent Auditor's Report

Management's Discussion and Analysis

Basic Financial Statements:

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VRS Statement of Changes in Fiduciary Net Position: Defined Benefit Pension Trust Funds and Other Employee Benefit Trust Funds

VRS Statement of Fiduciary Net Position: Defined Benefit Pension Trust Funds

VRS Statement of Changes in Fiduciary Net Position: Defined Benefit Pension Trust Funds

VRS Combining Statement of Fiduciary Net Position

VRS Combining Statement of Changes in Fiduciary Net Position

VRS Combining Statement of Fiduciary Net Position: Other Employee Benefit Trust Funds

VRS Combining Statement of Changes in Fiduciary Net Position: Other Employee Benefit Trust Funds

Retiree Health Insurance Credit Combining Statement of Fiduciary Net Position

Retiree Health Insurance Credit Combining Statement of Changes in Fiduciary Net Position

VLDP Combining Statement of Fiduciary Net Position

VLDP Combining Statement of Changes in Fiduciary Net Position

VRS Statement of Fiduciary Net Position: Other Custodial Plans

VRS Statement of Changes in Fiduciary Net Position: Other Custodial Plans

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Schedule of Actuarial Methods and Significant Assumptions: OPEB Plans

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Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS State

Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS Teacher

Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS Political Subdivisions

Required Supplementary Schedule of Changes in Employers' Net Pension Liability: SPORS

Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VaLORS

Required Supplementary Schedule of Changes in Employers' Net Pension Liability: JRS

Required Supplementary Schedule of Employer Contributions: Pension Plans

Required Supplementary Schedule of Investment Returns

Required Supplementary Schedule of Changes in Employers' Net OPEB Liability and Related Ratios

Required Supplementary Schedule of Employer Contributions: OPEB Plans

Schedule of Investment Expenses

Schedule of Administrative Expenses

Schedule of Professional and Consulting Services



Staci A. Henshaw, CPA
Auditor of Public Accounts

Commonwealth of Virginia

Auditor of Public Accounts

P.O. Box 1295
Richmond, Virginia 23218

December 10, 2021

The Honorable Ralph S. Northam
Governor of Virginia

The Honorable Kenneth R. Plum
Chairman, Joint Legislative Audit
and Review Commission

Board of Trustees
Virginia Retirement System

INDEPENDENT AUDITOR'S REPORT

Report on Financial Statements

We have audited the accompanying financial statements of the Virginia Retirement System (System) as of and for the year ended June 30, 2021, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Virginia Retirement System as of June 30, 2021, and the changes in fiduciary net position for the year ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

Relationship to the Commonwealth of Virginia

As discussed in Note 1, the basic financial statements of the System are intended to present the financial position, and the changes in financial position of only that portion of the aggregate remaining fund information of the Commonwealth of Virginia that is attributable to the transactions of the System. They do not purport to, and do not, present fairly the Commonwealth of Virginia's overall financial position as of June 30, 2021, and the changes in its financial position and its cash flows, where applicable, for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Prior-Year Summarized Comparative Information

We have previously audited the System's 2020 financial statements, and we expressed an unmodified audit opinion on the respective financial statements in our report dated December 15, 2020. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2020, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the following be presented to supplement the basic financial statements: Management's Discussion and Analysis on pages 35 through 45 and the Schedules of Changes in Employers' Net Pension Liability, Schedule of Employer Contributions for pension plans, Schedule of Investment Returns, Schedule of Changes in Employers' Net Other Post-Employment Benefit (OPEB) Liability and Related Ratios, and Schedule of Employer Contributions for other post-employment benefit plans on pages 116 through 144. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The accompanying supplementary information, such as the Schedules of Investment Expenses, Administrative Expenses, and Professional and Consulting Services, and other information, such as the Financial and Statistical Highlights for all pension trust funds and the Introductory, Investment, Actuarial, and Statistical sections, are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The Schedules of Investment Expenses, Administrative Expenses, and Professional and Consulting Services are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedules of Investment Expenses, Administrative Expenses, and Professional and Consulting Services are fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

The Financial and Statistical Highlights for all pension trust funds and the Introductory, Investment, Actuarial, and Statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 10, 2021, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

Staci A. Henshaw

AUDITOR OF PUBLIC ACCOUNTS

The Virginia Retirement System (the System) administers pension and other employee benefit plans for approximately 754,033 members, retirees and beneficiaries. The purpose of the Financial Section is to present the plans' net position and changes in net position for the fiscal year through the audited Basic Financial Statements. In support of this information, the Financial Section includes Management's Discussion and Analysis of activity affecting the plans and the operations of the System during the current and previous fiscal years. It also includes the Notes to Financial Statements, providing additional detail about the statements, as well as required schedules and supplemental items regarding historical information and the administration of the plans.

Management's Discussion and Analysis (Unaudited)

Management's Discussion and Analysis provides highlights of the funding of the plans and the performance and operations of the System for the fiscal year ended June 30, 2021. The information provided in the Introductory, Investment, Actuarial and Statistical sections complements this discussion.

The System administers two defined benefit retirement benefit structures, Plan 1 and Plan 2, and a hybrid retirement benefit structure. While all of the following systems have employees with Plan 1 and Plan 2 benefits, only the VRS and JRS systems have employees with hybrid benefits. All of these systems are defined as pension trust funds:

- Virginia Retirement System (VRS) for state employees, teachers, other eligible school division employees, employees of participating political subdivisions and other qualifying employees.
- State Police Officers' Retirement System (SPORS) for state police officers.
- Virginia Law Officers' Retirement System (VaLORS) for non-local government Virginia law officers other than state police officers.
- Judicial Retirement System (JRS) for judges of state courts of record, state district courts and other qualifying employees.

The System also administers the Group Life Insurance Fund, Retiree Health Insurance Credit Fund, a Disability Insurance Trust Fund for state

employees, a Disability Insurance Trust Fund for local government employees and the Line of Duty Act Trust Fund. All of these funds are defined as other employee benefit trust funds. Both the pension and other employee benefit trust funds are classified as fiduciary funds.

The system also has full investment responsibility for other custodial funds, which include the Commonwealth Health Research Fund (CHRF), the Commonwealth's Attorneys Training Fund (CATF), the Volunteer Firefighters' and Rescue Squad Workers' Service Award Program (VolSAP) and the VRS Investment Portfolio (VRSIP).

FINANCIAL HIGHLIGHTS

- The combined total net position of the trust funds restricted for benefits was \$102.5 billion at June 30, 2021, representing an increase of \$20.4 billion, or 24.8%, from the net position as of June 30, 2020.
- The System's time-weighted rate of return on investments during the fiscal year ended June 30, 2021, was 27.5% compared to a return of 1.4% for the fiscal year ending June 30, 2020. The increase was due primarily to the performance of the primary asset class programs and multi-asset strategies in the portfolio.
- The latest valuations of the pension plans were performed by Cavanaugh Macdonald Consulting LLC, using the GASB Statement No. 67 calculation processes. Using the June 30, 2020, data rolled forward to June 30, 2021, the plan fiduciary net position as a percentage of the total pension liability was 86.44% for the VRS

state plan, 85.46% for the VRS teacher plan, 97.25% for the aggregate total of the VRS political subdivision plans, 81.27% for SPORS, 78.18% for VaLORS and 90.17% for JRS. This compares to the June 30, 2019, data rolled forward to June 30, 2020, when the plan fiduciary net position as a percentage of the total pension liability was 72.15% for the VRS state plan, 71.47% for the VRS teacher plan, 83.44% for the aggregate total of the VRS political subdivision plans, 70.34% for SPORS, 65.74% for VaLORS and 79.92% for JRS.

- Cavanaugh Macdonald Consulting LLC also performed the latest actuarial valuations for the Other Post-Employment Benefit (OPEB) plans using the GASB Statement No. 74 calculation processes. Using the June 30, 2020, data rolled forward to June 30, 2021, the plan fiduciary net position as a percentage of the total OPEB liability was 67.45% for the Group Life Insurance Fund, 19.75% for the state employee Health Insurance Credit, 13.15% for the teacher employee Health Insurance Credit, 40.52% for the aggregate total of the VRS political subdivision plans for Health Insurance Credit, 19.86% for the state-funded Health Insurance Credit for constitutional officers, 15.66% for the state-funded Health Insurance Credit for social services employees, and 27.86% for the state-funded Health Insurance Credit for registrars. In addition, the plan fiduciary net position as a percentage of the total OPEB liability was 229.01% for the Disability Insurance Program and 1.68% for the Line of Duty Act plan. The Virginia Local Disability Program plans for teachers and political subdivisions were 114.46% and 119.59%, respectively.
- This compares to the June 30, 2019, data rolled forward to June 30, 2020, when the plan fiduciary net position as a percentage of the total OPEB liability was 52.64% for the Group Life Insurance Fund, 12.02% for the state employee Health Insurance Credit, 9.95% for the teacher employee Health Insurance Credit, 31.57% for the aggregate total of the VRS

political subdivision plans for Health Insurance Credit, 15.78% for the state-funded Health Insurance Credit for constitutional officers, 13.06% for the state-funded Health Insurance Credit for social services employees, and 21.18% for the state-funded Health Insurance Credit for registrars. In addition, the plan fiduciary net position as a percentage of the total OPEB liability was 181.88% for the Disability Insurance Program and 1.02% for the Line of Duty Act plan. The Virginia Local Disability Program plans for teachers and political subdivisions were 78.28% and 76.84%, respectively.

Overview of the Financial Statements and Accompanying Information

The pension components of the fiscal year 2021 VRS financial statements, notes to the financial statements and required supplementary information were prepared in conformity with GASB Statement No. 67, *Financial Reporting for Pension Plans*, as modified by GASB Statement No. 82, *Pension Issues*. The Other Post-Employment Benefit (OPEB) components of the fiscal year 2021 financial statements, notes to the financial statements and required supplementary information were prepared in conformity with GASB Statement No. 74, *Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans*, as modified by GASB Statement No. 85, *Omnibus 2017*.

BASIC FINANCIAL STATEMENTS. The System presents the Basic Financial Statements for the year ended June 30, 2021, with comparative information from the previous fiscal year. In addition, a set of pension combining statements shows the amounts attributable to pension trust funds as well as the state, teacher and local plans included in the VRS totals. There is also a set of OPEB combining statements for the Health Insurance Credit and Virginia Local Disability Program and a set of Custodial Plans Combining statements to show the specific amounts attributed to the plans included in the totals. The statements were prepared on the accrual basis of accounting and are used to account

for the resources the System administers on behalf of plan members and beneficiaries. These statements include:

Statement of Fiduciary Net Position: Pension, Other Employee Benefit Trust Funds and Custodial Plans.

This statement reflects the balance of the resources available to pay benefits to members, retirees and beneficiaries at the end of the fiscal year.

- **Statement of Changes in Fiduciary Net Position: Pension, Other Employee Benefit Trust Funds and Custodial Plans.** This statement reflects the changes in the resources available to pay benefits to members, retirees and beneficiaries during the fiscal year.

A summary of the Basic Financial Statements is presented in Figures 2.1 and 2.2. The full statements follow Management's Discussion and Analysis. These figures reflect the System's implementation of GASB Statement No. 84, which removed the defined contribution portion of the hybrid plans from the presentation and added several custodial funds. Further discussion of this change is presented in Note 1M in the Notes to Financial Statements.

NOTES TO FINANCIAL STATEMENTS. The Notes to Financial Statements provide detailed information and are integral to the Basic Financial Statements.

REQUIRED SUPPLEMENTARY SCHEDULES. These schedules include:

- Required Supplementary Schedules of Changes in Employers' Net Pension Liability
- Required Supplementary Schedule of Employer Contributions: Pension Plans
- Required Supplementary Schedule of Investment Returns
- Required Supplementary Schedule of Changes in Employers' Net Other Post-Employment Benefit Liability
- Required Supplementary Schedule of Employer Contributions: Other Post-Employment Benefit Plans

ADDITIONAL FINANCIAL INFORMATION. The following schedules provide additional information not included in the Basic Financial Statements:

- Schedule of Investment Expenses
- Schedule of Administrative Expenses
- Schedule of Professional and Consulting Services

FIGURE 2.1: SUMMARY OF FIDUCIARY NET POSITION

AT JUNE 30

(EXPRESSED IN MILLIONS)

	2021	Increase (Decrease)	2020	Increase (Decrease)	2019
Assets:					
Cash, Receivables and Capital Assets	\$ 3,347.6	\$ 1,051.7	\$ 2,295.9	\$ 421.9	\$ 1,874.0
Investments	105,047.8	21,318.4	83,729.4	(707.6)	84,437.0
Security Lending Collateral	5,187.0	1,727.8	3,459.2	(1,208.6)	4,667.8
Total Assets	113,582.4	24,097.9	89,484.5	(1,494.3)	90,978.8
Liabilities:					
Accounts Payable	749.0	49.8	699.2	(2.9)	702.1
Investment Purchases Payable	5,137.0	1,936.4	3,200.6	21.0	3,179.6
Obligations Under Securities Lending	5,187.0	1,727.8	3,459.2	(1,208.6)	4,667.8
Total Liabilities	11,073.0	3,714.0	7,359.0	(1,190.5)	8,549.5
Total Net Position – Restricted for Benefits	\$ 102,509.4	\$ 20,383.9	\$ 82,125.5	\$ (303.8)	\$ 82,429.3

FIGURE 2.2: SUMMARY OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEARS ENDED JUNE 30

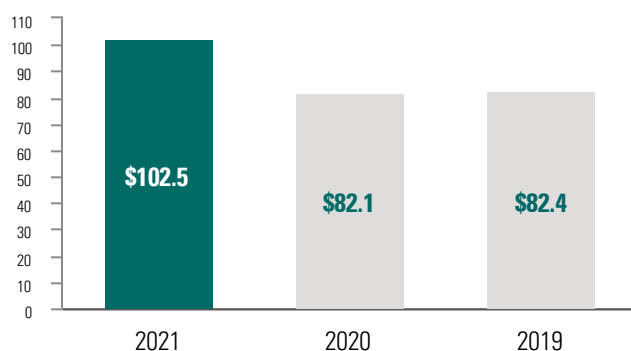
(EXPRESSED IN MILLIONS)

	2021	Increase (Decrease)	2020	Increase (Decrease)	2019
Additions:					
Member Contributions	\$ 1,076.6	\$ (3.3)	\$ 1,079.9	\$ 44.1	\$ 1,035.8
Employer Contributions	3,095.8	183.2	2,912.6	124.4	2,788.2
Special Employer Contributions	38.7	38.7	—	—	—
Non-employer Contributing Entity	61.3	61.3	—	—	—
Net Investment Income	22,282.3	20,718.7	1,563.6	(3,657.9)	5,221.5
Miscellaneous Revenue & Transfers	5.3	2.3	3.0	(1.1)	4.1
Total Additions	26,560.0	21,000.9	5,559.1	(3,490.5)	9,049.6
Deductions:					
Retirement Benefits	5,522.2	259.9	5,262.3	272.2	4,990.1
Refunds of Member Contributions	116.2	8.8	107.4	(2.2)	109.6
Insurance Premiums and Claims	251.4	39.3	212.1	12.2	199.9
Retiree Health Insurance Credit Reimbursements	171.4	2.8	168.6	(0.1)	168.7
Disability Insurance Benefits	38.7	1.8	36.9	4.0	32.9
Line of Duty Act Reimbursements	13.1	0.9	12.2	(0.7)	12.9
Administrative and Other Expenses	63.1	(0.3)	63.4	0.7	62.7
Total Deductions	6,176.1	313.2	5,862.9	286.1	5,576.8
Net Increase (Decrease) in Net Position	20,383.9	20,687.7	(303.8)	(3,776.6)	3,472.8
Net Position – Beginning of Year	82,125.5	(303.8)	82,429.3	3,472.8	78,956.5
Net Position – End of Year	\$102,509.4	\$ 20,383.9	\$ 82,125.5	\$ (303.8)	\$ 82,429.3

SYSTEM NET POSITION

AT JUNE 30

(EXPRESSED IN BILLIONS)



Analysis of Financial Activities – Pension Plans

The System's funding objective is to meet its long-term benefit obligations through investment income and contributions. Accordingly, the collection of contributions and the income from investments provide the reserves needed to finance the benefits provided under the plans.

MEMBERS, RETIREES, BENEFICIARIES AND EMPLOYERS

Approximately 344,877 active members were employed with 835 VRS-participating employers as of June 30, 2021. The number of retirees and other annuitants totaled approximately 224,973 at year-end. The distribution of active members, retirees and beneficiaries, and employers is shown in Figures 2.3, 2.4 and 2.5.

FIGURE 2.3: DISTRIBUTION OF ACTIVE MEMBERS

AT JUNE 30

	2021		2020		2019	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
State Employees (VRS)	76,108	22.1%	77,425	22.2%	77,010	22.3%
Teachers (VRS)	149,853	43.4%	150,073	43.0%	147,622	42.6%
Political Subdivision Employees (VRS)	108,712	31.5%	110,416	31.7%	110,538	31.9%
State Police Officers (SPORS)	1,939	0.6%	1,924	0.6%	1,912	0.6%
Virginia Law Officers (VaLORS)	7,812	2.3%	8,540	2.4%	8,734	2.5%
Judges (JRS)	453	0.1%	448	0.1%	457	0.1%
Total Members	344,877	100.0%	348,826	100.0%	346,273	100.0%

Additional information about the membership is presented in Note 2 and in the Statistical Section.

FIGURE 2.4: DISTRIBUTION OF RETIREES AND BENEFICIARIES

AT JUNE 30

	2021		2020		2019	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
State Employees (VRS)	60,478	26.9%	59,554	27.2%	58,797	27.5%
Teachers (VRS)	97,378	43.3%	94,755	43.3%	92,723	43.2%
Political Subdivision Employees (VRS)	59,678	26.5%	57,671	26.3%	56,094	26.1%
State Police Officers (SPORS)	1,495	0.7%	1,423	0.6%	1,410	0.7%
Virginia Law Officers (VaLORS)	5,400	2.4%	5,176	2.4%	4,991	2.3%
Judges (JRS)	544	0.2%	534	0.2%	530	0.2%
Total Retirees and Beneficiaries	224,973	100.0%	219,113	100.0%	214,545	100.0%

Additional information about retirees and beneficiaries is presented in the Statistical Section.

FIGURE 2.5: DISTRIBUTION OF EMPLOYERS

AT JUNE 30

	2021	2020	2019
Cities and Towns	162	162	159
Counties	93	93	93
School Boards*	144	144	144
Special Authorities	208	208	207
State Agencies	228	230	230
Total Employers	835	837	833

* Of the 144 school boards, 133 also provide coverage for non-teacher employees and are treated as political subdivisions. A list of VRS-participating employers and additional employer information is presented in the Statistical Section.

CONTRIBUTIONS AND INVESTMENT EARNINGS

The retirement benefits provided by the plans are funded from pension trust fund revenue. As shown in Figure 2.6, the primary sources of revenue are contributions for active members made by members or their employers, contributions from employers and investment income generated from the investment of plan assets.

Total contributions and investment earnings for the year ended June 30, 2021, amounted to \$25,216.5 million. This was an increase of \$20,224.3 million when compared with the activity for fiscal year 2020. It was also higher than the contributions and investments earnings of \$8,391.0 million recorded in fiscal year 2019.

For fiscal year 2021, member contributions decreased by \$6.0 million. The decrease in the member contribution level reflects a change in membership associated with a decrease in Plan 1/ Plan 2 members and an increase in Hybrid Plan members. Hybrid Plan members have a lower percentage contribution to the defined benefit plan.

For fiscal year 2021, employer contributions increased by \$176.0 million, due primarily to

increases in the contribution rate for state, teacher and political subdivision employer groups. In addition, the Commonwealth of Virginia made a contribution of \$61.3 million to reduce unfunded liabilities to the teacher plan which is classified as a non-employer contribution. The total of all contributions represented an increase of \$231.3 million from fiscal year 2020. Employer contributions for pensions are discussed further in Notes 2 and 12.

During fiscal year 2020, the System experienced an increase in total member contributions of \$36.4 million and an increase in employer contributions of \$107.5 million. This increase is due primarily to an increase in the covered payroll.

INVESTMENTS

The System holds contributions from members and employers in a commingled pool, which is invested to provide for the payment of current and future benefits to members when they retire. Each plan – state, teacher, political subdivisions, SPORS, VaLORS and JRS – owns an equity position in the pool and receives a proportionate share of the total investment income or loss from the pool on a monthly basis.

FIGURE 2.6: SUMMARY OF PENSION CONTRIBUTIONS, INVESTMENT EARNINGS AND MISCELLANEOUS REVENUES

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN MILLIONS)

	2021	Increase (Decrease)	2020	Increase (Decrease)	2019
Member Contributions	\$ 911.0	\$ (6.0)	\$ 917.0	\$ 36.4	\$ 880.6
Employer Contributions	2,739.0	176.0	2,563.0	107.5	2,455.5
Non-employer Contributing Entity	61.3	61.3	—	—	—
Net Investment Income	21,503.3	19,992.8	1,510.5	(3,542.1)	5,052.6
Miscellaneous Revenue and Transfers	1.9	0.2	1.7	(0.6)	2.3
Total Contributions, Investment Earnings and Miscellaneous Revenues	\$ 25,216.5	\$ 20,224.3	\$ 4,992.2	\$ (3,398.8)	\$ 8,391.0

As shown in Figure 2.6, net investment income for fiscal year 2021 of \$21,503.3 million represented an increase of \$19,992.8 million from fiscal year 2020. This compares with the net investment income decrease of \$3,542.1 million in fiscal year 2020. Total pension trust fund investments were \$101,274.4 million at fair value at June 30, 2021. This was an increase of \$20,409.1 million from the fair value of \$80,865.3 million at June 30, 2020. The total pension trust fund investments also increased in fiscal year 2020 by \$2,052.6 million from their fair value of \$78,812.7 million at June 30, 2019. The total return on pension trust fund investments for the year ended June 30, 2021, was 27.5%. This represents an annualized return of 11.3% over the past three years and 10.7% over the past five years. An explanation of investment policies and strategies as well as the portfolio's composition is included in the Investment Section. A review of investment activity and results for fiscal year 2021 also is provided in that section.

EXPENSES – DEDUCTIONS FROM PLAN NET POSITION

As shown in Figure 2.7, the primary expenses of the pension trust funds include annuity benefits for retirees and beneficiaries, refunds of contributions to former members and expenses associated with the administration of the retirement plans. Expenses for fiscal year 2021 totaled \$5,693.7 million, an increase of \$268.9 million, or 5%, over the 2020 period.

Benefit payments were \$5,522.2 million in fiscal year 2021. This is an increase of \$260.0 million compared to an increase of \$272.1 million in fiscal

year 2020. The increase in fiscal year 2021 was due to continued growth in the number of retirees and beneficiaries receiving benefits. The fiscal year 2021 benefit payments also reflect a cost-of-living adjustment (COLA) of 1.81% for Plan 1 retirees and 1.81% for Plan 2 and hybrid plan retirees effective July 1, 2020.

Refunds of contributions to members who terminated employment during fiscal year 2021 amounted to \$116.2 million (12,405 refunds), compared with \$107.4 million refunded (11,563 refunds) during fiscal year 2020 and \$109.6 million refunded (10,986 refunds) during fiscal year 2019.

The change during fiscal year 2021 reflects a slight increase in the volume of refunds and in the average refund amount compared to fiscal year 2020.

Administrative and other expenses for fiscal year 2021 were \$55.3 million, compared with \$55.2 million for fiscal year 2020 and \$55.8 million for fiscal year 2019.

Administrative and other expenses increased by \$0.1 million for fiscal year 2021. This compares to a decrease in fiscal year 2020 of \$0.6 million. The slight increase for fiscal year 2021 reflects an increase in administrative expenses that is partially offset by a decrease in the other expenses category. Further details are provided in the Schedule of Administrative Expenses following the Required Supplementary Schedules.

FIGURE 2.7: SUMMARY OF PENSION PLAN PRIMARY EXPENSES

FOR THE YEARS ENDED JUNE 30

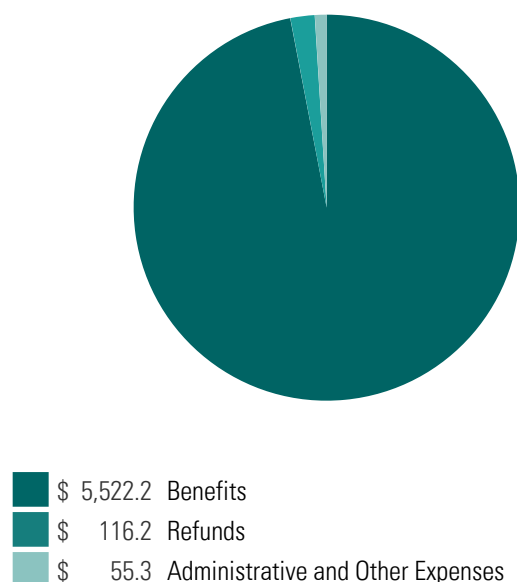
(EXPRESSED IN MILLIONS)

	2021	Increase (Decrease)	2020	Increase (Decrease)	2019
Benefits	\$ 5,522.2	\$ 260.0	\$ 5,262.2	\$ 272.1	\$ 4,990.1
Refunds	116.2	8.8	107.4	(2.2)	109.6
Administrative and Other Expenses	55.3	0.1	55.2	(0.6)	55.8
Total Primary Expenses	\$ 5,693.7	\$ 268.9	\$ 5,424.8	\$ 269.3	\$ 5,155.5

PENSION PLAN ACTIVITY

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN MILLIONS)



RETIREMENT RESERVES

The funds accumulated by the pension plans to meet current and future obligations to retirees and beneficiaries are derived from the excess of revenues over expenses. The higher the level of funding a plan achieves, the larger the accumulation of assets and the greater the investment income potential.

As shown in Figure 2.8, revenues exceeded expenses for fiscal year 2021, leading to a net increase of \$19,522.8 million in the retirement reserves held by the plans.

This follows a decrease of \$432.6 million in the retirement reserves in fiscal year 2020. The increase for fiscal year 2021 is primarily due to an increase in investment income that is slightly offset by a small increase in benefit expenses and a slight decrease in contributions.

ACTUARIAL VALUATIONS AND FUNDING PROGRESS – PENSION PLANS

The System's actuarial firm performs actuarial valuations of VRS, SPORS, VaLORS and JRS at least every two years to determine funding requirements. The funding policy provides for periodic employer contributions at actuarially determined rates that will remain relatively level over time as a percentage of payroll and will accumulate sufficient assets to meet the costs of all benefits when due.

The latest valuations of the pension plans were performed by Cavanaugh Macdonald Consulting LLC using the GASB Statement No. 67 calculation processes. Using the June 30, 2020, data rolled forward to June 30, 2021, the plan fiduciary net position as a percentage of the total pension liability was 86.44% for the VRS state plan, 85.46% for the VRS teacher plan, 97.25% for the aggregate total of the VRS political subdivision plans, 81.27% for SPORS, 78.18% for VaLORS and 90.17% for JRS. The valuations reflect full pre-funding of the statutory cost-of-living adjustment (COLA) for retirees as well as other changes required in GASB Statement No. 67. Additional information on plan funding is presented in Note 2 and in the Actuarial Section.

FIGURE 2.8: SUMMARY OF PENSION PLAN RESERVE BALANCES

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN MILLIONS)

	2021	Increase (Decrease)	2020	Increase (Decrease)	2019
Member Reserves	\$ 14,853.3	\$ 368.1	\$ 14,485.2	\$ 478.5	\$ 14,006.7
Employer Reserves	84,027.6	19,154.7	64,872.9	(911.1)	65,784.0
Total	\$ 98,880.9	\$ 19,522.8	\$ 79,358.1	\$ (432.6)	\$ 79,790.7

These balances also reflect transfers between the Member and Employer Reserves for interest credited to member accounts and member contributions transferred to the Employer Reserve upon a member's retirement. For fiscal year 2021, the amount of interest credited to member accounts was \$550.4 million, and the amount of member balances transferred to the Employer Reserve for retirements was \$987.5 million. For fiscal year 2020, the interest and retirement transfers were \$533.6 million and \$865.3 million, respectively.

Analysis of Financial Activities – Other Employee Benefit Plans

GROUP LIFE INSURANCE PROGRAM

The Group Life Insurance Program provides basic group life insurance coverage for natural death, accidental death, accidental dismemberment and other life insurance benefits to the majority of members covered under the pension plans, as well as to other qualifying employees. Employers and their covered employees pay the premiums for group life insurance coverage; many employers pay the employee's portion.

During fiscal year 2021, the System remitted \$251.4 million to the insurer for claims and administrative costs. This is an increase from the \$212.1 million remitted for fiscal year 2020. Approximately 339,673 active members were covered under the Group Life Insurance Program at June 30, 2021.

The difference between the amounts collected and paid by the System is added to the reserve established to pre-fund group life insurance coverage for retirees. The reserve had a fiduciary net position restricted for benefits of \$2,413.1 million at June 30, 2021.

Investment income, including net securities lending income, was \$534.7 million during the fiscal year. For fiscal year 2020, this reserve had investment income of \$36.3 million and ended the year with a reserve balance of \$1,855.1 million, an increase from the balance of \$1,763.0 millions at June 30, 2019.

For fiscal year 2021, the increase in the reserve balance was primarily the result of an increase in investment income as well as a small increase in contributions partially offset by an increase in the program's claims. Employer contributions for the Group Life Insurance Program are discussed further in Note 12.

Approximately 213,194 retirees were covered under the Group Life Insurance Program at June 30, 2021.

Members covered under the Basic Group Life Insurance Program are eligible to elect additional coverage through the Optional Group Life Insurance Program. This program provides life insurance, accidental death and accidental dismemberment coverage as a supplement to the basic group plan. Members also may cover their spouses and dependent children. Members pay the premiums through payroll deduction.

Approximately 69,607 active members and 3,438 retirees were enrolled in the Optional Group Life Insurance Program at June 30, 2021. Additional information about the Group Life Insurance Program is provided in Note 3.

RETIREE HEALTH INSURANCE CREDIT PROGRAM

The Retiree Health Insurance Credit Program provides a tax-free reimbursement for the portion of health insurance premiums eligible retirees pay for single coverage under qualifying health insurance plans. During fiscal year 2021, the System collected \$236.1 million in retiree health insurance credit contributions from participating employers and provided reimbursements to retirees of \$171.4 million. During fiscal year 2020, the System collected \$195.9 million in retiree health insurance credit contributions from participating employers and provided reimbursements of \$168.6 million.

The contribution rate for the teacher employer group was the fully actuarially determined rate of 1.21% for fiscal year 2021 and 1.20% for fiscal year 2020. Employer contributions for the Retiree Health Insurance Credit Program are discussed further in Note 12. The Retiree Health Insurance Credit Fund reserve had a fiduciary net position restricted for benefits of \$444.6 million at June 30, 2021. Investment income, including net securities lending income, was \$79.9 million for the fiscal year. The reserve balances at June 30, 2020, and June 30, 2019, were \$301.2 million and \$269.3 million, respectively. Approximately 132,361 retirees were receiving the health insurance credit at June 30, 2021. Additional information is provided in Note 3.

VIRGINIA SICKNESS AND DISABILITY PROGRAM

The Virginia Sickness and Disability Program (VSDP), also known as the Disability Insurance Trust Fund, provides eligible state employees with sick, family and personal leave, and short-term and long-term disability benefits for non-work-related and work-related illnesses and injuries. The System is responsible for administering the disability program and the payment of long-term disability benefits.

Employers are responsible for administering the leave program and the payment of short-term disability benefits. During fiscal year 2021, the System collected \$26.5 million in VSDP contributions from participating employers and paid disability premiums and benefits of \$35.9 million. This is an increase from the \$34.5 million in benefits paid in fiscal year 2020.

Administrative expenses decreased and other expenses increased from fiscal year 2020. Employer contributions for VSDP are discussed further in Note 12.

The benefit costs reflect continued stability in the number of members receiving long-term disability benefits, the amount of these benefits, the costs of the long-term care benefits and the operating costs of the program. The Disability Insurance Trust Fund reserve had a fiduciary net position restricted for benefits of \$611.9 million at June 30, 2021. Investment income, including net securities lending income, was \$131.4 million during the fiscal year. The reserve balances at June 30, 2020, and June 30, 2019, were \$490.2 million and \$488.2 million, respectively. At June 30, 2021, approximately 78,705 active members were participating in the program and approximately 2,481 former members were receiving benefits. Additional information is provided in Note 3.

LINE OF DUTY ACT PROGRAM

The Line of Duty Act Program was a new program for the System in fiscal year 2011. Beginning July 1, 2017, the program was restructured and the responsibility for its operations were transferred from the Commonwealth of Virginia's Department

of Accounts (DOA) to the System. The program provides death and health insurance benefits for eligible state employees and local government employees, including volunteers, who die or become disabled as the result of the performance of their duties as a public safety officer. The System is responsible for the review of all claims, determination of eligibility and case management. For participants in the program, the System is also responsible for identifying eligible individuals, having the VRS actuary prepare an actuarial valuation, collecting contributions, paying the Commonwealth of Virginia's Department of Human Resource Management health insurance premiums for covered eligible individuals and managing the assets of the program.

During fiscal years 2021 and 2020, the System collected \$13.6 million in contributions. In fiscal 2021, the System paid out \$13.1 million in benefits provided by this program. This is an increase in benefit costs from the \$12.2 million for fiscal year 2020. This reflects the impact of continued stabilization of the program's participation and claims levels. The reserve balance at June 30, 2021, was \$7.6 million, an increase from the reserve balance of \$4.3 million at June 30, 2020. Additional information is provided in Note 3.

VIRGINIA LOCAL DISABILITY PROGRAM

The Virginia Local Disability Program (VLDP) was a new program for the System in fiscal year 2014. The program provides eligible local government employees who are members of the Hybrid Retirement Plan with sick, family and personal leave and short-term and long-term disability benefits for non-work-related and work-related illnesses and injuries. The System is responsible for administering the disability program and the payment of long-term disability benefits. Employers are responsible for administering the leave program and the payment of short-term disability benefits.

During fiscal year 2021, the System collected \$6.5 million in contributions and paid out \$2.8 million in benefits provided by this program. During fiscal year 2020, the System collected \$5.1 million in contributions and paid out \$2.4 million in benefits

provided by the program. At June 30, 2021, approximately 25,721 active members were participating in the program and approximately 81 former members were receiving benefits. Additional information is provided in Note 3.

ACTUARIAL VALUATIONS AND FUNDING PROGRESS – OTHER EMPLOYEE BENEFIT PLANS

The System's actuarial firm performs actuarial valuations of the Group Life Insurance Program, the Retiree Health Insurance Credit Program, the Disability Insurance Program, the Virginia Local Disability Program and the Line of Duty Act Program at least every two years to determine funding requirements. The funding policy provides for periodic employer contributions at actuarially determined rates that will remain relatively level over time as a percentage of payroll and will accumulate sufficient assets to meet the costs of all benefits when due.

The latest valuations of the Other Post-Employment Benefit (OPEB) plans were performed by Cavanaugh Macdonald Consulting LLC using GASB Statement No. 74 calculation processes. Using the June 30, 2020, data rolled forward to June 30, 2021, the plan fiduciary net position as a percentage of the total OPEB liability was 67.45% for the Group Life Insurance Fund, 19.75% for the state employee Health Insurance Credit, 13.15% for the teacher employee Health Insurance Credit, 40.52% for the aggregate total of the political subdivision plans for Health Insurance Credit, 19.86% for the state-funded Health Insurance Credit for constitutional officers, 15.66% for the state-funded Health Insurance Credit for

social services employees, and 27.86% for the state-funded Health Insurance Credit for registrars. In addition, the plan fiduciary net position as a percentage of the total OPEB liability was 229.01% for the Disability Insurance Program and 1.68% for the Line of Duty Act Program. The Virginia Local Disability Program plans for teachers and political subdivisions were 114.46% and 119.59%, respectively. The valuations reflect all of the changes required in GASB Statement No. 74.

Market Volatility

The System's investment performance for the fiscal year ended June 30, 2021, was 27.5%, and there was a significant increase in the net position restricted for benefits. As noted in this section, in the Introductory Section and in the Chief Investment Officer's letter in the Investment Section, the investment markets continue to be extremely volatile. The amount of assets and reserves required to meet future obligations is based, in part, on estimated or expected long-term investment returns. Although management cannot predict future market returns, the changes in assets reflect the volatility in the market.

REQUEST FOR INFORMATION

This financial report is designed to provide an overview of the System's finances. Questions concerning the information provided in this report or requests for additional information should be addressed to the Chief Financial Officer, Virginia Retirement System, P.O. Box 2500, Richmond, VA 23218-2500.

VIRGINIA RETIREMENT SYSTEM STATEMENT OF FIDUCIARY NET POSITION:

DEFINED BENEFIT PENSION TRUST FUNDS, OTHER EMPLOYEE BENEFIT TRUST FUNDS AND OTHER CUSTODIAL PLANS

AS OF JUNE 30, 2021, WITH COMPARATIVE INFORMATION AS OF JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

				Totals	
	Pension Trust Funds	Other Employee Benefit Trust Funds	Other Custodial Plans	2021	2020
Assets:					
Cash (Note 5)	\$ 139,953	\$ 5,536	\$ 254	\$ 145,743	67,360
Receivables:					
Contributions	286,030	40,398	—	326,428	316,952
Interest and Dividends	277,097	9,936	390	287,423	244,034
Receivables for Security Transactions	2,319,439	83,151	3,269	2,405,859	1,384,059
Other Investment Receivables	114,998	4,123	161	119,282	215,490
Other Receivables	21,446	9,713	—	31,159	31,484
Total Receivables	3,019,010	147,321	3,820	3,170,151	2,192,019
Investments: (Note 5)					
Bonds and Mortgage Securities	22,236,506	797,161	31,345	23,065,012	20,081,257
Stocks	26,410,467	946,792	37,229	27,394,488	22,987,342
Fixed-Income Commingled Funds	1,429,372	51,241	2,016	1,482,629	1,377,162
Index and Pooled Funds	13,388,522	479,967	18,873	13,887,362	10,230,872
Real Estate	10,368,027	371,685	14,615	10,754,327	9,931,628
Private Equity	26,881,840	963,690	37,893	27,883,423	18,698,082
Short-Term Investments	559,710	20,065	789	580,564	423,049
Total Investments	101,274,444	3,630,601	142,760	105,047,805	83,729,392
Collateral on Loaned Securities	5,000,645	179,268	7,049	5,186,962	3,459,184
Capital Assets (Note 6)	31,706	—	—	31,706	36,550
Total Assets	109,465,758	3,962,726	153,883	113,582,367	89,484,505
Liabilities:					
Retirement Benefits Payable	463,020	—	—	463,020	443,198
Refunds Payable	4,486	162	—	4,648	2,560
Accounts Payable and Accrued Expenses	30,231	18,342	37	48,610	52,405
Compensated Absences Payable	3,392	—	—	3,392	3,218
Insurance Premiums and Claims Payable	—	93,704	—	93,704	81,380
Payable for Security Transactions	4,952,442	177,541	6,982	5,136,965	3,200,644
Other Investment Payables	127,408	4,569	180	132,157	113,650
Other Payables	3,266	257	—	3,523	2,806
Obligations Under Security Lending Program	5,000,645	179,268	7,049	5,186,962	3,459,184
Total Liabilities	10,584,890	473,843	14,248	11,072,981	7,359,045
Net Position – Restricted for Benefits (Note 4)	\$ 98,880,868	\$ 3,488,883	\$ 139,635	\$102,509,386	\$ 82,125,460

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM STATEMENT OF CHANGES IN FIDUCIARY NET POSITION:
DEFINED BENEFIT PENSION TRUST FUNDS , OTHER EMPLOYEE BENEFIT TRUST FUNDS AND OTHER CUSTODIAL PLANS
 FOR THE YEAR ENDED JUNE 30, 2021, WITH COMPARATIVE INFORMATION FOR THE YEAR ENDED JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

				Totals	
	Pension Trust Funds	Other Employee Benefit Trust Funds	Other Custodial Plans	2021	2020
Additions:					
Contributions:					
Members	\$ 910,989	\$ 165,628	\$ 32	\$ 1,076,649	\$ 1,079,924
Employers	2,738,973	355,958	897	3,095,828	2,912,556
Special Employer	—	38,656	—	38,656	—
Non-employer Contributing Entity	61,344	—	—	61,344	—
Total Contributions	3,711,306	560,242	929	4,272,477	3,992,480
Investment Income:					
Interest, Dividends and Other Investment Income	1,209,011	41,930	1,595	1,252,536	1,309,057
Net Appreciation/(Depreciation) in Fair Value of Investments	20,813,997	727,383	27,217	21,568,597	734,404
Securities Lending Income	17,344	607	55	18,006	77,938
Total Investment Income Before Investment Expenses	22,040,352	769,920	28,867	22,839,139	2,121,399
Investment Expenses:					
Direct Investment Expenses	(534,736)	(18,702)	(987)	(554,425)	(502,944)
Securities Lending Management Fees and Borrower Rebates	(2,322)	(81)	(8)	(2,411)	(54,840)
Total Investment Expenses	(537,058)	(18,783)	(995)	(556,836)	(557,784)
Net Investment Income	21,503,294	751,137	27,872	22,282,303	1,563,615
Miscellaneous Revenue	1,860	1,143	2,345	5,348	3,012
Total Additions	25,216,460	1,312,522	31,146	26,560,128	5,559,107
Deductions:					
Retirement Benefits	5,522,199	—	—	5,522,199	5,262,256
Refunds of Member Contributions	116,186	—	—	116,186	107,418
Insurance Premiums and Claims	—	251,382	—	251,382	212,060
Retiree Health Insurance Reimbursements	—	171,401	—	171,401	168,557
Disability Insurance Premiums and Benefits	—	38,708	—	38,708	36,933
Line of Duty Benefits	—	13,095	—	13,095	12,191
Administrative Expenses	53,676	3,927	—	57,603	54,326
Other Expenses	1,604	2,163	1,861	5,628	9,188
Total Deductions	5,693,665	480,676	1,861	6,176,202	5,862,929
Net Increase (Decrease)	19,522,795	831,846	29,285	20,383,926	(303,822)
Net Position – Restricted for Benefits – Beginning of Year	79,358,073	2,657,037	110,350	82,125,460	82,429,282
Net Position – Restricted for Benefits – End of Year	\$ 98,880,868	\$ 3,488,883	\$ 139,635	\$ 102,509,386	\$ 82,125,460

The accompanying Notes to Financial Statements are an integral part of this statement.

**VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF FIDUCIARY NET POSITION:
DEFINED BENEFIT PENSION TRUST FUNDS**

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Virginia Retirement System	State Police Officers' Retirement System	Virginia Law Officers' Retirement System	Judicial Retirement System	Total Pension Plans
Assets:					
Cash (Note 5)	\$ 134,331	\$ 1,644	\$ 2,924	\$ 1,054	\$ 139,953
Receivables:					
Contributions	279,575	1,647	3,793	1,015	286,030
Interest and Dividends	267,009	2,950	5,247	1,891	277,097
Receivables for Security Transactions	2,234,997	24,689	43,922	15,831	2,319,439
Other Investment Receivables	110,811	1,224	2,178	785	114,998
Other Receivables	21,446	—	—	—	21,446
Total Receivables	2,913,838	30,510	55,140	19,522	3,019,010
Investments: (Note 5)					
Bonds and Mortgage Securities	21,426,961	236,693	421,077	151,775	22,236,506
Stocks	25,448,964	281,123	500,116	180,264	26,410,467
Fixed-Income Commingled Funds	1,377,334	15,215	27,067	9,756	1,429,372
Index and Pooled Funds	12,901,098	142,512	253,529	91,383	13,388,522
Real Estate	9,990,567	110,361	196,332	70,767	10,368,027
Private Equity	25,903,176	286,140	509,043	183,481	26,881,840
Short-Term Investments	539,333	5,958	10,599	3,820	559,710
Total Investments	97,587,433	1,078,002	1,917,763	691,246	101,274,444
Collateral on Loaned Securities	4,818,590	53,229	94,694	34,132	5,000,645
Capital Assets (Note 6)	31,706	—	—	—	31,706
Total Assets	105,485,898	1,163,385	2,070,521	745,954	109,465,758
Liabilities:					
Retirement Benefits Payable	443,367	5,646	10,194	3,813	463,020
Refunds Payable	4,486	—	—	—	4,486
Accounts Payable and Accrued Expenses	29,241	289	515	186	30,231
Compensated Absences Payable	3,392	—	—	—	3,392
Insurance Premiums and Claims Payable	—	—	—	—	—
Payable for Security Transactions	4,772,142	52,717	93,781	33,802	4,952,442
Other Investment Payables	122,769	1,356	2,413	870	127,408
Other Payables	3,266	—	—	—	3,266
Obligations Under Security Lending Program	4,818,590	53,229	94,694	34,132	5,000,645
Total Liabilities	10,197,253	113,237	201,597	72,803	10,584,890
Net Position – Restricted for Benefits (Note 4)	\$ 95,288,645	\$ 1,050,148	\$ 1,868,924	\$ 673,151	\$ 98,880,868

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION: DEFINED BENEFIT PENSION TRUST FUNDS

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Virginia Retirement System	State Police Officers' Retirement System	Virginia Law Officers' Retirement System	Judicial Retirement System	Total Pension Plans
Additions:					
Contributions:					
Members	\$ 885,029	\$ 6,490	\$ 17,602	\$ 1,868	\$ 910,989
Employers	2,605,914	33,788	76,415	22,856	2,738,973
Special Employer	—	—	—	—	—
Non-employer Contributing Entity	61,344	—	—	—	61,344
Total Contributions	3,552,287	40,278	94,017	24,724	3,711,306
Investment Income:					
Interest, Dividends and Other Investment Income	1,165,044	12,902	22,777	8,288	1,209,011
Net Appreciation/(Depreciation) in Fair Value of Investments	20,057,519	221,774	392,236	142,468	20,813,997
Securities Lending Income	16,714	185	327	118	17,344
Total Investment Income Before Investment Expenses	21,239,277	234,861	415,340	150,874	22,040,352
Investment Expenses:					
Direct Investment Expenses	(515,301)	(5,697)	(10,080)	(3,658)	(534,736)
Securities Lending Management Fees and Borrower Rebates	(2,237)	(25)	(44)	(16)	(2,322)
Total Investment Expenses	(517,538)	(5,722)	(10,124)	(3,674)	(537,058)
Net Investment Income	20,721,739	229,139	405,216	147,200	21,503,294
Miscellaneous Revenue	1,860	—	—	—	1,860
Total Additions	24,275,886	269,417	499,233	171,924	25,216,460
Deductions:					
Retirement Benefits	5,277,178	73,226	124,045	47,750	5,522,199
Refunds of Member Contributions	109,987	274	5,790	135	116,186
Insurance Premiums and Claims	—	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—
Administrative Expenses	51,859	531	943	343	53,676
Other Expenses	1,604	—	—	—	1,604
Total Deductions	5,440,628	74,031	130,778	48,228	5,693,665
Net Increase (Decrease)	18,835,258	195,386	368,455	123,696	19,522,795
Net Position – Restricted for Benefits – Beginning of Year as restated (Note 1)	76,453,387	854,762	1,500,469	549,455	79,358,073
Net Position – Restricted for Benefits – End of Year	\$ 95,288,645	\$ 1,050,148	\$ 1,868,924	\$ 673,151	\$ 98,880,868

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF FIDUCIARY NET POSITION

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Total VRS Plans
Assets:				
Cash (Note 5)	\$ 32,632	\$ 64,261	\$ 37,438	\$ 134,331
Receivables:				
Contributions	50,263	169,246	60,066	279,575
Interest and Dividends	64,861	127,732	74,416	267,009
Receivables for Security Transactions	542,923	1,069,178	622,896	2,234,997
Other Investment Receivables	26,918	53,010	30,883	110,811
Other Receivables	5,202	10,267	5,977	21,446
Total Receivables	690,167	1,429,433	794,238	2,913,838
Investments: (Note 5)				
Bonds and Mortgage Securities	5,205,009	10,250,234	5,971,718	21,426,961
Stocks	6,182,030	12,174,280	7,092,654	25,448,964
Fixed-Income Commingled Funds	334,580	658,889	383,865	1,377,334
Index and Pooled Funds	3,133,919	6,171,629	3,595,550	12,901,098
Real Estate	2,426,896	4,779,289	2,784,382	9,990,567
Private Equity	6,292,366	12,391,567	7,219,243	25,903,176
Short-Term Investments	131,014	258,006	150,313	539,333
Total Investments	23,705,814	46,683,894	27,197,725	97,587,433
Collateral on Loaned Securities	1,170,526	2,305,118	1,342,946	4,818,590
Capital Assets (Note 6)	7,702	15,168	8,836	31,706
Total Assets	25,606,841	50,497,874	29,381,183	105,485,898
Liabilities:				
Retirement Benefits Payable	124,928	214,505	103,934	443,367
Refunds Payable	1,185	1,569	1,732	4,486
Accounts Payable and Accrued Expenses	7,103	13,989	8,149	29,241
Compensated Absences Payable	824	1,623	945	3,392
Insurance Premiums and Claims Payable	—	—	—	—
Payable for Security Transactions	1,159,243	2,282,898	1,330,001	4,772,142
Other Investment Payables	29,823	58,730	34,216	122,769
Other Payables	792	1,564	910	3,266
Obligations Under Security Lending Program	1,170,526	2,305,118	1,342,946	4,818,590
Total Liabilities	2,494,424	4,879,996	2,822,833	10,197,253
Net Position – Restricted for Benefits (Note 4)	\$ 23,112,417	\$ 45,617,878	\$ 26,558,350	\$ 95,288,645

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Total VRS Plans
Additions:				
Contributions:				
Members	\$ 207,065	\$ 419,415	\$ 258,549	\$ 885,029
Employers	609,778	1,416,135	580,001	2,605,914
Special Employer	—	—	—	—
Non-employer Contributing Entity	—	61,344	—	61,344
Total Contributions	816,843	1,896,894	838,550	3,552,287
Investment Income:				
Interest, Dividends and Other Investment Income	284,215	555,897	324,932	1,165,044
Net Appreciation/(Depreciation) in Fair Value of Investments	4,893,075	9,570,376	5,594,068	20,057,519
Securities Lending Income	4,077	7,975	4,662	16,714
Total Investment Income Before Investment Expenses	5,181,367	10,134,248	5,923,662	21,239,277
Investment Expenses:				
Direct Investment Expenses	(125,658)	(245,932)	(143,711)	(515,301)
Securities Lending Management Fees and Borrower Rebates	(546)	(1,067)	(624)	(2,237)
Total Investment Expenses	(126,204)	(246,999)	(144,335)	(517,538)
Net Investment Income	5,055,163	9,887,249	5,779,327	20,721,739
Miscellaneous Revenue	450	725	685	1,860
Total Additions	5,872,456	11,784,868	6,618,562	24,275,886
Deductions:				
Retirement Benefits	1,486,951	2,553,154	1,237,073	5,277,178
Refunds of Member Contributions	29,065	38,462	42,460	109,987
Insurance Premiums and Claims	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—
Line of Duty Benefits	—	—	—	—
Administrative Expenses	12,904	24,543	14,412	51,859
Other Expenses	1,187	60	357	1,604
Total Deductions	1,530,107	2,616,219	1,294,302	5,440,628
Net Increase (Decrease)	4,342,349	9,168,649	5,324,260	18,835,258
Net Position – Restricted for Benefits – Beginning of Year	18,770,068	36,449,229	21,234,090	76,453,387
Net Position – Restricted for Benefits – End of Year	\$ 23,112,417	\$ 45,617,878	\$ 26,558,350	\$ 95,288,645

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF FIDUCIARY NET POSITION: OTHER EMPLOYEE BENEFIT TRUST FUNDS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Group Life Insurance	Retiree Health Insurance Credit	Disability Insurance Trust Fund	Line of Duty Act Trust Fund	Virginia Local Disability Program	Total OPEB Plans
Assets:						
Cash (Note 5)	\$ 3,874	\$ 691	\$ 941	\$ 12	\$ 18	\$ 5,536
Receivables:						
Contributions	22,090	16,162	1,437	—	709	40,398
Interest and Dividends	6,952	1,240	1,689	23	32	9,936
Receivables for Security Transactions	58,194	10,378	14,137	177	265	83,151
Other Investment Receivables	2,885	515	701	9	13	4,123
Other Receivables	—	30	9,673	—	10	9,713
Total Receivables	90,121	28,325	27,637	209	1,029	147,321
Investments: (Note 5)						
Bonds and Mortgage Securities	557,902	99,491	135,536	1,696	2,536	797,161
Stocks	662,624	118,167	160,976	2,013	3,012	946,792
Fixed-Income Commingled Funds	35,862	6,395	8,712	109	163	51,241
Index and Pooled Funds	335,911	59,903	81,605	1,021	1,527	479,967
Real Estate	260,128	46,389	63,195	791	1,182	371,685
Private Equity	674,450	120,276	163,849	2,049	3,066	963,690
Short-Term Investments	14,043	2,504	3,412	43	63	20,065
Total Investments	2,540,920	453,125	617,285	7,722	11,549	3,630,601
Collateral on Loaned Securities	125,463	22,374	30,480	381	570	179,268
Capital Assets (Note 6)	—	—	—	—	—	—
Total Assets	2,760,378	504,515	676,343	8,324	13,166	3,962,726
Liabilities:						
Retirement Benefits Payable	—	—	—	—	—	—
Refunds Payable	—	162	—	—	—	162
Accounts Payable and Accrued Expenses	686	14,670	2,981	2	3	18,342
Compensated Absences Payable	—	—	—	—	—	—
Insurance Premiums and Claims Payable	93,704	—	—	—	—	93,704
Payable for Security Transactions	124,254	22,158	30,186	378	565	177,541
Other Investment Payables	3,197	570	777	10	15	4,569
Other Payables	—	—	—	—	257	257
Obligations Under Security Lending Program	125,463	22,374	30,480	381	570	179,268
Total Liabilities	347,304	59,934	64,424	771	1,410	473,843
Net Position – Restricted for Benefits (Note 4)	\$ 2,413,074	\$ 444,581	\$ 611,919	\$ 7,553	\$ 11,756	\$ 3,488,883

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION: OTHER EMPLOYEE BENEFIT TRUST FUNDS

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Group Life Insurance	Retiree Health Insurance Credit	Disability Insurance Trust Fund	Line of Duty Act Trust Fund	Virginia Local Disability Program	Total OPEB Plans
Additions:						
Contributions:						
Members	\$ 165,628	\$ —	\$ —	\$ —	\$ —	\$ 165,628
Employers	111,797	197,482	26,542	13,633	6,504	355,958
Special Employer	—	38,656	—	—	—	38,656
Non-employer Contributing Entity	—	—	—	—	—	—
Total Contributions	277,425	236,138	26,542	13,633	6,504	560,242
Investment Income:						
Interest, Dividends and Other Investment Income	29,874	4,402	7,368	172	114	41,930
Net Appreciation/(Depreciation) in Fair Value of Investments	517,777	77,442	127,175	2,934	2,055	727,383
Securities Lending Income	431	65	106	3	2	607
Total Investment Income Before Investment Expenses	548,082	81,909	134,649	3,109	2,171	769,920
Investment Expenses:						
Direct Investment Expenses	(13,315)	(1,993)	(3,262)	(78)	(54)	(18,702)
Securities Lending Management Fees and Borrower Rebates	(58)	(9)	(14)	—	—	(81)
Total Investment Expenses	(13,373)	(2,002)	(3,276)	(78)	(54)	(18,783)
Net Investment Income	534,709	79,907	131,373	3,031	2,117	751,137
Miscellaneous Revenue	—	—	513	630	—	1,143
Total Additions	812,134	316,045	158,428	17,294	8,621	1,312,522
Deductions:						
Retirement Benefits	—	—	—	—	—	—
Refunds of Member Contributions	—	—	—	—	—	—
Insurance Premiums and Claims	251,382	—	—	—	—	251,382
Retiree Health Insurance Reimbursements	—	171,401	—	—	—	171,401
Disability Insurance Premiums and Benefits	—	—	35,927	—	2,781	38,708
Line of Duty Benefits	—	—	—	13,095	—	13,095
Administrative Expenses	862	1,198	600	979	288	3,927
Other Expenses	1,918	43	202	—	—	2,163
Total Deductions	254,162	172,642	36,729	14,074	3,069	480,676
Net Increase (Decrease)	557,972	143,403	121,699	3,220	5,552	831,846
Net Position – Restricted for Benefits – Beginning of Year	1,855,102	301,178	490,220	4,333	6,204	2,657,037
Net Position – Restricted for Benefits – End of Year	\$ 2,413,074	\$ 444,581	\$ 611,919	\$ 7,553	\$ 11,756	\$ 3,488,883

The accompanying Notes to Financial Statements are an integral part of this statement.

RETIREE HEALTH INSURANCE CREDIT COMBINING STATEMENT OF FIDUCIARY NET POSITION

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Constitutional Officers	Social Services Employees	Registrars	Total HIC Plans
Assets:							
Cash (Note 5)	\$ 327	\$ 297	\$ 53	\$ 10	\$ 4	\$ —	\$ 691
Receivables:							
Contributions	5,390	10,095	365	200	109	3	16,162
Interest and Dividends	587	533	95	19	6	—	1,240
Receivables for Security Transactions	4,902	4,465	796	157	54	4	10,378
Other Investment Receivables	243	222	39	8	3	—	515
Other Receivables	14	13	3	—	—	—	30
Total Receivables	11,136	15,328	1,298	384	172	7	28,325
Investments: (Note 5)							
Bonds and Mortgage Securities	47,002	42,802	7,627	1,502	520	38	99,491
Stocks	55,825	50,837	9,058	1,784	617	46	118,167
Fixed-Income Commingled Funds	3,021	2,751	490	97	34	2	6,395
Index and Pooled Funds	28,300	25,771	4,592	904	313	23	59,903
Real Estate	21,915	19,957	3,556	700	242	19	46,389
Private Equity	56,823	51,744	9,220	1,814	628	47	120,276
Short-Term Investments	1,183	1,078	191	38	13	1	2,504
Total Investments	214,069	194,940	34,734	6,839	2,367	176	453,125
Collateral on Loaned Securities	10,569	9,626	1,715	338	117	9	22,374
Capital Assets (Note 6)	—	—	—	—	—	—	—
Total Assets	236,101	220,191	37,800	7,571	2,660	192	504,515
Liabilities:							
Retirement Benefits Payable	—	—	—	—	—	—	—
Refunds Payable	76	71	12	2	1	—	162
Accounts Payable and Accrued Expenses	6,859	6,412	1,096	220	77	6	14,670
Compensated Absences Payable	—	—	—	—	—	—	—
Insurance Premiums and Claims Payable	—	—	—	—	—	—	—
Payable for Security Transactions	10,468	9,532	1,699	334	116	9	22,158
Other Investment Payables	269	245	44	9	3	—	570
Other Payables	—	—	—	—	—	—	—
Obligations Under Security Lending Program	10,569	9,626	1,715	338	117	9	22,374
Total Liabilities	28,241	25,886	4,566	903	314	24	59,934
Net Position – Restricted for Benefits (Note 4)	\$ 207,860	\$ 194,305	\$ 33,234	\$ 6,668	\$ 2,346	\$ 168	\$ 444,581

The accompanying Notes to Financial Statements are an integral part of this statement.

RETIREE HEALTH INSURANCE CREDIT COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Constitutional Officers	Social Services Employees	Registrars	Total HIC Plans
Additions:							
Contributions:							
Members	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Employers	81,191	107,172	5,239	2,666	1,160	54	197,482
Special Employer	38,656	—	—	—	—	—	38,656
Non-employer Contributing Entity	—	—	—	—	—	—	—
Total Contributions	119,847	107,172	5,239	2,666	1,160	54	236,138
Investment Income:							
Interest, Dividends and Other Investment Income	1,917	2,043	370	53	18	1	4,402
Net Appreciation/(Depreciation) in Fair Value of Investments	33,722	35,945	6,503	924	325	23	77,442
Securities Lending Income	29	30	5	1	—	—	65
Total Investment Income Before Investment Expenses	35,668	38,018	6,878	978	343	24	81,909
Investment Expenses:							
Direct Investment Expenses	(873)	(921)	(166)	(24)	(8)	(1)	(1,993)
Securities Lending Management Fees and Borrower Rebates	(4)	(4)	(1)	—	—	—	(9)
Total Investment Expenses	(877)	(925)	(167)	(24)	(8)	(1)	(2,002)
Net Investment Income	34,791	37,093	6,711	954	335	23	79,907
Miscellaneous Revenue	—	—	—	—	—	—	—
Total Additions	154,638	144,265	11,950	3,620	1,495	77	316,045
Deductions:							
Retirement Benefits	—	—	—	—	—	—	—
Refunds of Member Contributions	—	—	—	—	—	—	—
Insurance Premiums and Claims	—	—	—	—	—	—	—
Retiree Health Insurance Reimbursements	71,536	93,607	3,098	2,047	1,078	35	171,401
Disability Insurance Premiums and Benefits	—	—	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—	—	—
Administrative Expenses	589	501	86	16	6	—	1,198
Other Expenses	31	13	(2)	1	—	—	43
Total Deductions	72,156	94,121	3,182	2,064	1,084	35	172,642
Net Increase (Decrease)	82,482	50,144	8,768	1,556	411	42	143,403
Net Position – Restricted for Benefits – Beginning of Year	125,378	144,161	24,466	5,112	1,935	126	301,178
Net Position – Restricted for Benefits – End of Year	\$ 207,860	\$ 194,305	\$ 33,234	\$ 6,668	\$ 2,346	\$ 168	\$ 444,581

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA LOCAL DISABILITY PROGRAM COMBINING STATEMENT OF FIDUCIARY NET POSITION

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Teacher Employee Plan	Political Subdivision Plan	Total VLDP Plans
Assets:			
Cash (Note 5)	\$ 8	\$ 10	\$ 18
Receivables:			
Contributions	433	276	709
Interest and Dividends	15	17	32
Receivables for Security Transactions	124	141	265
Other Investment Receivables	6	7	13
Other Receivables	5	5	10
Total Receivables	583	446	1,029
Investments: (Note 5)			
Bonds and Mortgage Securities	1,183	1,353	2,536
Stocks	1,406	1,606	3,012
Fixed-Income Commingled Funds	76	87	163
Index and Pooled Funds	713	814	1,527
Real Estate	552	630	1,182
Private Equity	1,432	1,634	3,066
Short-Term Investments	29	34	63
Total Investments	5,391	6,158	11,549
Collateral on Loaned Securities	266	304	570
Capital Assets (Note 6)	—	—	—
Total Assets	6,248	6,918	13,166
Liabilities:			
Retirement Benefits Payable	—	—	—
Refunds Payable	—	—	—
Accounts Payable and Accrued Expenses	1	2	3
Compensated Absences Payable	—	—	—
Insurance Premiums and Claims Payable	—	—	—
Payable for Security Transactions	264	301	565
Other Investment Payables	7	8	15
Other Payables	120	137	257
Obligations Under Security Lending Program	266	304	570
Total Liabilities	658	752	1,410
Net Position – Restricted for Benefits (Note 4)	\$ 5,590	\$ 6,166	\$ 11,756

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA LOCAL DISABILITY PROGRAM COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Teacher Employee Plan	Political Subdivision Plan	Total VLDP Plans
Additions:			
Contributions:			
Members	\$ —	\$ —	\$ —
Employers	3,166	3,338	6,504
Special Employer	—	—	—
Non-employer Contributing Entity	—	—	—
Total Contributions	3,166	3,338	6,504
Investment Income:			
Interest, Dividends and Other Investment Income	55	59	114
Net Appreciation/(Depreciation) in Fair Value of Investments	1,001	1,054	2,055
Securities Lending Income	1	1	2
Total Investment Income Before Investment Expenses	1,057	1,114	2,171
Investment Expenses:			
Direct Investment Expenses	(26)	(28)	(54)
Securities Lending Management Fees and Borrower Rebates	—	—	—
Total Investment Expenses	(26)	(28)	(54)
Net Investment Income	1,031	1,086	2,117
Miscellaneous Revenue	—	—	—
Total Additions	4,197	4,424	8,621
Deductions:			
Retirement Benefits	—	—	—
Refunds of Member Contributions	—	—	—
Insurance Premiums and Claims	—	—	—
Retiree Health Insurance Reimbursements	—	—	—
Disability Insurance Premiums and Benefits	366	385	751
Line of Duty Benefits	—	—	—
Administrative Expenses	140	148	288
Third Party Administrative Expenses	988	1,042	2,030
Other Expenses	—	—	—
Total Deductions	1,494	1,575	3,069
Net Increase (Decrease)	2,703	2,849	5,552
Net Position – Restricted for Benefits – Beginning of Year	2,887	3,317	6,204
Net Position – Restricted for Benefits – End of Year	\$ 5,590	\$ 6,166	\$ 11,756

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF FIDUCIARY NET POSITION: OTHER CUSTODIAL PLANS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	VRS Investment Portfolio DC Plans	Commonwealth Health Research Fund	Volunteer Firefighters' and Rescue Squad Workers' Service Award Fund	Commonwealth's Attorneys Training Fund	Total Custodial Plans
Assets:					
Cash (Note 5)	\$ 92	\$ 75	\$ 45	\$ 42	\$ 254
Receivables:					
Contributions	—	—	—	—	—
Interest and Dividends	165	135	15	75	390
Receivables for Security Transactions	1,380	1,133	127	629	3,269
Other Investment Receivables	68	56	6	31	161
Other Receivables	—	—	—	—	—
Total Receivables	1,613	1,324	148	735	3,820
Investments: (Note 5)					
Bonds and Mortgage Securities	13,232	10,865	1,217	6,031	31,345
Stocks	15,714	12,905	1,445	7,165	37,229
Fixed-Income Commingled Funds	850	700	78	388	2,016
Index and Pooled Funds	7,966	6,542	733	3,632	18,873
Real Estate	6,169	5,066	567	2,813	14,615
Private Equity	15,994	13,135	1,471	7,293	37,893
Short-Term Investments	333	273	31	152	789
Total Investments	60,258	49,486	5,542	27,474	142,760
Collateral on Loaned Securities	2,975	2,443	274	1,357	7,049
Capital Assets (Note 6)	—	—	—	—	—
Total Assets	64,938	53,328	6,009	29,608	153,883
Liabilities:					
Retirement Benefits Payable	—	—	—	—	—
Refunds Payable	—	—	—	—	—
Accounts Payable and Accrued Expenses	16	13	1	7	37
Compensated Absences Payable	—	—	—	—	—
Insurance Premiums and Claims Payable	—	—	—	—	—
Payable for Security Transactions	2,947	2,420	271	1,344	6,982
Other Investment Payables	76	62	7	35	180
Other Payables	—	—	—	—	—
Obligations Under Security Lending Program	2,975	2,443	274	1,357	7,049
Total Liabilities	6,014	4,938	553	2,743	14,248
Net Position – Restricted for Benefits (Note 4)	\$ 58,924	\$ 48,390	\$ 5,456	\$ 26,865	\$ 139,635

The accompanying Notes to Financial Statements are an integral part of this statement.

VIRGINIA RETIREMENT SYSTEM COMBINING STATEMENT OF CHANGES IN FIDUCIARY NET POSITION: OTHER CUSTODIAL PLANS

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	VRS Investment Portfolio DC Plans	Commonwealth Health Research Fund	Volunteer Firefighters' and Rescue Squad Workers' Service Award Fund	Commonwealth's Attorneys Training Fund	Total Custodial Plans
Additions:					
Contributions:					
Members	\$ —	\$ —	\$ 32	\$ —	\$ 32
Employers	704	—	193	—	897
Special Employer	—	—	—	—	—
Non-employer Contributing Entity	—	—	—	—	—
Total Contributions	704	—	225	—	929
Investment Income:					
Interest, Dividends and Other Investment Income	616	591	64	324	1,595
Net Appreciation/(Depreciation) in Fair Value of Investments	10,312	10,186	1,109	5,610	27,217
Securities Lending Income	41	8	1	5	55
Total Investment Income Before Investment Expenses	10,969	10,785	1,174	5,939	28,867
Investment Expenses:					
Direct Investment Expenses	(554)	(261)	(28)	(144)	(987)
Securities Lending Management Fees and Borrower Rebates	(6)	(1)	—	(1)	(8)
Total Investment Expenses	(560)	(262)	(28)	(145)	(995)
Net Investment Income	10,409	10,523	1,146	5,794	27,872
Miscellaneous Revenue	2,345	—	—	—	2,345
Total Additions	13,458	10,523	1,371	5,794	31,146
Deductions:					
Retirement Benefits	—	—	—	—	—
Refunds of Member Contributions	—	—	—	—	—
Insurance Premiums and Claims	—	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—
Administrative Expenses	—	—	—	—	—
Other Expenses	—	1,766	95	—	1,861
Total Deductions	—	1,766	95	—	1,861
Net Increase (Decrease)	13,458	8,757	1,276	5,794	29,285
Net Position – Restricted for Benefits – Beginning of Year	45,466	39,633	4,180	21,071	110,350
Net Position – Restricted for Benefits – End of Year	\$ 58,924	\$ 48,390	\$ 5,456	\$ 26,865	\$ 139,635

The accompanying Notes to Financial Statements are an integral part of this statement.

Notes to Financial Statements

JUNE 30, 2021 AND 2020

1. Summary of Significant Financial Policies, Administration and Management

A. FINANCIAL REPORTING ENTITY

The Virginia Retirement System (the System) is an independent agency of the Commonwealth of Virginia. The System administers two defined benefit retirement benefit structures, Plan 1 and Plan 2, and a hybrid retirement benefit structure. Although all of the following systems have employees with Plan 1 and Plan 2 benefits, only the VRS and JRS systems have employees with hybrid benefits. All of these systems are defined as pension trust funds:

- Virginia Retirement System (VRS) for state employees, teachers, other eligible school division employees, employees of participating political subdivisions and other qualifying employees.
- State Police Officers' Retirement System (SPORS) for state police officers.
- Virginia Law Officers' Retirement System (VaLORS) for non-local government Virginia law officers other than state police officers.
- Judicial Retirement System (JRS) for judges of state courts of record, state district courts and other qualifying employees.

The System also administers the Group Life Insurance Fund, Retiree Health Insurance Credit Fund, a Disability Insurance Trust Fund for state employees, the Virginia Local Disability Program Trust Fund and the Line of Duty Act Trust Fund. All of these funds are defined as other employee benefit trust funds. Both the pension and other employee benefit trust funds are classified as fiduciary funds and are included in the basic financial statements of the Commonwealth of Virginia. As required by generally accepted accounting principles (GAAP), the System's financial statements include all funds for which financial transactions are recorded in its accounting system and for which the Board of Trustees

exercises administrative responsibility. Effective January 1, 1997, the *Constitution of Virginia* was amended to strengthen the independence of the System. As set forth in Section 11 of Article X, the funds of the retirement system shall be deemed separate and independent trust funds, segregated from all other funds of the Commonwealth, and invested and administered solely in the interests of members, retirees and beneficiaries.

B. ADMINISTRATION AND MANAGEMENT

1. Pension Plans and Other Employee Benefit Plans.

The Board of Trustees (the Board) is responsible for the general administration and operation of the pension plans and other employee benefit plans. The Board has full power to invest and reinvest the trust funds of the System through the adoption of investment policies and guidelines that fulfill the Board's investment objective to maximize long-term investment returns while targeting an acceptable level of risk.

The Board consists of five members appointed by the Governor and four members appointed by the Joint Rules Committee of the Virginia General Assembly, all subject to confirmation by the General Assembly. The Board appoints a director to serve as the chief administrative officer of the System and a chief investment officer to direct, manage and administer the investment of the System's funds. The Board also retains outside managers to advise and assist in the implementation of these policies. The Board of Trustees has appointed BNY Mellon as the custodian of designated assets of the System.

The Virginia Retirement System (VRS), the State Police Officers' Retirement System (SPORS), the Virginia Law Officers' Retirement System (VaLORS) and the Judicial Retirement System (JRS) are administered in accordance with Title 51.1, Chapters 1, 2, 2.1, 3 and 4, respectively, of the *Code of Virginia* (1950), as amended. The Group Life Insurance Fund, the Retiree Health Insurance Credit Fund, the Disability Insurance Trust Fund for state employees and the Virginia Local Disability Program Trust Fund are administered in accordance with Title 51.1, Chapters 5, 14, 11 and 11.1,

respectively, of the *Code of Virginia* (1950), as amended. The Line of Duty Act Trust Fund is administered in accordance with Title 9.1, Chapter 4 of the *Code of Virginia* (1950), as amended. The Optional Life Insurance Fund is administered in accordance with Sections 51.1-512 and 51.1-512.1 of the *Code of Virginia* (1950), as amended. Optional life insurance is an insured product, and the premium collection is handled by the insurer. The Board provides only oversight for the program with limited administrative responsibility. State statutes governing the plans administered by the System may be amended only by the General Assembly of Virginia. Additional information about the plans is provided in Notes 2 and 3.

Fiduciary Responsibility of the VRS Board of Trustees

As stated in Section 51.1-124.30(C) of the *Code of Virginia*:

"...the Board shall invest the assets of the Retirement System with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims." Accordingly, the Board must sufficiently diversify the portfolio to minimize the risk of large losses unless, under the circumstances, it is clearly prudent not to do so. Primary risk measures are volatility in the plan's assets, funded status and contribution rates.

2. Custodial Funds. The Board has fiduciary responsibility for several programs primarily because of the responsibility for investment of the funds. For these programs, the Board has either limited oversight or administration responsibilities for the programs. The VRS-held assets of these programs are represented as an equity interest in the VRS Pooled Investment Portfolio and are invested in accordance with the System's investment policies and guidelines. These programs include:

- a. VRS Investment Portfolio (VRSIP), which is an investment option available for defined contribution plan participants.
- b. Commonwealth Health Research Fund (CHRF), which provides financial support for human health research on behalf of citizens of the Commonwealth. The investment of assets

for the CHRF is in accordance with Section 51.1-124.36 of the *Code of Virginia* (1950), as amended.

- c. Commonwealth's Attorneys Training Fund (CATF), which provides financial support for the training of Commonwealth's Attorneys and their staffs. The investment of assets for the CATF is in accordance with Section 51.1-124.37 of the *Code of Virginia* (1950), as amended.
- d. Volunteer Firefighters' and Rescue Squad Workers' Service Award Fund (VolSAP), which provides service awards to eligible volunteer firefighters and rescue squad workers. The VolSAP is administered in accordance with Chapter 12 of the *Code of Virginia* (1950), as amended.

3. Other Plans Established by the Commonwealth of Virginia.

The Board has oversight, but limited administrative and investment responsibility, for several other plans of the Commonwealth. Because of the Board's limited role, the financial transactions of these plans are not recorded in the System's financial statements. Therefore, these programs are not included in the System's Basic Financial Statements:

- a. Defined Contribution components of the Hybrid Retirement Plan. The VRS Hybrid Retirement Plan is administered in accordance with Section 51.1-169 of the *Code of Virginia* (1950), as amended. Additional information on the Hybrid Retirement Plan is provided in the Statistical Section.
- b. Commonwealth of Virginia 457 Deferred Compensation Plan and the Virginia Cash Match Plan for state employees and employees of participating political subdivisions. The Commonwealth of Virginia 457 Deferred Compensation Plan and the Virginia Cash Match Plan are administered in accordance with Chapter 6 and Chapter 6.1 of the *Code of Virginia* (1950), as amended. Additional information on these plans is provided in the Statistical Section.
- c. Defined contribution plans, referred to as Optional Retirement Plans 1 and 2 for political appointees, certain employees of public

institutions of higher education and certain employees of public school divisions and teaching hospitals.

- d. Commonwealth of Virginia (COV) Voluntary Group Long Term Care Insurance Program, an employee-paid program for eligible employees and retirees.

C. ACCOUNTING BASIS

The accounting and presentation of the pension plans and other employee benefit plans use the flow of economic resources measurement focus and the accrual basis of accounting. 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 revenues when due, pursuant to formal commitments as well as statutory or contractual requirements. Investment income is recognized as earned by the plans. Benefits and refunds are recognized when due and payable in accordance with the terms of the plans.

D. ACTUARIAL BASIS AND CONTRIBUTION RATES

The funding policy for the pension plans provides for periodic employer contributions at actuarially determined rates, which will remain relatively level over time as a percentage of payroll and will accumulate sufficient assets to meet the cost of all benefits when due. Member and employer contributions are required by Title 51.1 of the *Code of Virginia* (1950), as amended.

Contribution rates are developed using the entry age normal cost method for both normal cost and amortization of the unfunded actuarial accrued liability. Gains and losses are reflected in the unfunded Actuarial Accrued Liability (AAL), which is being amortized as a level percentage of covered payroll within 30 years or less.

In addition to determining contribution requirements, actuarial computations present an estimate of the discounted present value of the prospective accrued liability contributions that employers will have to pay to ensure that such contributions – when combined with the assets on

hand, the normal contributions to be made in the future by employers and members, and investment income – will be sufficient to pay all benefits due to current members in the future as well as to annuitants and designated beneficiaries.

Actuarial valuations estimate the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include future employment, mortality and the use of the benefit. 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 Supplementary Schedules follow the Notes to Financial Statements. For pension plans, the schedules present historical information about the increase or decrease in the employer's fiduciary net position over time related to the employer's net pension liability. For other employee benefit plans, the schedules present historical information about the increase or decrease of the actuarial values of the plans' assets over time relative to the AAL for benefits.

E. GOVERNMENTAL ACCOUNTING STANDARDS BOARD (GASB) STATEMENTS

- Governmental Accounting Standards Board (GASB) Statement No. 40, *Deposit and Investment Risk Disclosures*, requires disclosures related to deposits, authorized investments and investment risk. Required investment risk disclosures address interest rate risk; credit risk, to include custodial credit risk and concentrations of credit risk; and foreign currency risk. The statement also requires disclosures of custodial credit risk and foreign currency risk for depository accounts. Information about the System's deposits and investment risk is provided in Note 5.
- GASB Statement No. 51, *Accounting and Financial Reporting for Intangible Assets*, establishes a "specific conditions" approach to recognizing intangible assets, specifically computer software. The statement became effective beginning with the fiscal year ended June 30, 2010. Capitalized costs are incurred during the Application Development Stage and consist of design of chosen path, including software configuration

and software interfaces; coding; installation of hardware; testing, including the parallel processing phase; and data conversion to the extent that the data are necessary to make the computer software operational. Other costs incurred before or after the Application Development Stage are expensed when incurred. Additional disclosures resulting from the implementation of this statement are presented in Note 6.

- GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, establishes accounting and financial reporting standards for governments that enter into derivative instruments. The statement became effective beginning with the fiscal year ended June 30, 2010. The objective of the statement is to enhance the usefulness and comparability of derivative financial instrument information reported by state and local governments. It provides a comprehensive framework for the measurement, recognition and disclosure of derivative instrument transactions. Additional disclosures resulting from the implementation of this statement are presented in Note 5.
- GASB Statement No. 59, *Financial Instruments Omnibus*, clarifies the definition of items that should be included in the reporting required by Statement No. 53. The statement became effective beginning with the fiscal year ended June 30, 2010. This is reflected in the disclosures in Note 5.
- GASB Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position*, establishes standards for reporting deferred outflows of resources, deferred inflows of resources and net position. The statement became effective beginning with the fiscal year ended June 30, 2013. The financial statement presentations have been updated to reflect the impact of this standard.
- GASB Statement No. 64, *Derivative Instruments: Application of Hedge Accounting Termination Provisions – An Amendment of GASB Statement No. 53*, clarifies the circumstances in which hedge accounting should continue when a swap counterparty, or a swap counterparty's credit support provider, is replaced. The statement became effective beginning with the fiscal year ended June 30, 2012. This is reflected in the disclosures in Note 5.
- GASB Statement No. 67, *Financial Reporting for Pension Plans*, replaces the requirements of Statements No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, and No. 50, *Pension Disclosures*, as they relate to pension plans that are administered through trusts and that meet certain criteria. The statement became effective beginning with the fiscal year ended June 30, 2014, and required changes in the presentation of the financial statements, notes to the financial statements and required supplementary information. Significant changes include an actuarial calculation of total and net pension liability. These are presented in Note 2.C. The changes also include comprehensive footnote disclosure regarding the pension liability, the sensitivity of the net pension liability to the discount rate and increased investment activity disclosures. The implementation of GASB Statement No. 67 did not significantly impact the accounting for accounts receivable and investment balances.
- GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, an amendment of GASB Statement No. 27. The statement became effective for fiscal years beginning after June 30, 2014, and required changes in the presentation of the financial statements, notes to the financial statements and required supplementary information for the employers that participate in the VRS-administered pension plans. The information reported by the employers is their share of the information reported by VRS under GASB Statement No. 67.
- GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, an amendment of GASB Statement No. 68, became effective simultaneously with the provision of GASB Statement No. 68. The statement clarified the adjustments necessary to the beginning deferred outflows of resources

and limited that adjustment to contributions made subsequent to the measurement date.

- GASB Statement No. 72, *Fair Value Measurement and Application*. The statement became effective for the fiscal years beginning after June 15, 2015. The statement addresses accounting and financial reporting issues related to fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The statement provides guidance for determining a fair value measurement for financial reporting purposes. It also provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. This information is presented in Note 5.B.2 and Figures 2.16 and 2.17.
- GASB Statement No. 74, *Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans*, replaces the requirements of Statement No. 43, *Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans*. The statement became effective beginning with the fiscal year ended June 30, 2017, and required changes in the presentation of the financial statements, notes to the financial statements and required supplementary information. Significant changes include an actuarial calculation of total and net OPEB liability. These are presented in Note 3.B. The changes also include comprehensive footnote disclosure regarding the liability for OPEB plans, the sensitivity of the net OPEB liability to the discount rate and increased investment activity disclosures. The implementation of GASB Statement No. 74 did not significantly impact the accounting for accounts receivable and investment balances.
- GASB Statement No. 75, *Accounting and Financial Reporting for Post-Employment Benefits Other Than Pensions*. The statement became effective for fiscal years beginning after June 15, 2017, and required changes in the presentation of the financial statements, notes to the financial statements and required supplementary information for the employers that participate in the VRS-administered OPEB plans. The information reported by the employers will be their share of the information reported by VRS under GASB Statement No. 74.
- GASB Statement No. 79, *Certain External Investment Pools and Pool Participants*. The statement became effective for the fiscal years beginning after June 30, 2015. The statement addresses accounting and financial reporting for certain external investment pool and pool participants. Specifically, it establishes criteria for an external investment pool to qualify for making the election to measure all investments at amortized cost for financial reporting purposes. This statement impacts the VRS presentations related to the short-term investments in the Commonwealth of Virginia's Local Government Investment Pool.
- GASB Statement No. 82, *Pension Issues*, an amendment of GASB Statements No. 67, No. 68 and No. 73. This statement addressed certain issues that were raised during the implementation of these standards. Specifically, the statement addresses the issues regarding (1) the presentation of payroll-related measures in the required supplementary information, (2) the selection of assumptions and the treatment of deviations from guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. Although this statement was effective for reporting periods beginning after June 15, 2016, VRS elected to implement it early and provide disclosure guidance to participating employers.
- GASB Statement No. 84, *Fiduciary Activities*, established new criteria for the evaluation of activities to determine whether they were fiduciary activities and should be included in the financial statements as fiduciary funds. One of the primary determining factors was whether the entity had "control" of the assets. After a full evaluation of the System's activities, it was determined that the defined contribution plan activities of the hybrid plan did not meet this criteria and should not be included as part of

the pension funds. It was also determined that several other activities, for which the System has full investment responsibility, did meet the criteria and should be included in the System's financial statements as custodial funds. These newly included custodial funds include the Commonwealth Health Research Fund (CHRF), the Commonwealth's Attorneys Training Fund (CATF), the Volunteer Firefighters' and Rescue Squad Workers' Service Award Program (VolSAP) and the VRS Investment Portfolio (VRSIP). The VRSIP is an investment option available for the defined contribution plan participants and the other custodial funds are stand-alone funds established in statute. This Statement was originally effective for VRS for FY 2020, however, GASB allowed for a one-year implementation postponement in GASB Statement No. 95. GASB Statement No. 95 was intended to provide temporary relief to governments and other stakeholders in light of the COVID-19 pandemic. This statement also encouraged and permitted implementation in accordance with the original dates. VRS elected to early implement GASB Statement No. 84 in accordance with the original statement effective date.

- GASB Statement No. 85, *Omnibus 2017*, amended a number of GASB statements, including GASB Statements No. 73, No. 74 and No. 75. This statement addressed certain issues that were raised during the implementation of these standards. Specifically, the statement addressed the issues regarding (1) the presentation of payroll-related measures in the required supplementary information and (2) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. This statement was effective for reporting periods beginning after June 15, 2017.

F. INVESTMENTS

1. Investment Valuation. Cash equivalents and other short-term, highly liquid investments of the System are reported at amortized cost as follows:

- 1) Money market investments and participating interest-earning investment contracts that have a remaining maturity at the time of purchase of one year or less are reported at amortized cost.
- 2) The System may be a party to short-term contracts to buy and sell securities known as repurchase and reverse repurchase agreements. Agreements to repurchase securities that have been sold to a counterparty are valued at the contract price, exclusive of interest, at which the securities will be repurchased. Securities purchased pursuant to agreements to resell are carried at fair value.
- 3) The System participates in the Commonwealth's Local Government Investment Pool (LGIP), which is managed by the State Treasurer. The State Treasurer reports that the LGIP complies with or exceeds all of the criteria in GASB Statement No. 79, *Accounting and Reporting for Certain External Investment Pools and Pool Participants*, to be eligible to use amortized cost for financial reporting and transacting shares. The System likewise measures its investment in the LGIP at amortized cost as per GASB Statement No. 79. The LGIP imposes no limitations or restrictions on the System's ability to withdraw invested funds.

Long-term investments of the System are reported at fair value. Fair value is the amount that one can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller; that is, other than a forced or liquidation sale. The fair value for the System's defined benefit investments is determined by the System's master custodian, BNY Mellon, from its Global Pricing System. This system assigns a price source, based on asset type and the vendor pricing products to which the master custodian subscribes, for every security held immediately following its acquisition. The master custodian monitors prices supplied by these sources daily.

When a pricing source is unable to provide a price, quotes are sought from major investment brokers and market-making dealers; or internal calculations are applied, if feasible. As a last resort, the master custodian will contact investment managers for a price. The master custodian prices commingled funds, partnerships and real assets from statements received from the funds, partnerships or investment managers.

The pricing sources used by the master custodian provide daily prices for equity securities; corporate, government and mortgage-backed fixed-income securities; private placement securities; futures and options on futures; open-ended funds; and foreign exchange rates. Depending on the vendor, collateralized mortgage obligations (CMOs), adjustable-rate mortgages (ARMs) and asset-backed securities are priced daily, weekly or twice a month as well as at month-end. Municipal fixed-income securities and options on U.S. Treasury/GNMA securities are priced at month-end.

2. Investment Transactions and Income. Security transactions and related gains and losses are recorded on a trade-date basis. The cost of investments sold is the average cost of the aggregate holding of the specific investment sold. Dividend income is recorded on the ex-dividend date, and interest income is accrued as earned. Futures contracts are valued daily, with the resulting adjustments recorded as realized gains or losses arising from the daily settlement of the variation margin. Gains and losses related to forward contracts and options are recognized at the time the contracts are settled. For investments in limited partnerships the System's share of the partnership's earnings or losses for the period are included in investment income.

3. Investment Policy. The System's defined benefit assets are pooled for investment purposes in a Pooled Assets portfolio. The allocation of investment assets within the Pooled Assets portfolio is approved by the Board of Trustees as outlined in the Board's Investment Policy. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a

fully funded status for the benefits provided through the defined benefit plans.

4. Rate of Return. For the fiscal year ended June 30, 2021, the annual money-weighted rate of return for the Pooled Assets portfolio, net of investment expenses, was 27.45%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. For the VRS Pooled Assets portfolio, the fiscal year 2021 money-weighted rate of return differs only slightly from the time-weighted rate of return because the flow of cash for contributions and benefit payments is fairly consistent over the fiscal year.

G. CAPITAL ASSETS

Tangible capital assets are recorded at cost at the time of acquisition and are reported net of accumulated depreciation. The System capitalizes all capital assets that have a cost or value greater than \$5,000. Depreciation is computed on the straight-line basis over the estimated useful life of the depreciable capital assets, ranging from five years to 40 years. Intangible capital assets for the System include internal and external costs incurred during VRS' Application Development. These costs are being depreciated over the software's useful life, which is estimated at seven years.

H. ACCUMULATED LEAVE AND DISABILITY CREDITS

Employees of the System participate in the Commonwealth's annual leave program and in its sick leave program or the Virginia Sickness and Disability Program (VSDP), which is administered by the System. Additional information about VSDP is presented in Note 3. Unused annual leave may be accumulated and is paid at the time of permanent separation from service up to the maximum calendar-year limit. For vested employees who are not covered under VSDP, unused sick leave is paid at a rate of 25% of the amount accumulated, not to exceed \$5,000, at the time of permanent separation. VSDP-covered employees with unused disability credits converted from sick leave at the time of enrollment may be paid in the same manner as for non-VSDP employees or may convert these credits

to service credit at a rate of 173 disability credits to one month of service.

The accrued liability for unused annual leave, sick leave and disability credits for System employees at June 30, 2021 and 2020, was computed using salary rates in effect at those times and represents annual and sick leave earned up to the allowable ceilings as well as unused, converted disability credits. This information is included in the Statement of Fiduciary Net Position: Pension and Other Employee Benefit Trust Funds.

I. ADMINISTRATIVE EXPENSES AND BUDGET

The Board of Trustees approves expenses related to the administration and management of the trust fund. These expenses are included in a budget prepared in compliance with the Commonwealth's biennial budgetary system (cash basis).

Appropriations are controlled at the program level and lapse at the end of the fiscal year.

Administrative expenses are funded from investment income and employer contributions. Expenses for goods and services received but not paid for prior to the System's fiscal year-end are accrued for financial reporting purposes in accordance with generally accepted accounting principles (GAAP). A reconciliation of the difference between the GAAP basis and budgeted basis is presented in the Schedule of Administrative Expenses following the Required Supplementary Schedules.

J. INVESTMENT INCOME ALLOCATION

Income earned on investments is distributed monthly to the VRS, SPORS, VaLORS and JRS retirement plans; the Group Life Insurance Fund; the Retiree Health Insurance Credit Funds; the Disability Insurance Trust Fund; the Line of Duty Trust Fund; the Virginia Local Disability Program and the Custodial Plans. Distribution of investment income is based on the respective equity of each trust fund in the common investment pool.

The retirement plans distribute their cumulative investment income, net of administrative expenses, in the following manner:

- Investment income is distributed to each individual member contribution account based on a rate of 4.00% applied to each member's cumulative balance as of the close of the preceding fiscal year.
- The remaining portion is allocated monthly to the participating employers' retirement allowance accounts based on the ratio of their member account and employer account balances to the total of all such balances.

K. USE OF ESTIMATES

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenue and expenses during the reporting period. These estimates impact the reported values of assets, including investments. Actual results could differ from those estimates.

L. SUMMARIZED COMPARATIVE DATA/ RECLASSIFICATIONS

The Basic Financial Statements include certain prior-year summarized comparative information in total, but not at the level of detail required for a presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the System's financial statements for the year ended June 30, 2020, from which the summarized information was derived.

M. RESTATEMENT OF FISCAL YEAR 2019 FINANCIAL INFORMATION

As a result of the implementation of GASB Statement No. 84., the System had to restate the opening net position for fiscal year 2020. This restatement modified a number of the financial statement line items. The net result of the restatement was a reduction in the opening net position at July 1, 2020 of \$415,313,000. Of this amount, a reduction of \$526,859,000 was attributable to the hybrid defined contribution plans

that were removed and an increase of \$111,546,000 was attributable to the custodial funds that were added.

2. Pension Plans

A. PLAN DESCRIPTIONS

1. Establishment of the System. The Virginia Retirement System (the System) was established March 1, 1952, as the administrator of governmental retirement plans qualified under Section 401(a) of the Internal Revenue Code. Its mission is to provide retirement benefits for state employees, teachers, other eligible school employees and employees of political subdivisions that elect to participate in the System.

The System is comprised of the following pension trust funds:

- The Virginia Retirement System (VRS), established March 1, 1952, as the Virginia Supplemental Retirement System, was renamed VRS in 1990 in response to the Federal Tax Reform Act of 1986. VRS includes a single-employer plan for state employees, a multiple-employer cost-sharing plan for teachers (144 employers) and an agent multiple-employer plan for employees of participating political subdivisions (463 employers).
- State Police Officers' Retirement System (SPORS), established July 1, 1950, is a single-employer plan for state police officers.
- Virginia Law Officers' Retirement System (VaLORS), established October 1, 1999, is a single-employer plan for non-local government Virginia law officers other than state police.

- Judicial Retirement System (JRS), established July 1, 1970, is a single-employer plan for judges of a court of record or a district court of the state and other eligible judicial employees.

The System is required by law to use the plans' accumulated assets to pay benefits when due to eligible members, retirees and beneficiaries. Full-time permanent, salaried employees of participating employers are covered automatically under VRS, SPORS, VaLORS or JRS upon employment; some part-time permanent, salaried state employees also are covered under VRS. Information regarding the membership is presented in Figure 2.9. Teaching, research and administrative faculty of the state's public colleges and universities who elect an optional retirement plan, as well as permanent, salaried employees of the state's two public teaching hospitals, are not covered under the VRS retirement plans.

All full-time, salaried permanent (professional) employees of state agencies, public school divisions and employees of participating employers are automatically covered by a pension plan upon employment. Members qualify for retirement when they become vested and meet the age and service requirements for their plan, as shown in the following table. The System administers three different benefit structures for government employees: Plan 1, Plan 2 and the Hybrid Retirement Plan. Each of these is called a plan in statute and each has different provisions with a specific eligibility and benefit structure. These different benefit structures are set out in Figure 2.10.

FIGURE 2.9: ACTIVE, RETIRED AND TERMINATED MEMBERS AND BENEFICIARIES

AT JUNE 30

	VRS State Employees	VRS Teachers	VRS Political Subdivision Employees	SPORS	VaLORS	JRS	2021 Total	2020 Total
Retirees and Beneficiaries Receiving Benefits	60,478	97,378	59,678	1,495	5,400	544	224,973	219,113
Terminated Employees Entitled to Benefits but not Receiving Them	13,173	30,232	15,052	153	843	5	59,458	72,101
Total	73,651	127,610	74,730	1,648	6,243	549	284,431	291,214
Active Members:								
Vested	51,762	108,703	68,488	1,520	4,429	378	235,280	235,435
Non-Vested	24,346	41,150	40,224	419	3,383	75	109,597	113,391
Total	76,108	149,853	108,712	1,939	7,812	453	344,877	348,826

2. Pension Plan Provisions and Requirements. Under Plan 1, Plan 2 and the Hybrid Retirement Plan, members are vested in the defined benefit pension after attaining five years of service credit. They become eligible to retire with an unreduced or reduced benefit when they meet the age and service requirements for their plan. The unreduced benefit is actuarially reduced to calculate the reduced benefit amount. A cost-of-living adjustment (COLA), based on changes in the Consumer Price Index for all Urban Consumers (CPI-U), is granted on July 1 of the second calendar year after retirement and is effective each July 1 thereafter, when provided.

Members not covered under the Virginia Sickness and Disability Program (VSDP) for state employees (see Note 3) or the Virginia Local Disability Program (VLDP) for local government employees are eligible to be considered for disability retirement.

If a member dies while in active service, his or her beneficiary or survivor may qualify for a death-in-service benefit. Provisions for the retirement plans are presented in Figure 2.10.

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS

AS ESTABLISHED BY TITLE 51.1 OF THE *CODE OF VIRGINIA* (1950), AS AMENDED

RETIREMENT PLAN PROVISIONS		
PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>About Plan 1 Plan 1 is a defined benefit plan. The retirement benefit is based on a member's age, service credit and average final compensation at retirement using a formula.</p>	<p>About Plan 2 Plan 2 is a defined benefit plan. The retirement benefit is based on a member's age, service credit and average final compensation at retirement using a formula.</p>	<p>About the Hybrid Retirement Plan The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan.</p> <ul style="list-style-type: none"> The defined benefit is based on a member's age, service credit and average final compensation at retirement using a formula. The benefit from the defined contribution component of the plan depends on the member and employer contributions made to the plan and the investment performance of those contributions. In addition to the monthly benefit payment payable from the defined benefit plan at retirement, a member may start receiving distributions from the balance in the defined contribution account, reflecting the contributions, investment gains or losses and any required fees.
<p>Eligible Members Members are in Plan 1 if their membership date is prior to July 1, 2010, they were vested before January 1, 2013, and they have not taken a refund.</p> <p>Hybrid Opt-In Election VRS non-hazardous duty-covered Plan 1 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014. The Hybrid Retirement Plan's effective date for eligible Plan 1 members who opted in was July 1, 2014.</p> <p>If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.</p> <p>Members who were eligible for an optional retirement plan (ORP) and had prior service under Plan 1 were not eligible to elect the Hybrid Retirement Plan, and remain as Plan 1 or ORP.</p>	<p>Eligible Members Members are in Plan 2 if their membership date is from July 1, 2010, to December 31, 2013, and they have not taken a refund. Additionally, members are covered under Plan 2 if they have a membership date prior to July 1, 2010, but were not vested before January 1, 2013.</p> <p>Members covered under VaLORS, SPORS or VRS with enhanced hazardous duty benefits or the hazardous duty alternate option, and whose membership dates are on or after July 1, 2010, are in Plan 2 even if their membership dates are after December 31, 2013.</p> <p>Hybrid Opt-In Election Eligible Plan 2 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014. The Hybrid Retirement Plan's effective date for eligible Plan 2 members who opted in was July 1, 2014.</p> <p>If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.</p> <p>Members who were eligible for an optional retirement plan (ORP) and have prior service under Plan 2 were not eligible to elect the Hybrid Retirement Plan, and remain as Plan 2 or ORP.</p>	<p>Eligible Members Members are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes:</p> <ul style="list-style-type: none"> State employees* School division employees Political subdivision employees* Judges appointed or elected to an original term on or after January 1, 2014, regardless if vested to VRS Plan 1 or VRS Plan 2. Members in Plan 1 or Plan 2 who elected to opt into the plan during the election window held January 1-April 30, 2014; the plan's effective date for opt-in members was July 1, 2014. <p>* Non-Eligible Members Some members are not eligible to participate in the Hybrid Retirement Plan. They include:</p> <ul style="list-style-type: none"> Members of the State Police Officers' Retirement System (SPORS) Members of the Virginia Law Officers' Retirement System (VaLORS) Political subdivision members who are covered by enhanced benefits for hazardous duty employees <p>Members eligible for an optional retirement plan (ORP) must elect the ORP or the Hybrid Retirement Plan. If these members are credited with service that was earned, purchased or granted prior to January 1, 2014, they are not eligible to elect the Hybrid Retirement Plan, and must select Plan 1 or Plan 2 (as applicable) or ORP.</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Retirement Contributions Members, excluding state elected officials, judges in Plan 1 or Plan 2 and optional retirement plan participants, contribute 5% of their compensation each month to their member contribution account through a pretax salary reduction. Member contributions are tax-deferred until they are withdrawn as part of a retirement benefit or as a refund. The employer makes a separate actuarially determined contribution to VRS for all covered employees. VRS invests both member and employer contributions to provide funding for the future benefit payment.</p>	<p>Retirement Contributions Same as Plan 1.</p>	<p>Retirement Contributions <i>Defined Benefit Component:</i> Members contribute 4% of their compensation each month to their member contribution account through a pretax salary reduction.</p> <p><i>Defined Contribution Component:</i> Members contribute 1% of their compensation each month to their account through a pretax salary reduction. In addition, 1% of the total actuarially determined employer contribution is a mandatory employer contribution to this component of the plan. Hybrid plan members may also elect to contribute an additional amount of up to 4% to a voluntary defined contribution plan. The voluntary component also has a mandatory employer match of 0.5% to 2.5% that is also deducted from the total actuarially determined employer contributions. Mandatory member contributions and the employer match on the mandatory and voluntary member contributions are recorded in a 401(a) account, along with the accrued net investment income. The voluntary member contributions and accrued net investment income are recorded in a 457(b) account. Members are responsible for investing their accounts using the various investment options that are available.</p>
<p>Service Credit Service credit includes active service. Members earn service credit for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional service credit the member was granted. A member's total service credit is one of the factors used to determine eligibility for retirement and to calculate the retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.</p>	<p>Service Credit Same as Plan 1.</p>	<p>Service Credit <i>Defined Benefit Component:</i> Under the defined benefit component of the plan, service credit includes active service. Members earn service credit for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional service credit the member was granted. A member's total service credit is one of the factors used to determine eligibility for retirement and to calculate the retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.</p> <p><i>Defined Contribution Component:</i> Under the defined contribution component, service credit is used to determine vesting for the employer contribution portion of the plan.</p>
<p>Vesting Vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members become vested when they have at least five years (60 months) of service credit. Vesting means members are eligible to qualify for retirement if they meet the age and service requirements for their plan. Members also must be vested to receive a full refund of their member contribution account balance if they leave employment and request a refund. Members are always 100% vested in the contributions that they make.</p>	<p>Vesting Same as Plan 1.</p>	<p>Vesting <i>Defined Benefit Component:</i> Defined benefit vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members are vested under the defined benefit component of the Hybrid Retirement Plan when they reach five years (60 months) of service credit. Plan 1 or Plan 2 members with at least five years (60 months) of service credit who opted into the Hybrid Retirement Plan remain vested in the defined benefit component. (Cont.)</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
		<p><i>Vesting, cont.</i></p> <p><i>Defined Contribution Component:</i> Defined contribution vesting refers to the minimum length of service a member needs to be eligible to withdraw the employer contributions from the defined contribution component of the plan. Members are always 100% vested in the contributions that they make. Upon retirement or leaving covered employment, a member is eligible to withdraw a percentage of employer contributions to the defined contribution component of the plan, based on service.</p> <ul style="list-style-type: none"> • After two years, a member is 50% vested and may withdraw 50% of employer contributions. • After three years, a member is 75% vested and may withdraw 75% of employer contributions. • After four or more years, a member is 100% vested and may withdraw 100% of employer contributions. <p>Distribution is not required by law until age 72.</p>
<p>Calculating the Benefit The Basic Benefit is calculated based on a formula using the member's average final compensation, a retirement multiplier and total service credit at retirement. It is one of the benefit payout options available to a member at retirement.</p> <p>An early retirement reduction factor is applied to the Basic Benefit if the member retires with a reduced retirement benefit or selects a benefit payout option other than the Basic Benefit.</p>	<p>Calculating the Benefit See definition under Plan 1.</p>	<p>Calculating the Benefit <i>Defined Benefit Component:</i> See definition under Plan 1.</p> <p><i>Defined Contribution Component:</i> The benefit is based on contributions made by the member and any matching contributions made by the employer, plus net investment earnings on those contributions.</p>
<p>Average Final Compensation A member's average final compensation is the average of the 36 consecutive months of highest creditable compensation as a covered employee.</p>	<p>Average Final Compensation A member's average final compensation is the average of the 60 consecutive months of highest creditable compensation as a covered employee.</p>	<p>Average Final Compensation Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Service Retirement Multiplier VRS Plan 1: The retirement multiplier is a factor used in the formula to determine a final retirement benefit. The retirement multiplier for non-hazardous duty members is 1.70%.</p> <p>SPORS, sheriffs and regional jail superintendents: The retirement multiplier is 1.85%.</p> <p>VaLORS: The retirement multiplier is 1.70% or 2.00%.</p> <ul style="list-style-type: none"> Members hired before July 1, 2001, have a 1.70% multiplier and are eligible for a hazardous duty supplement. They also had the option to elect the 2.00% multiplier and no supplement. Members hired on or after July 1, 2001, have a 2.00% multiplier and no supplement. <p>Political subdivision hazardous duty employees: The retirement multiplier for eligible political subdivision hazardous duty employees other than sheriffs and regional jail superintendents is 1.70% or 1.85% as elected by the employer.</p> <p>JRS Plan 1: If appointed or elected to an original term prior to January 1, 2013, the retirement multiplier is 1.70%.</p> <p>If appointed or elected to an original term between January 1, 2013, and December 31, 2013, the retirement multiplier is 1.70% on non-JRS service earned, purchased or granted before the date of appointment or election to an original term, and 1.65% on JRS service earned, purchased or granted on or after the date of appointment or election to an original term.</p>	<p>Service Retirement Multiplier VRS Plan 2: Same as Plan 1 for service earned, purchased or granted prior to January 1, 2013.</p> <p>For non-hazardous duty members, the retirement multiplier is 1.65% for service credit earned, purchased or granted on or after January 1, 2013.</p> <p>SPORS, sheriffs and regional jail superintendents: Same as Plan 1.</p> <p>VaLORS: The retirement multiplier is 2.00%.</p> <p>Political subdivision hazardous duty employees: Same as Plan 1.</p> <p>JRS Plan 2: Same as Plan 1.</p>	<p>Service Retirement Multiplier <i>Defined Benefit Component:</i> VRS: The retirement multiplier for the defined benefit component is 1.00%.</p> <p>For members who opted into the Hybrid Retirement Plan from Plan 1 or Plan 2, the applicable multipliers for those plans will be used to calculate the retirement benefit for service credited in those plans.</p> <p>SPORS, sheriffs and regional jail superintendents: Not applicable.</p> <p>VaLORS: Not applicable.</p> <p>Political subdivision hazardous duty employees: Not applicable.</p> <p>JRS: The retirement multiplier for the defined benefit component is 1.00%, beginning on the date of appointment or election to an original term. The member will retain the applicable multiplier on any covered service outside JRS.</p> <p><i>Defined Contribution Component:</i> Not applicable.</p>
<p>Normal Retirement Age VRS: Age 65.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Age 60.</p> <p>JRS: Age 65; mandatory retirement age is 73.</p>	<p>Normal Retirement Age VRS: Normal Social Security retirement age.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1.</p> <p>JRS: Same as Plan 1.</p>	<p>Normal Retirement Age <i>Defined Benefit Component:</i> VRS: Same as Plan 2.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable.</p> <p>JRS: Same as Plan 1.</p> <p><i>Defined Contribution Component:</i> Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Earliest Unreduced Retirement Eligibility</p> <p>VRS: Age 65 with at least five years (60 months) of service credit or at age 50 with at least 30 years of service credit.*</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Age 60 with at least five years of service credit or age 50 with at least 25 years of service credit.</p> <p>JRS: Age 65 with at least five years of weighted service credit, or at age 60 with at least 30 years of weighted service credit.</p> <p>Service earned under JRS is weighted. The weighting factors for a judge appointed prior to July 1, 2010, are as follows:</p> <ul style="list-style-type: none"> • 3.5 for JRS members appointed or elected to an original term before January 1, 1995. • 2.5 for JRS members appointed or elected to an original term on or after January 1, 1995, but before July 1, 2010. <p>For members appointed or elected to an original term between July 1, 2010, and December 31, 2013, the weighting factors are:</p> <ul style="list-style-type: none"> • 1.5 if appointed or elected to an original term before age 45. • 2.0 if appointed or elected to an original term between ages 45 and 54. • 2.5 if appointed or elected to an original term at age 55 or older. <p><i>* Some political subdivision employers require employees to reach age 55 with at least 30 years of service credit to be eligible for an unreduced retirement benefit.</i></p>	<p>Earliest Unreduced Retirement Eligibility</p> <p>VRS: Normal Social Security retirement age with at least five years (60 months) of service credit or when their age and service equal 90.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1.</p> <p>JRS: Age 65, with at least five years of weighted service credit, or age 60 with at least 30 years of weighted service credit.</p> <p>Service earned under JRS is weighted. The weighting factors under Plan 2 are:</p> <ul style="list-style-type: none"> • 1.5 for JRS members appointed or elected to an original term before age 45. • 2.0 for JRS members appointed or elected to an original term between ages 45 and 54. • 2.5 for JRS members appointed or elected to an original term at age 55 or older. 	<p>Earliest Unreduced Retirement Eligibility</p> <p><i>Defined Benefit Component:</i></p> <p>VRS: Normal Social Security retirement age and have at least five years (60 months) of service credit or when their age and service equal 90.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable.</p> <p>JRS: Same as Plan 2.</p> <p><i>Defined Contribution Component:</i></p> <p>Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p>Earliest Reduced Retirement Eligibility</p> <p>VRS: Age 55 with at least five years (60 months) of service credit or age 50 with at least 10 years of service credit.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Age 50 with at least five years of service credit.</p> <p>JRS: Age 55, with at least five years of service credit.</p>	<p>Earliest Reduced Retirement Eligibility</p> <p>VRS: Age 60 with at least five years (60 months) of service credit.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1.</p> <p>JRS: Same as Plan 1.</p>	<p>Earliest Reduced Retirement Eligibility</p> <p><i>Defined Benefit Component:</i></p> <p>VRS: Age 60 with at least five years (60 months) of service credit.</p> <p>SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable.</p> <p>JRS: Same as Plan 1.</p> <p><i>Defined Contribution Component:</i></p> <p>Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
<p>Cost-of-Living Adjustment (COLA) in Retirement</p> <p>The Cost-of-Living Adjustment (COLA) matches the first 3% increase in the Consumer Price Index for all Urban Consumers (CPI-U) and half of any additional increase (up to 4%) up to a maximum COLA of 5%.</p> <p><i>Eligibility:</i> For members who retire with an unreduced benefit or with a reduced benefit with at least 20 years of service credit, the COLA will go into effect on July 1 after one full calendar year from the retirement date.</p> <p>For members who retire with a reduced benefit and who have fewer than 20 years of service credit, the COLA will go into effect on July 1 after one calendar year following the unreduced retirement eligibility date.</p> <p><i>Exceptions to COLA Effective Dates:</i> The COLA is effective July 1 following one full calendar year (January 1 to December 31) from the date the monthly benefit begins, under any of the following circumstances:</p> <ul style="list-style-type: none"> • The member is within five years of qualifying for an unreduced retirement benefit as of January 1, 2013. • The member retires directly from short-term or long-term disability under the Virginia Local Disability Program (VLDP) or employer opt-out plan. • The member is involuntarily separated from employment for causes other than job performance or misconduct and is eligible to retire under the Workforce Transition Act or the Transitional Benefits Program. • The member dies in service and the member's survivor or beneficiary is eligible for a monthly death-in-service benefit. 	<p>Cost-of-Living Adjustment (COLA) in Retirement</p> <p>The Cost-of-Living Adjustment (COLA) matches the first 2% increase in the CPI-U and half of any additional increase (up to 2%), for a maximum COLA of 3%.</p> <p><i>Eligibility:</i> Same as Plan 1.</p> <p><i>Exceptions to COLA Effective Dates:</i> Same as Plan 1.</p>	<p>Cost-of-Living Adjustment (COLA) in Retirement</p> <p><i>Defined Benefit Component:</i> Same as Plan 2.</p> <p><i>Defined Contribution Component:</i> Not applicable.</p> <p><i>Eligibility:</i> Same as Plan 1.</p> <p><i>Exceptions to COLA Effective Dates:</i> The COLA is effective July 1 following one full calendar year (January 1 to December 31) from the date the monthly benefit begins, under any of the following circumstances:</p> <ul style="list-style-type: none"> • The member is within five years of qualifying for an unreduced retirement benefit as of January 1, 2013. • The member retires directly from short-term or long-term disability under the Virginia Local Disability Program (VLDP) or employer opt-out plan. • The member is involuntarily separated from employment for causes other than job performance or misconduct and is eligible to retire under the Workforce Transition Act or the Transitional Benefits Program. • The member dies in service and the member's survivor or beneficiary is eligible for a monthly death-in-service benefit.
<p>Disability Coverage</p> <p>For members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.70% on all service, regardless of when it was earned, purchased or granted.</p> <p>Most state employees are covered under the Virginia Sickness and Disability Program (VSDP) and are not eligible for disability retirement.</p> <p>VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.</p>	<p>Disability Coverage</p> <p>For members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.65% on all service, regardless of when it was earned, purchased or granted.</p> <p>Most state employees are covered under the Virginia Sickness and Disability Program (VSDP) and are not eligible for disability retirement.</p> <p>VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.</p>	<p>Disability Coverage</p> <p>Employees of political subdivisions and school divisions (including Plan 1 and Plan 2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides an employer-paid comparable program for its members.</p> <p>State employees (including Plan 1 and Plan 2 opt-ins) participating in the Hybrid Retirement Plan are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement.</p> <p>Hybrid members (including Plan 1 and Plan 2 opt-ins) covered under VSDP or VLDP are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.</p>

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
Purchase of Prior Service Members may be eligible to purchase service from previous public employment, active duty military service, an eligible period of leave or VRS refunded service as service credit in their plan. Prior service credit counts toward vesting, eligibility for retirement and the health insurance credit, if offered by the employer. Only active members are eligible to purchase prior service. Members also may be eligible to purchase periods of leave without pay.	Purchase of Prior Service Same as Plan 1.	Purchase of Prior Service <i>Defined Benefit Component:</i> Same as Plan 1, with the following exception: Hybrid Retirement Plan members are ineligible for ported service. <i>Defined Contribution Component:</i> Not applicable.

B. CONTRIBUTIONS

Members and employers are required to contribute to the retirement plans as provided by Title 51.1 of the *Code of Virginia* (1950), as amended. The member contribution is 5.00% of compensation, contributed by members or employers each month to members' contribution accounts. Members leaving covered employment are eligible to request a refund of their member contribution account balance. Vested members and those involuntarily separated from employment for causes other than job performance or misconduct are eligible for a full refund. Non-vested members are eligible for a refund of their account balance, excluding any member contributions made by employers to their accounts after July 1, 2010, and the interest on those contributions.

Each participating employer is required to contribute the remaining amounts necessary to fund the pension plans using the entry age normal actuarial cost method adopted by the Board of Trustees. The System's actuary, Cavanaugh Macdonald Consulting LLC, computed the amount of contributions to be provided by state agency, state police and Virginia law officer employers; each participating political subdivision employer; and state judicial employers.

The contribution rates for fiscal years 2021 and 2020 were based on the actuary's valuation as of June 30, 2019, and June 30, 2017, respectively. As shown in Figure 2.11, contributions to the pension plans for the fiscal years ended June 30, 2021 and 2020, totaled \$3,711,306,000 and

\$3,479,951,000, respectively, in accordance with statutory requirements.

In June 2021, the Commonwealth made a special contribution of approximately \$61.3 million which was applied to the VRS Teacher Employee Plan. This special payment was authorized by a Budget Amendment included in House Bill 1800, Item 277 during the 2021 session of the Virginia General Assembly, and is classified as a non-employer contribution.

Employer contributions to the VRS cost-sharing pool for teachers in the fiscal year ended June 30, 2021, represented 16.62% of covered payrolls. This was the full actuarial cost and represented an increase from the 15.68% contributed in the fiscal year ended June 30, 2020. Employer contributions for state employees represented 14.46% of covered payrolls. Each political subdivision's contributions ranged from zero (0.00%) to 40.53% of covered payrolls. State employer contributions to SPORS, VaLORS and JRS represented 26.33%, 21.90% and 29.84%, respectively, for the fiscal year. For state and teacher employers and a majority of the political subdivisions, these rates reflected the normal cost and the amortization of a portion of the unfunded actuarial accrued liability of each of the plans based on the June 30, 2019, actuarial valuation. For a small number of political subdivisions, the rates reflect modified actuarial assumptions. This is discussed further in Note 12. Member contributions for both years represented 5.00% of covered payrolls.

FIGURE 2.11: MEMBER AND EMPLOYER CONTRIBUTIONS

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

Fiscal Year	System/Plan	Member Contributions	Employer Contributions	Non-employer Contributing Entity	Total
2021	VRS – State	\$ 207,065	\$ 609,778	\$ —	\$ 816,843
	VRS – Teacher	419,415	1,416,135	61,344	1,896,894
	VRS – Political Subdivisions	258,549	580,001	—	838,550
	Total VRS	885,029	2,605,914	61,344	3,552,287
	JRS	1,868	22,856	—	24,724
	SPORS	6,490	33,788	—	40,278
	VaLORS	17,602	76,415	—	94,017
	Total	\$ 910,989	\$ 2,738,973	\$ 61,344	\$ 3,711,306
2020	Total	\$ 916,961	\$ 2,562,990	\$ —	\$ 3,479,951

C. EMPLOYERS' NET PENSION LIABILITY: PENSION PLANS

The net pension liabilities for the VRS pension plans were measured as of June 30, 2021. The total pension liability was determined based on an actuarial valuation as of June 30, 2020, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021. The updated actuarial assumptions include a change in

the mortality table used from the RP-2014 table projected with Scale BB to 2020 to the Pub-2010 Benefits Weighted General Rates with a Modified MP-2020 Improvement Scale. This change is based on plan experience for the four-year period June 30, 2016, through June 30, 2020, and is reflected in the development of the June 30, 2021, total pension liability.

SCHEDULE OF EMPLOYERS' NET PENSION LIABILITY BY SYSTEM AND PLAN

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Employers' Net Pension Liability/ (Asset) (a-b)	Plan Fiduciary Net Position as a % of the Total Pension Liability (b/a)	Covered Payroll (c)	Net Pension Liability/ (Asset) as a % of the Covered Employee Payroll (a-b)/(c)
Virginia Retirement System:						
State	\$ 26,739,647	\$23,112,417	\$ 3,627,230	86.44%	\$ 4,399,969	82.44%
Teacher	53,381,141	45,617,878	7,763,263	85.46%	8,843,887	87.78%
Political Subdivisions*	27,309,666	26,558,350	751,316	97.25%	5,403,267	13.90%
Total Virginia Retirement System	107,430,454	95,288,645	12,141,809		18,647,123	
State Police Officers' Retirement System	1,292,177	1,050,148	242,029	81.27%	128,252	188.71%
Virginia Law Officers' Retirement System	2,390,609	1,868,924	521,685	78.18%	348,650	149.63%
Judicial Retirement System	746,502	673,151	73,351	90.17%	74,594	98.33%
Grand Total	\$111,859,742	\$98,880,868	\$ 12,978,874		\$19,198,619	

* Political subdivision data is from the consolidated report provided by Cavanaugh Macdonald Consulting LLC.

SCHEDULE OF ACTUARIAL METHODS AND SIGNIFICANT ASSUMPTIONS – PENSION PLANS

	VRS					
	State	Teacher	Political Subdivisions	SPORS	VaLORS	JRS
Valuation Date	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Actuarial Assumptions:						
Investment Rate of Return*	6.75%	6.75%	6.75%	6.75%	6.75%	6.75%
Projected Salary Increases*						
State Employees/Teachers	3.50% to 5.35%	3.50% to 5.95%	N/A	3.50% to 4.75%	3.50% to 4.75%	4.50%
Political Subdivisions – Non-Hazardous Duty Employees	N/A	N/A	3.50% to 5.35%	N/A	N/A	N/A
Political Subdivisions – Hazardous Duty Employees	N/A	N/A	3.50% to 4.75%	N/A	N/A	N/A
Post-Retirement Benefits Increases**						
Plan 1	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Plan 2	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Hybrid	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%

* Includes inflation at 2.50%.

** Compounded annually.

Note: Actuarial assumptions and methods were based on an analysis of plan experience for the four-year period July 1, 2012, through June 30, 2016, and were used for the June 30, 2020, valuation. The mortality rates used are based on the RP-2014 table projected with Scale BB to 2020. Additional information regarding mortality rate assumptions and experience studies can be found in the Actuarial Assumptions and Methods presentation in the Actuarial Section.

D. CHANGES IN DISCOUNT RATE

The discount rate used to measure the total pension liability was (6.75)%. The projection of cash flows used to determine the discount rate assumed that contributions from participating employers will be based on the actuarially determined rates according to the Board's funding policy, which certifies the required rates under Title 51.1 of the *Code of Virginia* (1950), as amended. Based on those assumptions, the fiduciary net position was projected to be available to make all of the 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 the projected benefit payments to determine the total pension liability. In accordance with GASB Statement No. 67, regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the table below presents the employers' net pension liability for each of the plans calculated using the discount rate of (6.75)%, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1.00% lower (5.75)% or 1.00% higher (7.75)% than the current rate.

SCHEDULE OF IMPACT OF CHANGES IN DISCOUNT RATE – PENSION PLANS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

System/Plan	Net Pension Liability		
	1.00% Decrease (5.75)%	Current Discount Rate (6.75)%	1.00% Increase (7.75)%
Virginia Retirement System			
State	\$ 6,794,269	\$ 3,627,230	\$ 973,411
Teacher	14,982,524	7,763,263	1,824,458
Political Subdivisions	4,271,148	751,316	(2,232,697)
Total Virginia Retirement System	\$ 26,047,941	\$ 12,141,809	\$ 565,172
State Police Officers' Retirement System	404,844	242,030	106,212
Virginia Law Officers' Retirement System	839,984	521,685	260,902
Judicial Retirement System	147,357	73,352	9,701
Grand Total	\$ 27,440,126	\$ 12,978,876	\$ 941,987

3. Other Employee and Post-Employment Benefit Plans (OPEBs)

A. PLAN DESCRIPTIONS

The System administers other employee and post-employment benefit plans for active, deferred and retired members of VRS, SPORS, VaLORS and JRS. These plans are the Group Life Insurance Program, the Retiree Health Insurance Credit Program, the Virginia Sickness and Disability Program (VSDP) and the Virginia Local Disability Program (VLDP). The System also handles the administration of the Line of Duty Act Fund.

Contributions and payments for other employee benefit plans for active members occur on a current basis; therefore, the System does not record the net position of these plans and is not required to report their funding progress and employer contributions. However, the System does record plan net position and reports funding progress and employer contributions for post-employment benefit plans. This information is provided in the Required Supplementary Schedules following the Notes to Financial Statements. Additional information also is presented in the Statistical Section.

1. Group Life Insurance Program. The Group Life Insurance Program is a cost-sharing, multiple-employer plan. Members whose employers participate in the Group Life Insurance Program are covered automatically under the Basic Group Life Insurance Program upon employment. They also are eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program.

Participating employers and covered employees are required by Title 51.1 of the *Code of Virginia* (1950), as amended, to contribute to the cost of group life insurance benefits. Employers may assume employees' contributions. The premium contributions collected during members' active careers, less the amount required to cover current life insurance premiums and claims plus administrative and other expenses, are retained in the Group Life Insurance Advance Premium Deposit Reserve to fund the claims for eligible retired and deferred members. Approximately 339,673 active members and 213,194 retirees were covered under the Basic Group Life Insurance Program at June 30, 2021.

For members who elect optional group life insurance coverage, the insurer bills employers directly for the premiums. Employers deduct the premiums from members' paychecks and pay the premiums to the insurer. Premiums are based on members' ages and are approved by the Board of Trustees. Any differences and adjustments are settled between the employer and the insurer. Approximately 69,607 active members and 3,438 retirees were covered under the Optional Group Life Insurance Program at June 30, 2021.

2. Retiree Health Insurance Credit Program. The Retiree Health Insurance Credit Program is composed of a single-employer plan for state employees; a cost-sharing, multiple-employer plan for teachers; three cost-sharing, multiple-employer plans for constitutional officers, social services employees and registrars; and an agent, multiple-employer plan for political subdivisions electing coverage. It provides eligible retirees a tax-free

reimbursement for health insurance premiums for single coverage under qualifying health plans, including coverage under a spouse's plan, not to exceed the amount of the monthly premium or the maximum credit, whichever is less. Premiums for health plans covering specific conditions are ineligible for reimbursement. Employers are required by Title 51.1 of the *Code of Virginia* (1950), as amended, to contribute to the program. The amount is financed based on employer contribution rates determined by the System's actuary.

In June 2021, the Commonwealth made a special contribution of approximately \$38.7 million which was applied to the Health Insurance Credit Plan for state employees. This special payment was authorized by a Budget Amendment included in House Bill 1800, Item 277 during the 2021 session of the Virginia General Assembly. In addition, during the 2020 session, House Bill 1513 was enacted. This bill required the addition of Health Insurance Credit benefits for non-teacher employees effective July 1, 2021. While benefit payments will begin effective July 1, 2021, employers were required to pre-fund the benefits beginning July 1, 2020. The bill impacted 95 employers and resulted in approximately \$2.5 million of additional employer contributions in FY 2021.

There were approximately 314,594 active members in the program and 132,361 retirees receiving benefits under the program at June 30, 2021.

3. Virginia Sickness and Disability Program. The Virginia Sickness and Disability Program (VSDP) is a single-employer plan. It provides state employees with sick, family and personal leave, and short-term and long-term disability benefits. State agencies are required by Title 51.1 of the *Code of Virginia* (1950), as amended, to contribute to the cost of providing long-term disability benefits and administering the program. Approximately 78,705 members were covered under VSDP at June 30, 2021, and approximately 2,481 former members were receiving benefits from the program during the fiscal year.

4. Virginia Local Disability Program. The Virginia Local Disability Program (VLDP) is composed of two multiple-employer cost-sharing pools, one for teachers and one for employees of political subdivisions. It provides eligible employees with short-term and long-term disability benefits. Local government employers are required by Title 51.1 of the *Code of Virginia* (1950), as amended, to provide long-term disability benefits for their Hybrid employees, either through a local plan or through VLDP. Approximately 25,721 members were covered under VLDP at June 30, 2021, and 81 former members received benefits from the program during the fiscal year.

5. Commonwealth of Virginia (COV) Voluntary Group Long Term Care Insurance Program. The COV Voluntary Group Long Term Care Insurance Program is a participant-paid long-term care insurance program for eligible VRS members, retirees and family members. The program provides a maximum monthly allowance for covered long-term care expenses such as nursing home care, adult day care, in-home care or assistance with other activities of daily living. Approximately 14,425 members, retirees and their eligible family members were covered under the program at June 30, 2021.

6. Line of Duty Act Program. The Line of Duty Act Program is a cost-sharing, multiple-employer plan. It provides death and health insurance reimbursement benefits to eligible state employees and local government employees, including volunteers, who die or become disabled as a result of the performance of their duties as public safety officers. Beginning July 1, 2017, the System was responsible for the program and for managing the assets of the employers participating in the program. Participating employers made contributions to the program beginning in fiscal year 2012. The employer contribution rate was determined by the System's actuary using the anticipated program costs and the number of covered individuals associated with all participating employers. Provisions for other employee benefit and post-employment benefit plans are presented in Figure 2.12.

There were approximately 27,695 members in the Line of Duty Act Program at June 30, 2021. Benefit payments were made to 749 beneficiaries during the fiscal year.

SCHEDULE OF PARTICIPATING EMPLOYERS: OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS

AT JUNE 30, 2021

OPEB Plan	Number of Participating Employers			
	State	Teachers	Political Subdivisions	Total
Group Life Insurance	228	144	549*	921
Retiree Health Insurance Credit	228	144	139*	511
Disability Insurance Trust Fund	228	—	—	228
Virginia Local Disability Program	—	35	202*	237
Line of Duty Act Trust Fund	69	—	61	130

* Also includes school division non-teacher employees, as applicable.

FIGURE 2.12: OTHER EMPLOYEE BENEFIT AND POST-EMPLOYMENT BENEFIT PLAN PROVISIONS

AS ESTABLISHED BY TITLE 51.1 OF THE *CODE OF VIRGINIA* (1950), AS AMENDED

	Eligible Employees	Coverage
VRS Group Life Insurance Program: Basic Coverage	<p>The VRS Group Life Insurance Program was established July 1, 1960, for state employees, teachers and employees of political subdivisions that elect the program, including the following employers that do not participate in VRS for retirement: City of Richmond, City of Portsmouth, City of Roanoke, City of Norfolk and Roanoke City School Board.</p> <p>Basic group life insurance coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their member contributions and accrued interest.</p>	<ul style="list-style-type: none"> • Natural death benefit equal to the employee's compensation rounded to the next highest thousand and then doubled. • Accidental death benefit, which is double the natural death benefit. • Accidental dismemberment benefit, seatbelt benefit, repatriation benefit, felonious assault benefit and accelerated death benefit option. • Continuation of death benefit and accelerated death benefit option for employees who retire or who have met the age and service requirements for retirement upon separation from employment. <p>Coverage begins to reduce by 25% on the January 1 following one calendar year after employment ends and reduces by 25% each January 1 until it reaches 25% of its original value.</p> <p>If a member has at least 30 years of service credit, coverage cannot reduce below \$8,616. This minimum will be increased annually based on the VRS Plan 2 cost-of-living adjustment calculation. The member may end employment and defer retirement until a later date; however, the group life insurance will begin reducing based on the last month of employment.</p>
Optional Group Life Insurance Program	<p>Employees covered under the VRS Group Life Insurance Program are eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program. Employees pay the premiums through payroll deduction.</p> <p>Spousal coverage ends if the employee's coverage ends or the couple divorce. Coverage for dependent children ends if the employee's coverage ends or when the children marry, become self-supporting, reach age 21 or reach age 25 as a dependent attending college full time.</p> <p>Coverage continues for dependent unmarried children who are disabled.</p> <p>Employees who meet qualifications for retirement may continue a portion of their coverage upon leaving employment.</p>	<p>The program provides natural death and accidental death or dismemberment coverage:</p> <ul style="list-style-type: none"> • Employees select one, two, three or four times their compensation, not to exceed \$800,000. • Spouses may be covered for up to half the maximum amount of the employees' coverage, not to exceed \$400,000. Dependent children who are at least 15 days old may be covered for \$10,000, \$20,000 or \$30,000, depending on the option employees select. • Accidental death and dismemberment coverage ends upon retirement. A retired employee may elect within 31 days of the last day of the month in which he or she leaves employment to continue optional life coverage provided he or she has 60 months of coverage prior to leaving service. As a retiree, the participant can elect either one or two times his or her compensation, not to exceed \$300,000 or the amount of coverage in place when the employee left service. • Coverage begins to reduce beginning with the retiree's normal retirement age under his or her plan and all coverage ends at age 80. Upon retirement, spouse coverage can continue at one-half the amount of the retiree's coverage and dependent coverage can continue at the same level previously covered prior to retirement. Premiums for coverage are at the same rates as active employees. If the retiree previously had coverage exceeding \$300,000, he or she can elect to convert the excess over this amount to an individual policy with individual rates. • If an employee terminates with fewer than 60 months of optional life coverage, he or she may convert the policy and any spouse and/or dependent coverage to an individual policy (without evidence of insurability if done within 31 days of termination). However, it may be at higher premiums than those paid by active employees.

FIGURE 2.12: OTHER EMPLOYEE BENEFIT AND POST-EMPLOYMENT BENEFIT PLAN PROVISIONS, cont.

Retiree Health Insurance Credit Program	The Retiree Health Insurance Credit Program was established January 1, 1990, for retired state employees covered under VRS, SPORS, VaLORS and JRS who retire with at least 15 years of service credit. The program was opened to teachers and eligible employees of participating political subdivisions on July 1, 1993. The health insurance credit is a tax-free reimbursement in an amount set by the General Assembly for each year of service credit against qualified health insurance premiums retirees pay for single coverage, excluding any portion covering a spouse or dependents. The credit cannot exceed the amount of the premiums and ends upon the retiree's death.
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Health Insurance Credit Dollar Amounts at Retirement

	Amount per Year of Service	Maximum Credit per Month**
State employees*	\$4.00	No Cap
Teachers and school administrators	\$4.00	No Cap
General registrars and their employees, constitutional officers and their employees, and local social service employees	\$1.50	\$45.00
General registrars and their employees, constitutional officers and their employees and local social service employees, if the political subdivision elects the \$1.00 enhancement	\$2.50	\$75.00
Other political subdivision employees as elected by the employer	\$1.50	\$45.00

Health Insurance Credit Dollar Amounts at Disability Retirement and for VSDP and VLDP Long-Term Disability

Employees who retire on disability or go on long-term disability under the Virginia Sickness and Disability Program (VSDP) or the Virginia Local Disability Program (VLDP) are eligible for the health insurance credit.***

Eligible Employees	Coverage
State employees other than state police officers	\$120 per month or \$4 per year of service credit per month, whichever is higher.
State police officers	Non-work-related disability: \$120 per month or \$4 per year of service credit per month, whichever is higher. Work-related disability: No health insurance credit for premiums qualified under the Virginia Line of Duty Act; may receive the credit for premiums paid for other qualified health plans.
Teachers and school administrators	Either (a) \$4 multiplied by twice the amount of service credit per month; or (b) \$4 multiplied by the amount of service earned had the employee been active until age 60 per month, whichever is lower.
Political subdivision employees as elected by the employer	\$45 per month. No health insurance credit premiums for premiums qualified under LODA. May receive the credit for premiums paid for other qualified health plans.

* For JRS employees, the calculation is based on weighted service.

** Not to exceed the individual premium amount.

*** Not to exceed the individual premium amount. Employees who retire from being on long-term disability under VSDP or VLDP must have at least 15 years of service credit to qualify for the health insurance credit as a retiree.

FIGURE 2.12: OTHER EMPLOYEE BENEFIT AND POST-EMPLOYMENT BENEFIT PLAN PROVISIONS, cont.

	Eligible Employees	Coverage
Virginia Sickness and Disability Program (VSDP)	<p>VSDP, also known as the Disability Insurance Trust Fund, was established January 1, 1999, to provide short-term and long-term disability benefits for non-work-related and work-related disabilities.</p> <p>Eligible employees are enrolled automatically upon employment. They include:</p> <ul style="list-style-type: none"> • Full-time and part-time permanent, salaried state employees covered under VRS, SPORS and VaLORS (members new to VaLORS following its creation on October 1, 1999, have been enrolled since the inception of VSDP). • State employees hired before January 1, 1999, who elected to transfer to VSDP rather than retain their eligibility to be considered for VRS disability retirement. 	<ul style="list-style-type: none"> • Sick, family and personal leave. • Short-term disability benefit beginning after a seven-calendar-day waiting period from the first day of disability. The benefit provides income replacement beginning at 100% of the employee's pre-disability income, reducing to 80% and then 60%. • Long-term disability benefit beginning after 125 workdays of short-term disability and continuing until the employee reaches his or her normal retirement age. The benefit provides income replacement of 60% of the employee's pre-disability income. If an employee becomes disabled within five years of his or her normal retirement age, the employee will receive up to five years of VSDP benefits, provided he or she remains medically eligible. • Income replacement adjustment to 80% for catastrophic conditions. • VSDP Long-Term Care Plan, a self-funded program that assists with the cost of covered long-term care services.

Notes:

- Employees hired or rehired on or after July 1, 2009, must satisfy eligibility periods before becoming eligible for non-work-related short-term disability coverage and certain income-replacement levels.
- A state employee who is approved for VSDP benefits on or after the date that is five years prior to his or her normal retirement date is eligible for five years of VSDP benefits.
- Employees on work-related short-term disability receiving only a workers' compensation payment may be eligible to purchase service credit for this period if retirement contributions are not being withheld from the workers' compensation payment. The rate will be based on 5.00% of the employee's compensation.
- Public college and university faculty members who elect the VRS defined benefit plan. They may participate in VSDP or their institution's disability program, if offered. If the institution does not offer the program or the faculty member does not make an election, he or she is enrolled in VSDP.

FIGURE 2.12: OTHER EMPLOYEE BENEFIT AND POST-EMPLOYMENT BENEFIT PLAN PROVISIONS, cont.

	Eligible Employees	Coverage
Virginia Local Disability Program (VLDP)	<p>VLDP was implemented January 1, 2014, to provide short-term and long-term disability benefits for non-work-related and work-related disabilities. Eligible employees are enrolled automatically upon employment, unless their employer has elected to provide comparable coverage. Eligible employees include:</p> <ul style="list-style-type: none"> • Teacher or other professional employee of a local public school division. • General employee of a VRS-participating political subdivision such as a city, county, town, authority or commission. • Local law enforcement officer, firefighter or emergency medical technician if the employer does not provide enhanced hazardous duty benefits. 	<p>Short-term disability benefit beginning after a seven-calendar day waiting period from the first day of disability. Employees become eligible for non-work-related short-term disability coverage after one year of continuous participation in VLDP with their current employer.</p> <ul style="list-style-type: none"> • Eligibility for work-related short-term disability coverage begins upon employment. • During the first five years of continuous participation in VLDP with their current employer, employees are eligible for 60% of their pre-disability income if they go on non-work-related or work-related short-term disability. • Once the eligibility period is satisfied, employees are eligible for higher income-replacement levels. • VLDP long-term benefit beginning after 125 workdays of short-term disability. Members are eligible if they are unable to work at all or are working fewer than 20 hours a week. • Members approved for long-term disability will receive 60% of their pre-disability income. If approved for work-related long-term disability, the VLDP benefit will be offset by the workers' compensation benefit. Members will not receive a VLDP benefit if their workers' compensation is greater than the VLDP benefit amount. • Members approved for short-term or long-term disability at age 60 or older will be eligible for a benefit, provided they remain medically eligible. • VLDP Long-Term Care Plan, a self-funded program that assists with the cost of covered long-term care services.
Commonwealth of Virginia (COV) Voluntary Group Long Term Care Insurance Program	<p>The following members and retirees between the ages of 18 and 75 are eligible to apply:</p> <ul style="list-style-type: none"> • State employees or faculty members of a Virginia public institution of higher education who work at least 20 hours a week (VRS membership is not required). • Employees of school divisions and political subdivisions who work at least 20 hours per week and whose employers have elected to participate in the program (VRS membership is not required). • Vested deferred members (their employers are not required to have elected the program). • Retirees receiving a VRS-administered benefit. • Retirees of Virginia public colleges and universities. • Select family members of eligible members. 	<p>The program provides assistance with covered long-term care expenses at group rates. Active members pay the premiums for themselves and any covered family members through payroll deduction or directly to Genworth Life Insurance Company, the insurer, provided the employer has arranged for payroll deductions with Genworth Life. All other participants pay the premiums directly to Genworth.</p>

FIGURE 2.12: OTHER EMPLOYEE BENEFIT AND POST-EMPLOYMENT BENEFIT PLAN PROVISIONS, cont.

	Eligible Employees	Coverage
Line of Duty Act (LODA) Program	Paid employees and volunteers in hazardous duty positions in Virginia localities, including hazardous duty employees covered under VRS, SPORS and VaLORS.	<p>Coverage provides death and health insurance benefits.</p> <p>The LODA death benefit is a one-time payment made to the beneficiary or beneficiaries.</p> <p>Amounts vary as follows:</p> <ul style="list-style-type: none"> • \$100,000 when a death occurs as the direct or proximate result of performing duty as of January 1, 2006, or after • \$25,000 when the cause of death is attributed to one of the applicable presumptions and occurred earlier than five years after the retirement date • An additional \$20,000 benefit is payable when certain members of the National Guard and U.S. military reserves are killed in action in any armed conflict on or after October 7, 2001 <p>The System is responsible for managing the assets of the Line of Duty Act Fund.</p>
Cost-of-Living Adjustments (COLA) for OPEB Plans	<ul style="list-style-type: none"> • VRS Group Life Insurance Program, Basic Coverage: If a member has at least 30 years of service credit, coverage cannot reduce below an \$8,000 minimum established in 2015. This minimum will be increased annually based on the VRS Plan 2 COLA calculation. • Optional Group Life Insurance: The actuary reviews the maximum coverage levels every five years for possible increases. • Virginia Local Disability Program (VLDP): For participating members taking a service retirement immediately when their period of long-term disability ends, the COLA may be increased annually by an amount recommended by the actuary and approved by the board, from the date of the commencement of the disability to the date of retirement. • Virginia Sickness and Disability Program (VSDP): <ul style="list-style-type: none"> ◦ During periods an employee receives long-term disability benefits, the COLA may be increased annually by an amount recommended by the actuary and approved by the Board. ◦ For participating full-time employees taking a service retirement, the COLA may be increased annually by an amount recommended by the actuary and approved by the Board, from the date of the commencement of the disability to the date of retirement. ◦ For participating full-time employees receiving supplemental (work-related) disability benefits, the COLA may be increased annually by an amount recommended by the actuary and approved by the Board, from the date of the commencement of the disability to the date of retirement. 	

B. EMPLOYERS' NET OPEB LIABILITY – OTHER POST-EMPLOYMENT BENEFIT PLANS

The net OPEB liabilities for the OPEB plans were measured as of June 30, 2021. The total OPEB liability was determined based on an actuarial valuation as of June 30, 2020, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021. The updated actuarial assumptions include a change in the mortality table used from the RP-2014 table projected with Scale BB to 2020 to the Pub-2010 Benefits Weighted General Rates with a Modified

MP-2020 Improvement Scale. This change is based on plan experience for the four-year period June 30, 2016, through June 30, 2020, and is reflected in the development of the June 30, 2021, total OPEB liability.

Actuarial methods and assumptions for the OPEB plans are presented in the Actuarial Section. The following schedule presents selected information as of the latest actuarial valuation:

SCHEDULE OF EMPLOYERS' NET OPEB LIABILITY BY PROGRAM AND PLAN

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Employers' Net OPEB Liability/ (Asset) (a-b)	Plan Fiduciary Net OPEB as a % of the Total OPEB Liability (b/a)	Covered Payroll (c)	Net OPEB Liability/(Asset) as a % of the Covered Payroll (a-b)/(c)
Group Life Insurance Fund	\$ 3,577,346	\$ 2,413,074	\$ 1,164,272	67.45 %	\$ 20,679,890	5.63 %
Health Insurance Credit Fund:						
State	1,052,400	207,860	844,540	19.75 %	7,239,781	11.67 %
Teacher	1,477,874	194,305	1,283,569	13.15 %	8,843,941	14.51 %
Political Subdivisions*	82,024	33,234	48,790	40.52 %	\$ 1,489,771	3.27 %
Constitutional Officers	33,578	6,668	26,910	19.86 %	733,933	3.67 %
Social Services Employees	14,977	2,346	12,631	15.66 %	300,727	4.20 %
Registrars	603	168	435	27.86 %	13,391	3.25 %
Total Health Insurance Credit	\$ 2,661,456	\$ 444,581	\$ 2,216,875		\$ 18,621,544	
Disability Insurance Trust Fund	\$ 267,198	\$ 611,919	\$ (344,721)	229.01 %	\$ 4,355,154	(7.92)%
Virginia Local Disability Program:						
Teacher	4,884	5,590	(706)	114.46 %	\$ 672,908	(0.10)%
Political Subdivisions	5,156	6,166	(1,010)	119.59 %	401,715	(0.25)%
Total Virginia Local Disability Program	\$ 10,040	\$ 11,756	\$ (1,716)		\$ 1,074,623	
Line of Duty Act Trust Fund	\$ 448,542	\$ 7,553	\$ 440,989	1.68 %	**	N/A
Grand Total	\$ 6,964,582	\$ 3,488,883	\$ 3,475,699		\$ 44,731,211	

* Political subdivision data is from the consolidated report provided by Cavanaugh Macdonald Consulting LLC.

** Contributions into the Line of Duty Act Trust Fund are based on the number of participants in the program using a per capita-based contribution versus a payroll-based contribution.

**SCHEDULE OF ACTUARIAL METHODS AND SIGNIFICANT ASSUMPTIONS:
OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS**

	Group Life Insurance Fund	Retiree Health Insurance Credit Fund	Disability Insurance Trust Fund	Line of Duty Act Trust Fund	Virginia Local Disability Program
Valuation Date	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Amortization Method	Level Percent of Pay, Closed	Level Percent of Pay, Closed	Level Percent of Pay, Closed	Level Percent of Pay, Open	Level Percent of Pay, Closed
Payroll Growth Rate:					
State Employees	3.00%	3.00%	3.00%	3.00%	N/A
Teachers	3.00%	3.00%	N/A	N/A	3.00%
Political Subdivision Employees	3.00%	3.00%	N/A	3.00%	3.00%
State Police and Virginia Law Officers	3.00%	3.00%	3.00%	3.00%	N/A
Judges	3.00%	3.00%	N/A	N/A	N/A
Asset Valuation Method					
State Employees and Teachers	5-Year, Smoothed Market	5-Year, Smoothed Market	5-Year, Smoothed Market	Market Value	5-Year, Smoothed Market
Political Subdivision Employees and State-Funded Local Employees	5-Year, Smoothed Market	Market Value	N/A	Market Value	5-Year, Smoothed Market
Actuarial Assumptions					
Investment Rate of Return*	6.75%	6.75%	6.75%	4.75%	6.75%
Projected Salary Increases:**					
State Employees	3.50% to 5.35%	3.50% to 5.35%	3.50% to 5.35%	N/A	N/A
Teachers	3.50% to 5.95%	3.50% to 5.95%	N/A	N/A	3.50% to 5.95%
Political Subdivision Non-Hazardous Duty Employees	3.50% to 5.35%	3.50% to 5.35%	N/A	N/A	3.50% to 5.35%
Political Subdivision Hazardous Duty Employees	3.50% to 4.75%	3.50% to 4.75%	N/A	N/A	N/A
State Police and Virginia Law Officers	3.50% to 4.75%	3.50% to 4.75%	3.50% to 4.75%	N/A	N/A
Judges	4.50%	4.50%	N/A	N/A	N/A
Medical Trend Assumptions (Under Age 65)	N/A	N/A	N/A	7.00% to 4.75%	N/A
Medical Trend Assumptions (Age 65 and Older)	N/A	N/A	N/A	5.375% to 4.75%	N/A
Year of Ultimate Trend Rate					
Under Age 65	N/A	N/A	N/A	2029	N/A
Ages 65 and Older	N/A	N/A	N/A	2024	N/A

* Includes inflation at 2.50%. The Line of Duty Act Program uses 4.75% for the investment rate of return.

** Projected salary increases for the Retiree Health Insurance Credit Fund are used in the application of the actuarial cost method. Projected salary increase factors are not applicable to the Line of Duty Act Program since neither the benefit nor the cost is salary-based.

Note: Actuarial assumptions and methods were based on an analysis of plan experience for the four-year period July 1, 2012, through June 30, 2016, and were used for the June 30, 2020, valuation. The mortality rates used are based on the RP-2014 table projected with Scale BB to 2020. Additional information regarding mortality rate assumptions and experience studies can be found in the Actuarial Assumptions and Methods presentation in the Actuarial Section.

C. CHANGES IN DISCOUNT RATE

The discount rate used to measure the total OPEB liability was (6.75)% for the prefunded plans. These include the Group Life Insurance Program, the Retiree Health Insurance Program, the Disability Insurance Program and the Virginia Local Disability Program. The projection of cash flows used to determine the discount rate assumed that contributions from participating employers will be based on the actuarially determined rates based on the Board's funding policy, which certifies the required rates under Title 51.1 of the *Code of Virginia* (1950), as amended. Based on those assumptions, the fiduciary net position was projected to be available to make all of the 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 the projected benefit payments to determine the total OPEB liability.

In accordance with GASB Statement No. 74, regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the table below presents the employers' net pension liability for each of the plans calculated using the discount rate of (6.75)%, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1.00% lower (5.75)% or 1.00% higher (7.75)% than the current rate. The Line of Duty Act Program is funded on a pay-as-you-go basis. As a result, the liabilities are valued using a discount rate of (2.16)%, which approximates the risk-free rate of return. This Single Equivalent Interest Rate (SEIR) is the applicable municipal bond index rate based on the Bond Buyer General Obligation 20-year Municipal Bond Index published monthly by the Board of Governors of the Federal Reserve System as of the measurement date of June 30, 2021.

SCHEDULE OF IMPACT OF CHANGES IN DISCOUNT RATE: LINE OF DUTY ACT (LODA) PLAN

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

System/Plan	1.00% Decrease (1.16)%	Current Discount Rate (2.16)%	1.00% Increase (3.16)%
Net LODA OPEB Liability	\$507,302	\$440,989	\$388,302

SCHEDULE OF IMPACT OF CHANGES IN HEALTH CARE TREND RATE: LODA PLAN

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

System/Plan	1.00% Decrease (6.00% decreasing to 3.75%)	Health Care Cost Trend Rates (7.00% decreasing to 4.75%)	1.00% Increase (8.00% decreasing to 5.75%)
Net LODA OPEB Liability	\$361,845	\$440,989	\$542,474

SCHEDULE OF IMPACT OF CHANGES IN DISCOUNT RATE: NON-LODA OPEB PLANS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

System/Plan	Net OPEB Liability		
	1.00% Decrease (5.75%)	Current Discount Rate (6.75%)	1.00% Increase (7.75%)
Group Life Insurance Fund	\$ 1,701,043	\$ 1,164,272	\$ 730,804
Health Insurance Credit Fund:			
State	947,405	844,540	756,411
Teacher	1,444,945	1,283,569	1,147,011
Political Subdivisions	57,867	48,790	41,932
Constitutional Officers	30,607	26,910	23,787
Social Services Employees	14,132	12,631	11,356
Registrars	493	435	382
Total Health Insurance Credit	2,495,449	2,216,875	1,980,879
Disability Insurance Trust Fund	(325,683)	(344,721)	(361,462)
Virginia Local Disability Program:			
Teacher	(106)	(706)	(1,230)
Political Subdivisions	542	(1,010)	(1,420)
Total Virginia Local Disability Program	436	(1,716)	(2,650)
Grand Total	\$ 3,871,245	\$ 3,034,710	\$ 2,347,571

4. Reserve Accounts

The reserve account balances available for benefits at June 30, 2021 and 2020, are presented in Figure 2.13. These funds are required by Titles 51.1 and 2.2 of the *Code of Virginia* (1950), as amended, to provide for the payment of current and future benefits as follows:

- Member and employer contributions and investment income fund the member and employer reserves. Each member has a member contribution account that accumulates member contributions plus annual interest of 4.00%, calculated on the balance as of the previous June 30. Each employer has a retirement allowance account that accumulates employer contributions, transfers of investment income less administrative expenses incurred in operating the retirement plans and transfers of member contributions and accrued interest upon a member's retirement. Benefit payments are charged to employers' retirement allowance accounts.
- The Group Life Insurance Advance Premium Deposit Reserve accumulates a portion of insurance premium contributions collected during members' active careers and their

investment earnings, and is charged for life insurance benefits paid and expenses incurred in operating the Group Life Insurance Program.

- Employer contributions and investment income fund the Retiree Health Insurance Credit Reserve. It is charged for credit reimbursements applied to the monthly health insurance premiums of eligible retired members and expenses incurred in operating the Retiree Health Insurance Credit Program.
- Employer contributions and investment income fund the Disability Insurance Trust Fund. It is charged for long-term disability benefits and expenses incurred in operating the Virginia Sickness and Disability Program (VSDP).
- Employer contributions and investment income fund the Line of Duty Act Trust Fund. It is charged for Line of Duty Act death and health insurance benefits and expenses incurred in operating the Line of Duty Act Program.
- Employer contributions and investment income fund the Local Disability Insurance Trust Fund. It is charged for long-term disability benefits and expenses incurred in operating the Virginia Local Disability Program (VLDP).

FIGURE 2.13: NET POSITION RESTRICTED FOR BENEFITS

	(EXPRESSED IN THOUSANDS)	
	2021	2020
Virginia Retirement System		
Member Reserve	\$ 14,452,659	\$ 14,082,163
Employer Reserve	80,835,986	62,371,224
Total VRS	95,288,645	76,453,387
State Police Officers' Retirement System		
Member Reserve	106,923	109,787
Employer Reserve	943,225	744,975
Total SPORS	1,050,148	854,762
Virginia Law Officers' Retirement System		
Member Reserve	251,678	250,900
Employer Reserve	1,617,246	1,249,569
Total VaLORS	1,868,924	1,500,469
Judicial Retirement System		
Member Reserve	42,082	42,320
Employer Reserve	631,069	507,135
Total JRS	673,151	549,455
Group Life Insurance Advance Premium Deposit Reserve	2,413,074	1,855,102
Retiree Health Insurance Credit Reserve	444,581	301,178
Disability Insurance Trust Fund (VSDP)	611,919	490,220
Line of Duty Act Trust Fund	7,553	4,333
Disability Insurance Trust Fund (VLDP)	11,756	6,204
VRS Investment Portfolio DC Plans	58,924	45,466
Commonwealth Health Research Fund	48,390	39,633
Volunteer Firefighters' and Rescue Squad Workers Service Award Fund	5,456	4,180
Commonwealth's Attorneys Training Fund	26,865	21,071
Total Pension and Other Employee Benefit Reserves	\$ 102,509,386	\$ 82,125,460

5. Deposits and Investment Risk Disclosures

A. DEPOSITS

Deposits of the System maintained by the Treasurer of Virginia at June 30, 2021 and 2020, as shown in Figure 2.14, were partially insured under the Virginia Security for Public Deposits Act, Section 2.2-4400 et seq. of the *Code of Virginia* (1950), as amended, which provides for an assessable, multiple financial institution collateral pool. The remainder of the funds held by the Treasurer of Virginia for the System are invested in accordance with its policy to invest public funds in a manner that will provide the highest investment return with the maximum security while meeting the daily cash flow demands of the entity and conforming to all statutes governing the investment of public funds. Deposits with the System's master custodian, BNY Mellon, were entirely insured by federal depository insurance coverage. Other reflects cash temporarily invested in a Money Market account at Wells Fargo Bank, N.A., for the Volunteer Firefighters' and Rescue Squad Workers' Service Award Fund (VolSAP).

FIGURE 2.14: DEPOSITS

	(EXPRESSED IN THOUSANDS)	
	2021 Carrying Amount	2020 Carrying Amount
Treasurer of Virginia	\$ 48,494	\$ 58,746
Master Custodian	97,212	8,581
Other	37	33
Total Deposits	\$ 145,743	\$ 67,360

B. INVESTMENTS

1. Authorized Investments. The Board of Trustees of the System has full power to invest and reinvest the trust funds in accordance with Section 51.1-124.30 of the *Code of Virginia* (1950), as amended. This section requires the Board to discharge its duties solely in the interests of members, retirees and beneficiaries. It also requires the Board to invest the assets with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar

with such matters would use in the conduct of an enterprise of a like character and with like aims. Investment value and earnings of the investment pool are proportionally allocated among the System's trust and custodial funds on the basis of each fund's equity interest in the common investment pool. An Investment Summary is included in the Investment Section. The equity interest of each fund as of June 30, 2021 and 2020, is presented in Figure 2.15.

FIGURE 2.15: EQUITY INTERESTS

AT JUNE 30

Fund	2021	2020
Virginia Retirement System	92.899%	93.038%
State Police Officers' Retirement System	1.026%	1.043%
Virginia Law Officers' Retirement System	1.826%	1.829%
Judicial Retirement System	0.658%	0.670%
Group Life Insurance Fund	2.419%	2.326%
Retiree Health Insurance Credit Fund	0.431%	0.363%
Disability Insurance Trust Fund (VSDP)	0.588%	0.585%
Line of Duty Act Trust Fund	0.007%	0.005%
Virginia Local Disability Program	0.011%	0.007%
VRS Investment Portfolio	0.057%	0.055%
Commonwealth Health Research Fund	0.047%	0.048%
Volunteer Firefighters' and Rescue Squad Workers Service Award Fund	0.005%	0.005%
Commonwealth's Attorneys Training Fund	0.026%	0.026%
Total Equity Interests	100.000%	100.000%

2. Fair Value Measurements. The System categorizes the fair value measurements within the hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The System's master custodian uses a proprietary matrix based on asset class as the basis for the Fair Value Hierarchy, which utilizes industry standard asset categories to assign a fair value level to each investment.

Level 1: Unadjusted quoted prices for identical instruments in active markets.

Level 2: Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-driven valuations in which all significant inputs are observable.

Level 3: Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. Cash equivalents and certain other short-term, highly liquid investments that are measured at amortized cost, as described in Note 1F(1) Investment Valuation, are also not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant in the valuation. The System's assessment of significant particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. Figure 2.16 shows the fair value leveling of the investments for the System and the following recurring fair value measurements as of June 30, 2021, and June 30, 2020.

FIGURE 2.16: INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

		Fair Value Measurements Using			
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
6/30/2021					
Investments by Fair Value Level:					
Debt Securities:					
U.S. Government Securities	\$ 4,122,588	\$ 3,004,082	\$ 1,118,506	\$ —	
Agencies	2,893,335	—	2,893,335	—	
Municipal Securities	92,392	—	92,392	—	
Supranational and Non-U.S. Government Bonds	1,024,282	—	1,024,282	—	
Asset-Backed Securities	563,520	—	563,520	—	
Collateralized Mortgage Obligations	570,335	—	570,335	—	
Commercial Mortgages	322,068	—	322,068	—	
Corporate and Other Bonds	7,691,807	—	7,691,807	—	
Mutual and Money Market Funds	146,821	143,646	3,175	—	
Negotiable Certificates of Deposit	25,002	—	25,002	—	
Other Debt Securities	46,777	—	—	46,777	
Total Debt Securities	17,498,927	3,147,728	14,304,422	46,777	
Equity Securities:					
Common and Preferred Stocks	27,365,739	27,318,372	7,864	39,503	
Total Equity Securities	27,365,739	27,318,372	7,864	39,503	
Hedge Funds	99,928	—	—	99,928	
Credit Strategies Funds	13	—	—	13	
Private Equity Funds	2,523	—	—	2,523	
Real Estate and Real Asset Funds	875,654	—	—	875,654	
Total Investments by Fair Value Level	\$45,842,784	\$ 30,466,100	\$ 14,312,286	\$ 1,064,398	
Investments Measured at the Net Asset Value (NAV):					
Hedge Funds	\$10,590,564				
Credit Strategies Funds	11,507,019				
Private Equity Funds	16,373,868				
Equity International Commingled Funds	3,183,648				
Fixed-Income Commingled Funds	1,517,043				
Real Estate and Real Asset Funds	9,878,673				
U.S. Equity Commingled Funds	13,222				
Total Investments Measured at the NAV	53,064,037				
Total Investments Measured at Fair Value	\$98,906,821				
Investment Derivative Instruments:					
Foreign Currency Forwards	\$ (8,884)	\$ —	\$ (8,884)		
Futures Contracts	19,484	19,484	—		
Credit Default Swaps	1,645	—	1,645		
Inflation Swaps	2,211	—	2,211		
Interest Rate Swaps	(108)	—	(108)		
Total Return Swaps	34,213	—	34,213		
Total Investment Derivative Instruments	\$ 48,561	\$ 19,484	\$ 29,077		

FIGURE 2.16: INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE, cont.

AS OF JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

		Fair Value Measurements Using		
	6/30/2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level:				
Debt Securities:				
U.S. Government Securities	\$ 2,577,712	\$ 1,401,243	\$ 1,176,469	\$ —
Agencies	2,950,717	—	2,950,717	—
Municipal Securities	105,037	—	105,037	—
Supranational and Non-U.S. Government Bonds	1,076,161	—	1,076,161	—
Asset-Backed Securities	968,617	—	968,617	—
Collateralized Mortgage Obligations	523,227	—	523,227	—
Commercial Mortgages	500,487	—	500,487	—
Corporate and Other Bonds	8,081,029	—	8,081,029	—
Fixed-Income Commingled Funds	19,651	—	—	19,651
Mutual and Money Market Funds	246,837	246,837	—	—
Negotiable Certificates of Deposit	175,109	—	175,109	—
Other Debt Securities	20,568	—	—	20,568
Total Debt Securities	17,245,152	1,648,080	15,556,853	40,219
Equity Securities:				
Common and Preferred Stocks	22,842,164	22,819,038	22,022	1,104
Total Equity Securities	22,842,164	22,819,038	22,022	1,104
Hedge Funds	30,001	—	—	30,001
Credit Strategies Funds	15	—	—	15
Private Equity Funds	3,476	—	—	3,476
Real Estate and Real Asset Funds	953,221	—	—	953,221
Total Investments by Fair Value Level	\$41,074,029	\$ 24,467,118	\$ 15,578,875	\$ 1,028,036
Investments Measured at the Net Asset Value (NAV):				
Hedge Funds	7,973,661			
Credit Strategies Funds	7,988,917			
Private Equity Funds	10,705,671			
Equity International Commingled Funds	2,117,346			
Fixed-Income Commingled Funds	1,357,513			
Real Estate and Real Asset Funds	8,978,409			
U.S. Equity Commingled Funds	109,863			
Total Investments Measured at the NAV	39,231,380			
Total Investments Measured at Fair Value	\$80,305,409			
Investment Derivative Instruments:				
Foreign Currency Forwards	\$ 16,671	\$ —	\$ 16,671	
Futures Contracts	10,827	10,827	—	
Credit Default Swaps	1,162	—	1,162	
Inflation Swaps	288	—	288	
Interest Rate Swaps	67	—	67	
Total Return Swaps	134,194	—	134,194	
Total Investment Derivative Instruments	\$ 163,209	\$ 10,827	\$ 152,382	

Description of Investments Measured at Fair Value

Equity and debt securities classified in Level 1 are valued using quoted prices in active markets for those securities. Debt securities classified in Level 2 are valued using a proprietary matrix pricing technique. This pricing technique defines a primary source and secondary sources to be used if the primary pricing source does not provide a value. Typically, these securities are valued using bid evaluations. Valuation techniques may include market participants' assumptions, quoted prices for similar assets, benchmark yield curves, market corroborated inputs and other data inputs. Those classified in Level 3 are valued using proprietary information.

Equity securities in Level 2 are typically valued using quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; or model-driven valuations in which all significant inputs are observable. Equity securities in Level 3 include common and preferred equity securities, privately issued securities and other securities with limited trading volume and are valued using proprietary information or single source pricing.

Other investments in Level 3 include investments in hedge and commingled funds and private equity, credit strategies and real estate and real assets funds. These investments have been assigned a Level 3, as they are valued using unobservable inputs. When observable inputs are not available for these investments, one or more valuation techniques (e.g., the market approach, the income approach and/or the cost approach) are used for which sufficient and reliable data is available. Within Level 3, the use of the market approach generally consists of using comparable market transactions or other data, while

the use of the income approach generally consists of the net present value of estimated future cash flows. The cost approach is often based on the amount that would currently be required to replace an asset with one of comparable utility.

The System also has investments in hedge and commingled funds and private equity, credit strategies and real estate and real assets funds that are not categorized under the fair value hierarchy and are shown at net asset value (NAV). Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets. In some cases, the actual NAV has not been determined by the external fund or investment managers as of the System's reporting date and must be projected using a roll-forward process. The projected NAV is the value at the end of the prior quarter, adjusted for any contributions or distributions and an estimate of income and management fees. There is no adjustment for realized or unrealized gains and losses. These investments are discussed below in "Description of Investments Measured at the NAV."

Derivative instruments classified as Level 1 of the Fair Value Hierarchy are valued using prices quoted in active markets for those securities. The derivative instruments in Level 1 consist of futures contracts on commodities, U.S. Treasury bonds and notes, non-U.S. government bonds, and U.S. and non-U.S. equity indexes. Derivative instruments classified as Level 2 are valued using a number of modeling approaches that take into account observable market levels, benchmark rates and foreign exchange rates.

FIGURE 2.17: INVESTMENTS MEASURED AT THE NAV

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Fair Value	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Hedge Funds:				
Equity Long/Short Funds	\$ 5,890,629	\$ 325,000	Monthly, quarterly, semi-annually, annually	30-90 days
Equity Long-Only Funds	2,505,204	—	Daily, quarterly, annually	14-90 days
Credit Funds	145,764	—	Annually	90 days
Multi-Strategy Funds	2,048,967	—	Monthly, semi-annually	30-60 days
Total Hedge Funds	10,590,564	325,000		
Credit Strategies Funds:				
Bank Loan and Direct Lending Funds	3,965,927	2,348,011		
Distressed Debt Funds	1,247,507	860,488		
Mezzanine Debt Funds	777,739	350,988		
Multi-Strategy Funds	2,052,386	1,245,355		
Opportunistic Funds	2,661,666	764,848		
Other Funds	801,794	1,910,780		
Total Credit Strategies Funds	11,507,019	7,480,470		
Private Equity Funds:				
Buyout Funds	8,861,902	2,451,248		
Energy Funds	521,332	133,713		
Growth Funds	2,540,661	680,158		
International Buyout Funds	2,066,344	971,583		
Special Situations Funds	1,534,483	1,330,627		
Subordinated Debt Funds	199,997	122,096		
Turnaround Funds	567,212	294,871		
Venture Capital Funds	81,937	10,604		
Total Private Equity Funds	16,373,868	5,994,900		
Equity International Commingled Funds	3,183,648	—	Daily, semi-monthly	None, 6 days
Fixed-Income Commingled Funds	1,517,043	—	Daily	None
Real Estate and Real Asset Funds:				
Infrastructure Funds	2,070,194	908,738		
Natural Resources Funds	1,387,884	475,848		
Private Investment Real Estate Funds	6,280,099	1,333,972		
Private Real Estate Investment Trusts	140,496	—		
Total Real Estate and Real Asset Funds	9,878,673	2,718,558		
U.S. Equity Commingled Funds	13,222	—	Daily	None
Total Investments Measured at the NAV	\$ 53,064,037	\$ 16,518,928		

FIGURE 2.17: INVESTMENTS MEASURED AT THE NAV, cont.

AS OF JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

	Fair Value	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Hedge Funds:				
Equity Long/Short Funds	\$ 4,290,933	\$ —	Quarterly, annually	45-90 days
Equity Long-Only Funds	1,861,278	—	Daily, quarterly, annually	14-90 days
Credit Funds	151,576	—	Quarterly, annually	45-90 days
Multi-Strategy Funds	1,669,874	—	Monthly, semi-annually	30-60 days
Total Hedge Funds	7,973,661	—		
Credit Strategies Funds:				
Bank Loan and Direct Lending Funds	3,280,914	1,666,702		
Distressed Debt Funds	847,694	851,468		
Mezzanine Debt Funds	578,705	769,242		
Multi-Strategy Funds	1,276,074	1,370,166		
Opportunistic Funds	1,979,611	380,532		
Other Funds	25,919	130,141		
Total Credit Strategies Funds	7,988,917	5,168,251		
Private Equity Funds:				
Buyout Funds	5,656,032	3,031,590		
Energy Funds	499,633	144,527		
Growth Funds	1,413,063	937,834		
International Buyout Funds	1,427,026	738,046		
Special Situations Funds	1,106,583	1,341,351		
Subordinated Debt Funds	129,060	199,516		
Turnaround Funds	419,538	365,823		
Venture Capital Funds	54,736	13,854		
Total Private Equity Funds	10,705,671	6,772,541		
Equity International Commingled Funds	2,117,346	—		
Fixed-Income Commingled Funds	1,357,513	—		
Real Estate and Real Asset Funds:				
Infrastructure Funds	1,757,561	800,134		
Natural Resources Funds	1,374,892	441,716		
Private Investment Real Estate Funds	5,662,183	774,743		
Real Estate Investment Trusts	183,773	—		
Total Real Estate and Real Asset Funds	8,978,409	2,016,593		
U.S. Equity Commingled Funds	109,863	—		
Total Investments Measured at the NAV	\$ 39,231,380	\$ 13,957,385		

Description of Investments Measured at the NAV

Figure 2.17 presents the investments measured at the net asset value (NAV) per share (or its equivalent). Below are descriptions of the investment strategies, valuation methods, and redemption restrictions of the investments measured at the NAV by fund type:

HEDGE FUNDS:

- **Equity Long/Short Hedge Funds:** This type included investments in 11 hedge funds at June 30, 2021, and in 10 hedge funds at June 30, 2020, which invest in global long and short equity positions. Management of each hedge fund has the ability to invest from value to growth strategies, from small to large capitalization stocks and may vary net exposure considerably. The fair values of the investments in this type have been determined using the NAV per share of the investments. Investments representing approximately 30% of the value of the investments in this type of fund cannot be redeemed because the investments include restrictions that do not allow redemption in the first 12 to 60 months after acquisition. The remaining restriction period for these investments was within 12 months at June 30, 2021.
- **Equity Long-Only Hedge Funds:** This type included an investment in four hedge funds at both June 30, 2021, and June 30, 2020, which invest in global long-only equity positions. These hedge funds are generally fully invested and only very occasionally may take short positions for hedging purposes. The fair value of the investment in this type has been determined using the NAV per share of the investments. Investments representing approximately 60% of the value of the investments in this type of fund cannot be redeemed because the investments include restrictions that do not allow redemption in the first 12 to 60 months after acquisition. The remaining restriction period for these investments was less than 12 months at June 30, 2021.
- **Credit Hedge Funds:** This type included investments in one hedge fund at June 30, 2021, and two hedge funds at June 30, 2020, which invest in event-driven, distressed and special situation credit opportunities. The fair values of the investments in this type have been determined using the NAV per share of the investments. At June 30, 2021, there were no restrictions preventing the redemption of any of the investments in this category during the next 12 months.
- **Multi-Strategy Hedge Funds:** This type included investments in six hedge funds at June 30, 2021, and in four hedge funds at June 30, 2020, which invest in multiple asset classes, combining exposure to balance risks. Such exposure can include traditional and alternative investments. The fair values of the investments in this type have been determined using the NAV per share of the investments. Investments representing approximately 30% of the value of the investments in this type of fund cannot be redeemed because the investments include restrictions that do not allow redemption in the first 12 to 48 months after acquisition. The remaining restriction period for these investments was one to 12 months at June 30, 2021.
- **Credit Strategies Funds:** This type consists of many fund categories, including bank loan and direct lending funds, distressed debt funds, mezzanine debt funds, multi-strategy funds and opportunistic funds. The fair value of the investments in these funds have been determined using the NAV per share of the investments. The nature of the investments in this type is that distributions are received through the liquidation of the underlying assets in the fund. It is expected that hold periods for the underlying fund assets will range from three to eight years.

- **Private Equity Funds:** This type consists of many fund categories including Venture Capital, Buyout, Subordinated Debt, Growth Capital, Turnaround, Energy and Special Situations. The fair value of the investments in these funds have been determined using the NAV per share of the investments. The nature of the investments involves receiving distributions through liquidation of the underlying fund assets. It is expected that hold periods for the underlying fund assets will range from three to eight years.
- **Equity International Commingled Funds:** This type includes investments in 18 institutional investment funds at June 30, 2021, which invest in international equities. These funds employ a variety of investment strategies in global developed and emerging markets. The fair values of the investments in these funds have been determined using the NAV per share of the investments. Redemptions can be made from these funds, given the appropriate notice, any regular trading day on the NYSE.
- **Fixed-Income Commingled Funds:** This type consists of nine institutional investment funds that invest in U.S. and multi-national fixed income markets. The fair values of the investments in these funds have been determined using the NAV per share of the investments.
- **U.S. Equity Commingled Funds:** This type includes an investment in one institutional investment fund at June 30, 2021, which invests in domestic equities. This fund seeks investment results that correspond to the aggregate price and dividend performance of securities in the Standard & Poor's 500 Composite Index of large-cap U. S. stocks. The fair value of the investment in this fund has been determined using the NAV per share of the investment. Redemptions can be made from this fund, given the appropriate notice, any regular trading day on the NYSE.
- **Real Assets:** This type includes investments in many fund categories including Private Investment Real Estate, Private Real Estate Investment Trusts, Infrastructure and Natural Resources. The fair value of the investments in these funds have been determined using the NAV per share of the investments. The nature of the investments in this type is that distributions are received through income as well as the liquidation of the underlying assets in the fund. If these investments were held, it is expected that the underlying assets of the funds would be liquidated over one to 14 years.

3. Interest Rate Risk. Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The risk is managed within the portfolio using the effective duration (option-adjusted) methodology. It is widely used in the management of fixed-income portfolios in that it quantifies, to a much greater degree, the risk of interest rate changes. The methodology takes into account optionality on bonds and scales the risk of price changes on bonds depending on the degree of change in rates and the slope of the yield curve. All of the System's fixed-income portfolios are managed in accordance with investment guidelines, most of which are specific as to the degree of interest rate risk that can be taken.

As of June 30, 2021, the System's investments include securities that are highly sensitive to interest rate fluctuations, as they are subject to early payment in a period of declining interest rates (i.e., collateralized and mortgage pass-through). The resulting reduction in expected total cash flows affects the fair value of these securities.

The following table presents the weighted average effective duration for the System's investments subject to interest rate risk as of June 30, 2021.

FIGURE 2.18: DEBT SECURITIES SUBJECT TO INTEREST RATE RISK

AT JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Investment Type	Weighted Average Effective Duration	Fair Value	Percent of Debt Securities
Effective Duration:			
Agencies	4.54	\$ 2,893,335	11.5%
Asset-Backed Securities	2.56	521,859	2.1%
Collateralized Mortgage Obligations	1.79	499,877	2.0%
Commercial Mortgages	2.64	322,068	1.3%
Commercial Paper	0.26	4,123,752	16.4%
Corporate Bonds and Notes	5.47	7,714,167	30.8%
Fixed-Income Commingled Funds	6.20	1,517,043	6.0%
Fixed-Income Derivatives	17.48	26,972	0.1%
Municipal Securities	9.26	92,392	0.4%
Mutual & Money Market Funds	5.07	145,172	0.6%
Negotiable Certificates of Deposit	0.31	775,665	3.1%
Other Debt Securities	0.85	41,908	0.2%
Supranational & Non-U.S. Government Bonds	8.49	1,023,571	4.0%
Time Deposits	—	347,000	1.4%
U.S. Government	6.20	4,297,364	17.2%
No Effective Duration:			
Mutual & Money Market Funds	N/A	518,144	2.1%
Commercial Paper	N/A	42,750	0.2%
Corporate Bonds and Notes	N/A	28,617	0.1%
Asset-Backed Securities	N/A	41,661	0.2%
Commercial Mortgages	N/A	70,458	0.3%
Supranational & Non-U.S. Government Bonds	N/A	711	—%
Fixed Income Derivatives	N/A	1,725	—%
Other Debt Securities	N/A	4,869	—%
Total Debt Securities	4.38	\$ 25,051,080	100.0%

Through its Securities Lending program, the System receives cash collateral from borrowers that is reported in the statement of net position as an asset with an offsetting liability. The cash collateral held at June 30, 2021, was reinvested in cash equivalents and short-term investments that carry little interest rate risk as shown in Figure 2.19.

FIGURE 2.19: SECURITIES LENDING COLLATERAL SUBJECT TO INTEREST RATE RISK

AT JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Investment Type	Carrying Amount	Weighted Average Effective Duration
Commercial Paper	\$ 437,979	0.230
Corporate Bonds and Notes	2,338,384	0.099
Negotiable Certificates of Deposit	239,625	0.386
Repurchase Agreements	1,522,899	0.003
Time Deposits	648,075	0.008
Total	\$ 5,186,962	0.084

4. Credit Risk. Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the System. As of June 30, 2021, the System's fixed-income assets that are not government-guaranteed represented 83% of the fixed-income assets.

The System's policy for credit risk is based on the concept of a risk budget rather than specific limitations related to the rating of an individual security. The System's risk budget is allocated among the different investment strategies. The System's fixed-income portfolio credit quality and exposure levels as of June 30, 2021, are summarized in Figure 2.20.

Credit risk for derivative instruments held by the System results from counterparty risk assumed by the System. This is essentially the risk that the borrower will be unable to meet its obligation. Information regarding the System's credit risk related to derivatives is provided in Note 5.B.8. Policies related to credit risk pertaining to the System's securities lending program are provided in Note 5.B.6. A summary of the ratings of the reinvested securities lending cash collateral subject to credit risk is provided in Figure 2.21.

FIGURE 2.20: CREDIT QUALITY AND EXPOSURE LEVELS OF NON-GOVERNMENT-GUARANTEED SECURITIES*

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

U.S. Government and Short-Term Debt	Carrying Amount by Most Conservative Credit Rating – Moody's/S&P/Fitch							Totals
	Aaa/AAA	Aa/AA	A	Baa/BBB	P/A-1, AAAM/F1**	Less than Investment Grade	Unrated	
U.S. Government Agencies:								
FHLB	\$ —	\$ 17,139	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 17,139
FHLMC	358	401,956	—	—	—	827	—	403,141
FNMA	—	752,516	—	—	—	—	1,712,297	2,464,813
Other Agencies	—	65,432	—	—	—	—	—	65,432
Short-Term Debt:								
Commercial Paper	—	—	324,662	—	3,772,386	—	69,454	4,166,502
Mutual and Money Market Funds	50,000	—	3,228	—	503,439	54,868	51,782	663,317
Negotiable Certificates of Deposit	—	—	57,000	—	657,915	—	60,750	775,665
Time Deposits	—	—	—	—	347,000	—	—	347,000
Total U.S. Government and Short-Term Debt	50,358	1,237,043	384,890	—	5,280,740	55,695	1,894,283	8,903,009
Long-Term Debt	Aaa/AAA	Aa/AA	A	Baa/BBB	P/A-1, AAAM/F1**	Less than Investment Grade	Unrated	Totals
Asset-Backed Securities	168,802	45,015	142,288	47,725	—	77,861	81,829	563,520
Collateralized Mortgage Obligations	188,290	24,607	15,997	18,364	—	45,948	223,743	516,949
Commercial Mortgages	247,658	—	150	—	—	36,813	33,643	318,264
Corporate Bonds and Notes	46,768	107,239	1,268,338	2,250,433	—	3,262,900	807,106	7,742,784
Fixed-Income Commingled Funds	—	—	—	—	—	—	1,517,043	1,517,043
Fixed-Income Derivatives	—	—	—	—	—	—	28,697	28,697
Municipal Securities	203	70,487	17,503	—	—	—	4,199	92,392
Other Debt Securities	—	—	—	—	—	46,777	—	46,777
Supranational and Non-U.S. Government Bonds	33,419	66,233	98,747	279,123	—	534,838	11,922	1,024,282
Total Long-Term Debt	685,140	313,581	1,543,023	2,595,645	—	4,005,137	2,708,182	11,850,708
Total	\$ 735,498	\$ 1,550,624	\$ 1,927,913	\$ 2,595,645	\$ 5,280,740	\$ 4,060,832	\$ 4,602,465	\$ 20,753,717

* Excludes investments that are obligations of the U.S. government or obligations explicitly guaranteed by the U.S. government that are not subject to the GASB 40 credit quality disclosures.

** Investment-grade short-term credit ratings.

FIGURE 2.21: SECURITIES LENDING COLLATERAL SUBJECT TO CREDIT RISK

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Carrying Amount by Most Conservative Credit Rating – Moody's/S&P/Fitch					
Investment Type	Aa/AA	A	P/A-1, AAAm/F1**	Unrated	Totals
Commercial Paper	\$ —	\$ —	\$ 437,979	\$ —	\$ 437,979
Corporate Bonds and Notes	569,929	1,742,930	25,525	—	2,338,384
Negotiable Certificates of Deposits	—	—	239,625	—	239,625
Repurchase Agreements	68,307	—	—	257	68,564
Time Deposits	—	—	648,075	—	648,075
Total*	\$ 638,236	\$ 1,742,930	\$ 1,351,204	\$ 257	\$ 3,732,627

* This figure does not include \$1,454,335,000 in equity and U.S. government security repurchase agreements that are not subject to GASB 40 disclosure. The total of the investments in the securities lending collateral portfolio is \$5,186,962,000.

** Investment-grade short-term credit ratings.

- **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 issuer. The System's investment guidelines for each specific portfolio limits investments in any corporate entity to no more than 5.00% of the market value of the account for both the internally and externally managed portfolios. The System has no investments in any commercial or industrial organization whose fair value equals 5.00% or more of the System's net fiduciary position.
- **Custodial Credit Risk.** This is the risk that in the event of the failure of the counterparty, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. As of June 30, 2021, investment securities (excluding cash equivalents and repurchase agreements held as

securities lending collateral) were registered and held in the name of the System for the benefit of the System's trust and custodial funds and were not exposed to custodial credit risk. It is the standard practice and policy of the System, through the relevant provisions in its contracts and agreements with third parties, to minimize all known and reasonably foreseeable custodial credit risks.

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's currency risk exposures, or exchange rate risk, primarily exist in the international and global equity investment holdings. The System's exposure to foreign currency risk as of June 30, 2021, is highlighted in Figure 2.22.

FIGURE 2.22: CURRENCY EXPOSURES BY ASSET CLASS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Currency	Cash and Short-term Investments	Equity	Fixed Income	Private Equity	Real Assets	International Funds	Forward Contracts	Total
U.S. Dollar	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 2,638,391	\$ —	\$ 2,638,391
Euro Currency Unit	51,378	1,920,452	121,387	1,055,263	543,873	—	405,446	4,097,799
Japanese Yen	21,768	1,549,117	14,728	—	142,684	502,750	4,125	2,235,172
Canadian Dollar	8,353	738,235	2,400	—	112,129	—	432,987	1,294,104
Pound Sterling	2,404	1,150,173	9,056	—	101,784	—	(97,085)	1,166,332
Hong Kong Dollar	5,534	1,099,011	11,844	—	73,087	—	(59,681)	1,129,795
Swedish Krona	3,165	329,609	—	—	32,567	—	398,399	763,740
Swiss Franc	37,285	566,537	9,616	—	13,661	—	132,465	759,564
South Korean Won	340	500,339	—	—	1,606	—	1,311	503,596
New Taiwan Dollar	6,648	429,031	—	—	—	—	(615)	435,064
Australian Dollar	1,935	392,676	2,553	—	67,935	—	(150,530)	314,569
Indian Rupee	4,940	267,168	—	—	—	—	6,090	278,198
Norwegian Krone	750	133,067	—	—	2,685	—	77,810	214,312
Brazil Real	774	175,721	17,393	—	24,417	—	(11,828)	206,477
South African Rand	478	146,809	5,598	—	3,371	—	(6,143)	150,113
Danish Krone	2,613	155,955	—	—	—	—	(11,624)	146,944
Singapore Dollar	2,100	124,067	2,467	—	37,053	—	(25,713)	139,974
Chinese Yuan Renminbi	875	101,849	(109)	—	—	—	(41,861)	60,754
Mexican Peso	(692)	40,431	473	—	15,122	—	3,878	59,212
Saudi Arabia Riyal	139	44,147	—	—	—	—	—	44,286
Thailand Baht	97	42,342	—	—	—	—	377	42,816
Indonesian Rupiah	402	37,486	3,426	—	—	—	(850)	40,464
Turkish Lira	5	35,897	—	—	1,311	—	1,391	38,604
Israeli Shekel	22	26,144	—	—	4,165	—	(2,808)	27,523
Polish Zloty	(487)	26,444	—	—	—	—	517	26,474
Malaysian Ringgit	617	15,489	—	—	—	—	—	16,106
Chilean Peso	127	18,145	—	—	—	—	(3,027)	15,245
Hungarian Forint	387	13,368	—	—	—	—	450	14,205
Russian Ruble (New)	389	8,473	3,640	—	—	—	191	12,693
Egyptian Pound	1,983	742	3,047	—	—	—	2,662	8,434
Uruguayan Peso	—	—	4,806	—	—	—	—	4,806
Ukraine Hryvnia	—	—	2,771	—	—	—	963	3,734
UAE Dirham	20	3,458	—	—	—	—	—	3,478
Qatari Riyal	223	3,109	—	—	—	—	—	3,332
Czech Koruna	1,020	649	—	—	—	—	1,018	2,687
Peruvian Sol	3	—	3,346	—	—	—	(943)	2,406
Argentina Peso	2,036	—	—	—	—	—	—	2,036
Chinese R Yuan HK	—	—	—	—	—	—	1,530	1,530
Kazakhstan Tenge	—	—	1,428	—	—	—	—	1,428
Dominican Rep Peso	—	—	3	—	—	—	—	3
Moroccan Dirham	1	—	—	—	—	—	—	1
Pakistan Rupee	—	—	—	—	—	—	—	—
Romanian Leu	—	—	—	—	—	—	—	—
Colombian Peso	(6)	128	2,709	—	—	—	(3,795)	(964)
Philippines Peso	19	2,102	—	—	—	—	(5,071)	(2,950)
New Zealand Dollar	64	8,710	—	—	2,968	—	(222,075)	(210,333)
Total	\$ 157,709	\$10,107,080	\$ 222,582	\$1,055,263	\$1,180,418	\$ 3,141,141	\$ 827,961	\$16,692,154

6. Securities Lending. Under authorization of the Board, the System lends its fixed-income and equity securities to various broker-dealers on a temporary basis. This program is administered through an agreement with the System's custodial agent bank.

All security loan agreements are collateralized by cash, securities or an irrevocable letter of credit issued by a major bank, and have a fair value equal to at least 102% of the fair value for domestic securities and 105% for international securities. Securities received as collateral cannot be pledged or sold by the System unless the borrower defaults. Contracts require the lending agents to indemnify the System if the borrowers fail to return the securities lent and related distributions and if the collateral is inadequate to replace the securities lent. All securities loans can be terminated on demand by either the System or the borrowers. The majority of loans are open loans, meaning the rebate is set daily. This results in a maturity of one or two days on average, although securities are often on loan for longer periods. The maturity of loans generally does not match the maturity of collateral investments, which averages 31 days. At year-end, the System had no credit risk exposure to borrowers because the amounts it owes the borrowers exceeded the amounts the borrowers owe the System. All securities are marked to market daily and carried at fair value. The fair value of securities on loan at June 30, 2021 and 2020, was \$7,492,582,000 and \$5,624,194,000, respectively. The June 30, 2021 and 2020, balances were composed of U.S. government and agency securities of \$1,581,915,000 and \$879,329,000, respectively; corporate and other bonds of \$2,203,393,000 and \$1,460,701,000, respectively; common and preferred stocks of \$3,662,281,000 and \$3,232,034,000, respectively; and supranational and non-U.S. government bonds of \$44,993,000 and \$52,130,000, respectively.

The value of collateral (cash and non-cash) at June 30, 2021 and 2020, was \$7,889,386,000 and \$5,943,894,000, respectively. Securities on loan are included with investments on the statement of plan net position. The invested cash collateral is included

in the statement of plan net position as an asset and corresponding liability.

At June 30, 2021, the invested cash collateral had a cost of \$5,186,962,000 and was composed of negotiable certificates of deposit of \$239,625,000, floating rate notes of \$2,338,384,000, commercial paper of \$437,979,000, time deposits of \$648,075,000 and repurchase agreements of \$1,522,899,000.

7. Accounts Receivable/Accounts Payable for Security Transactions. In addition to unsettled purchases and sales, accounts receivable and accounts payable for security transactions at June 30, 2021 and 2020, included (1) receivables for deposits with brokers for securities sold short of \$749,314,000 and \$719,428,000, respectively; and (2) payables for securities sold short and not covered with fair values of \$753,127,000 and \$621,562,000, respectively.

8. Derivative Financial Instruments. Derivative instruments are financial contracts whose values depend on the values of one or more underlying assets, reference rates or financial indexes. All derivatives held by the System are considered investments. The fair value of all derivative financial instruments is reported on a net basis on the Statement of Fiduciary Net Position. The derivative instruments are either subject to an enforceable master netting arrangement or similar agreement. The master netting arrangements allow the System to net applicable liabilities or payment obligations to counterparties to the derivative contracts against amounts owed to the System by the counterparties.

The System holds investments in swaps and futures and enters into forward foreign currency exchange contracts. Swaps, futures and currency forwards contracts provide the System with the opportunity to build passive benchmark positions, manage portfolio duration in relation to various benchmarks, adjust portfolio yield curve exposure and gain market exposure to various indexes in a more efficient way and at lower transaction costs.

Derivatives that are exchange-traded are not subject to credit risk, but all over-the-counter derivatives, such as swaps and currency forwards, do expose the System to counterparty credit risk. Counterparty credit risk for the System's investments in derivatives instruments is summarized in Figure 2.27.

Market risks arise from adverse changes in market prices, interest rates and foreign exchange rates. The System's level of exposure to interest rate risk through derivative instruments is shown in Figure 2.24. The System's investments in derivative instruments at June 30, 2021, are summarized in Figure 2.23.

FIGURE 2.23: DERIVATIVE INSTRUMENTS SUMMARY

(EXPRESSED IN THOUSANDS)

Investment	Net Appreciation/ (Depreciation) in Fair Value for the Fiscal Year Ended June 30, 2021		Fair Value June 30, 2021	
Derivatives (by Type)	Amount	Classification	Amount	Notional (Dollars)
Commodity Futures Long	\$ (1,121)	Equity Securities	\$ (794)	\$ 12,756
Commodity Futures Short	142	Debt Securities	142	(3,002)
Credit Default Swaps Bought	(1,193)	Debt Securities	(31)	6,450
Credit Default Swaps Written	1,676	Debt Securities	1,676	30,980
Fixed-Income Futures Long	36,226	Debt Securities	37,793	1,829,518
Fixed-Income Futures Short	(11,087)	Debt Securities	(12,985)	(684,502)
FX Forwards	(25,555)	Investment Sales/Purchases	(8,884)	(764,998)
Index Futures Long	(12,777)	Equity Securities	(1,427)	439,418
Index Futures Short	(2,725)	Equity Securities	(3,245)	(250,024)
Pay Fixed-Inflation Swaps	1,909	Debt Securities	2,197	21,780
Receive Fixed-Inflation Swaps	14	Debt Securities	14	5,322
Pay Fixed-Interest Rate Swaps	80	Debt Securities	—	—
Receive Fixed-Interest Rate Swaps	(255)	Debt Securities	(108)	33,784
Total Return Bond Index Swaps	2,229	Equity Securities	1,798	61,729
Total Return Equity Index Swaps	(102,210)	Equity Securities	32,415	2,128,657
Total	\$ (114,647)		\$ 48,561	

FIGURE 2.24: DERIVATIVE INSTRUMENTS SUBJECT TO INTEREST RATE RISK

(EXPRESSED IN THOUSANDS)

Investment Type	Investment Maturities (in years)				
	Fair Value June 30, 2021	Under-1	1-5	6-10	Greater than 10
Credit Default Swaps Bought	\$ (31)	\$ —	\$ (31)	\$ —	\$ —
Credit Default Swaps Written	1,676	—	1,714	(38)	—
Pay Fixed Inflation Swaps	2,197	—	—	2,197	—
Receive Fixed Inflation Swaps	14	—	—	14	—
Receive Fixed Interest Rate Swaps	(108)	—	(108)	—	—
Total	\$ 3,748	\$ —	\$ 1,575	\$ 2,173	\$ —

9. Futures. Futures contracts are contracts to deliver or receive securities at a specified future date and at a specified price or yield. Futures contracts are traded on organized exchanges (exchange-traded) and require an initial margin (collateral) in the form of cash or marketable securities. The net change in the futures contract value is settled daily, in cash, with the exchanges. The net gains or losses resulting from the daily settlements are included in the System's Statement of Changes in Fiduciary Net Position. Holders of futures contracts look to the exchange for performance under the contract and not to the entity holding the offsetting futures position. Accordingly, the amount at risk posed by nonperformance of counterparties to futures contracts is minimal. Information on the System's investments in fixed income, commodities and equity index futures at June 30, 2021, is shown in Figure 2.23.

10. Currency Forwards. Currency forwards represent foreign exchange contracts and are used by the System to effect settlements and to protect the base currency (\$ U.S.) value of portfolio assets denominated in foreign currencies against fluctuations in the exchange rates of those currencies. A forward foreign currency exchange contract is a commitment to purchase or sell a foreign currency at a future date at a negotiated price. The credit risk of currency contracts that are exchange-traded lies with the clearinghouse of the exchange where the contracts are traded. The credit risk of currency contracts traded over the counter lies with the counterparty, and exposure usually is equal to the unrealized profit on in-the-money contracts. The market risk in foreign currency contracts is related to adverse movements in currency exchange rates. The net realized gains or losses arising from the differences between the original values of the foreign currency contracts and the closing values of such contracts are included in the Net Appreciation/Depreciation in Fair Value of Investments in the Statement of Changes in Fiduciary Net Position. Information on the System's currency forward contracts at June 30, 2021, is shown in Figures 2.23 and 2.25.

FIGURE 2.25: CURRENCY FORWARDS

AS OF JUNE 30

(EXPRESSED IN THOUSANDS)

Currency	Cost	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Fair Value 2021	Fair Value 2020
Australian Dollar	(159,133)	251,767	(407,560)	(155,793)	112,495
Brazilian Real	(11,636)	5,790	(17,583)	(11,793)	(545)
British Pound Sterling	(116,731)	293,913	(405,601)	(111,688)	45,836
Canadian Dollar	432,417	555,852	(131,540)	424,312	11,165
Chilean Peso	(3,080)	1,794	(4,821)	(3,027)	1,031
Chinese Yuan Renminbi	(42,280)	—	(41,882)	(41,882)	(45,864)
Chinese Yuan Renminbi HK	208	19,889	(18,359)	1,530	1,400
Colombian Peso	(3,875)	1,483	(5,278)	(3,795)	(2,095)
Czech Koruna	1,045	1,668	(648)	1,020	2,617
Danish Krone	(11,724)	—	(11,629)	(11,629)	(7,023)
Egyptian Pound	2,646	2,662	—	2,662	—
Euro Currency Unit	362,929	881,127	(524,038)	357,089	237,301
Hong Kong Dollar	(68,235)	—	(68,242)	(68,242)	(36,417)
Hungarian Forint	458	1,092	(641)	451	2,020
Indian Rupee	6,105	6,345	(236)	6,109	(1,447)
Indonesian Rupiah	(863)	207	(1,057)	(850)	(2,367)
Israeli Shekel	(2,810)	370	(3,178)	(2,808)	(11,563)
Japanese Yen	(16,566)	442,842	(460,663)	(17,821)	325,715
Mexican Peso	3,754	5,209	(1,420)	3,789	2,115
New Taiwan Dollar	(115)	913	(1,023)	(110)	(2,216)
New Zealand Dollar	(229,523)	30,206	(252,278)	(222,072)	(131,258)
Norwegian Krone	77,501	159,837	(84,439)	75,398	(64,106)
Peruvian Sol	(942)	587	(1,531)	(944)	(3,487)
Philippines Peso	(5,110)	—	(5,071)	(5,071)	(2,075)
Polish Zloty	428	639	(208)	431	907
Romanian Leu	(15)	1,673	(1,673)	—	2,070
Russian Ruble (New)	218	3,314	(3,123)	191	(809)
Singapore Dollar	(25,138)	93,803	(119,377)	(25,574)	(75,531)
South African Rand	(5,307)	832	(5,961)	(5,129)	(3,540)
South Korean Won	671	1,010	(340)	670	(433)
Swedish Krona	408,119	475,876	(77,334)	398,542	417,469
Swiss Franc	131,298	328,567	(196,679)	131,888	164,794
Thai Baht	501	491	—	491	(156)
Turkish Lira	1,416	2,413	(1,022)	1,391	874
Ukrainian Hryvnia	950	963	—	963	—
U.S. Dollar	(727,583)	2,822,993	(3,550,576)	(727,583)	(920,206)
Total Forwards Subject to Foreign Currency Risk				\$ (8,884)	\$ 16,671

11. Swap Agreements. Swaps are negotiated contracts between two counterparties for the exchange of payments at certain intervals over a predetermined timeframe. The payments are based on a notional principal amount and calculated using either fixed or floating interest rates or total returns from certain instruments or indexes. Swaps are used to manage risk and enhance returns. To reduce the risk of counterparty nonperformance, the System generally requires collateral on any material gains from these transactions. During fiscal year 2021, the

System had activity in credit default, inflation, interest rate and total return swaps. Gains and losses on swaps are determined based on fair values and are recorded in the Statement of Changes in Fiduciary Net Position. Information on the System's swap balances at June 30, 2021, is shown in Figure 2.23, and the terms, fair values and notional values of the System's investments in swap agreements that are highly sensitive to interest rate changes are disclosed in Figure 2.26.

FIGURE 2.26: DERIVATIVE INSTRUMENTS HIGHLY SENSITIVE TO INTEREST RATE CHANGES

(EXPRESSED IN THOUSANDS)

Investment Type	Reference Rate	Fair Value June 30, 2021	Notional Amount
Interest Rate Swaps	Receive Fixed 2.70%, Pay Variable China Repo Fixing 7-day Rate	\$ (54)	\$ 16,892
Interest Rate Swaps	Receive Fixed 2.70%, Pay Variable China Repo Fixing 7-day Rate	(54)	16,892
Subtotal Interest Rate Swaps		\$ (108)	\$ 33,784
Total Return Bond Index Swaps	Receive Variable IBXHY Liquid High Yield Index, Pay Variable 3-month LIBOR	\$ 1,798	\$ 61,729
Total Return Equity Index Swaps	Receive Variable GDUEACWF Index, Pay Variable 3-month LIBOR + 35 bps	—	587,426
Total Return Equity Index Swaps	Receive Variable GDUEACWF Index, Pay Variable 3-month LIBOR + 30.25 bps	1,289	372,479
Total Return Equity Index Swaps	Receive Variable GDUEACWF Index, Pay Variable 3-month LIBOR + 33 bps	1,408	67,368
Total Return Equity Index Swaps	Receive Variable MSCI World with USA Gross Index, Pay Variable 3-month LIBOR	30,181	978,490
Total Return Equity Index Swaps	Receive Variable MIMUJPNN Index, Pay Variable 3-month LIBOR	(158)	25,120
Total Return Equity Index Swaps	Receive Variable MIMUUKGN Index, Pay Variable 3-month LIBOR + 26 bps	(171)	15,825
Total Return Equity Index Swaps	Receive Variable NDUEEGF Index, Pay Variable 3-month LIBOR - 7 bps	(178)	50,506
Total Return Equity Index Swaps	Receive Variable M1CNA Index, Pay Variable 3-month LIBOR - 400 bps	44	31,443
Subtotal Total Return Swaps		\$ 34,213	\$ 2,190,386
Total		\$ 34,105	\$ 2,224,170

FIGURE 2.27: DERIVATIVE INSTRUMENTS SUBJECT TO COUNTERPARTY CREDIT RISK

AT JUNE 30, 2021

Counterparty	Percentage of Net Exposure	Moody's Ratings	S&P Ratings	Fitch Ratings
Goldman Sachs International	51.32%	A1	A+	A+
Goldman Sachs Bank USA/New York NY	46.43%	A1	A+	A+
UBS AG/Stamford CT	1.68%	—	A+	—
Morgan Stanley & Co International PLC	0.27%	Aa3	A+	—
BNP Paribas SA	0.21%	Aa3	A+	A+
Bank of New York Mellon Corp-London	0.04%	—	—	—
JPMorgan Chase Bank NA	0.03%	Aa2	A+	AA
HSBC Securities Inc.	0.02%	—	AA-	—
Total	100.00%			

12. Asset Allocation. The long-term expected rate of return on the System's investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of 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. The long-term target allocations are based on the Strategic Asset Allocation Implementation

Schedule and Allowable Ranges document, which was approved by the VRS Board of Trustees on October 10, 2019. Best estimates of arithmetic real rates of return for each major asset class included in the System's long-term target asset allocation are summarized in Figure 2.28. This provided the basis for the 6.75% long-term rate of return actuarial assumption used in the calculation of the Pension and OPEB liabilities with the Measurement Date of June 30, 2021. See the Investments Section for more detailed asset allocation and performance information.

FIGURE 2.28: ASSET ALLOCATION

FOR THE YEAR ENDED JUNE 30, 2021

Asset Class (Strategy)	Long-Term Target Asset Allocation	Arithmetic Long-Term Expected Rate of Return	Weighted Average Long-Term Expected Rate of Return*
Public Equity	34.00%	5.00%	1.70%
Fixed Income	15.00%	0.57%	0.09%
Credit Strategies	14.00%	4.49%	0.63%
Real Assets	14.00%	4.76%	0.67%
Private Equity	14.00%	9.94%	1.39%
MAPS – Multi-Asset Public Strategies	6.00%	3.29%	0.20%
PIP – Private Investment Partnerships	3.00%	6.84%	0.21%
Total	100.00%		4.89%
		Inflation	2.50%
		* Expected arithmetic nominal return	7.39%

* The above allocation provides a one-year expected return of 7.39%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the System, stochastic projections are employed to model future returns under various economic conditions. These results provide a range of returns over various time periods that ultimately provide a median return of 6.94%, including expected inflation of 2.50%.

On October 10, 2019, the VRS Board elected a long-term rate of return of 6.75%, which was roughly at the 40th percentile of expected long-term results of the VRS fund asset allocation at that time, providing a median return of 7.11%, including expected inflation of 2.5%.

6. Capital Assets

The System's non-depreciable and depreciable capital assets for the year ended June 30, 2021, and

the changes by category from the prior fiscal year-end are presented in Figure 2.29.

FIGURE 2.29: CAPITAL ASSETS

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Balance June 30, 2020	Increases	Decreases	Balance June 30, 2021
Non-Depreciable Capital Assets:				
Land	\$ 1,368	\$ —	\$ —	\$ 1,368
Construction in progress	1,275	—	1,275	—
Total Non-Depreciable Capital Assets	2,643	—	1,275	1,368
Depreciable Capital and Intangible Assets:				
Building	4,632	—	—	4,632
Furniture and Equipment	7,132	1	—	7,133
Intangible Assets	70,201	2,184	—	72,385
Total Depreciable Capital Assets	81,965	2,185	—	84,150
Less Accumulated Depreciation:				
Building	2,548	115	—	2,663
Furniture and Equipment	6,122	—	24	6,098
Intangible Assets	39,388	5,663	—	45,051
Total Accumulated Depreciation	48,058	5,778	24	53,812
Total Depreciable Capital Assets – Net	33,907	(3,593)	(24)	30,338
Total Net Capital Assets	\$ 36,550	\$ (3,593)	\$ 1,251	\$ 31,706

Depreciation expense amounted to \$5,754,000 and \$7,914,000 in 2021 and 2020, respectively.

7. Operating Leases

The System has commitments under various operating leases for office space and parking. In general, the leases are for a 10-year term. In most cases, the System expects that in the normal course of business, these leases will be replaced by similar leases. Total rental expense for the year ended June 30, 2021, was \$2,081,000. The System's total future minimum rental payments as of June 30, 2021, are presented in Figure 2.30.

FIGURE 2.30: OPERATING LEASES – FUTURE PAYMENTS

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Year	Amount
2022	1,674
2023	1,713
2024	1,762
Total Future Minimum Rental Payments	\$ 5,149

8. System Employee Benefit Plan Obligations

All full-time permanent, salaried employees of the System are employees of the Commonwealth of Virginia and included in the Commonwealth's participation as an employer in VRS. The Commonwealth, not the System, has overall responsibility for contributions to the VRS pension trust fund as well as other employee benefit and post-employment benefit trust funds for System employees. The state's pension contribution requirement for general employees was 14.46% for the fiscal year ended June 30, 2021, and 13.52% for fiscal year ended 2020.

There were approximately 60,478 state retirees, including System retirees, at June 30, 2021. Note 2.B provides information on the state's contribution toward funding the defined benefit plan for state employees for fiscal year 2021 and fiscal year 2020. The System's contribution requirement for its employees for fiscal year 2021 and fiscal year 2020 was \$4,819,000 and \$4,359,000, respectively, of

which \$4,505,000 related to the defined benefit plan and \$314,000 related to the hybrid defined contribution plan for fiscal year 2021. For fiscal year 2020, \$4,096,000 related to the defined benefit plan and \$263,000 related to the defined contribution plan. The System's financial obligations for other employee benefit and post-employment benefit plans were as follows:

- The state's contribution requirement for the Group Life Insurance Program was 1.34% of covered payroll for the year ended June 30, 2021, and 1.31% for the year ended June 30, 2020. There were approximately 86,286 active state employees, 14,174 inactive vested participants and 57,011 state retirees, including System employees and retirees, eligible for group life insurance coverage at June 30, 2021. The System's contribution requirement for its employees and retirees for fiscal year 2021 and fiscal year 2020 was \$447,000 and \$426,000, respectively.
- The state's contribution requirement for the Retiree Health Insurance Credit Program for the years ended June 30, 2021 and 2020, was 1.12% and 1.17% of covered payroll, respectively. There were approximately 45,808 state retirees, including System retirees, receiving the health insurance credit at June 30, 2021. The System's contribution requirement for its employees for fiscal year 2021 and fiscal year 2020 was \$376,000 and \$380,000, respectively.
- The state's contribution requirement for the Virginia Sickness and Disability Program (VSDP) for the years ended June 30, 2021, and June 30, 2020, was 0.61% and 0.62%, respectively. There were approximately 78,705 state employees, including System employees, enrolled in VSDP at June 30, 2021. The System's contribution requirement for its employees for fiscal year 2021 and fiscal year 2020 was \$202,000 and \$198,000, respectively.

Information regarding the Commonwealth's funding progress is presented in the Commonwealth's *Annual Comprehensive Financial Report*. Information about the pension plans is provided in Note 2; information about other employee and post-employment benefit plans is provided in Note 3.

9. Litigation

The System, including its Board of Trustees, officers and employees, is a defendant in claims and lawsuits that are pending, are in progress or have been settled since June 30, 2021. The Attorney General and outside counsel have reviewed the status of these claims, lawsuits and the System's potential liability arising from them. Based on their review, it is the opinion of management that such liability, if any, would have no material adverse effect on the System's financial condition.

10. Risk Management

To cover its exposure to various risks of loss, the System, as an independent agency of the Commonwealth of Virginia, participates in the Commonwealth's self-insurance programs for state employee health care and risk management. The latter program includes property, general (tort) liability, medical malpractice and automobile plans.

The System's employees are covered by the Virginia Workers' Compensation Program administered by the Department of Human Resource Management. In addition, the System is self-insured for fiduciary liability as well as directors' and officers' liability under a program administered by the Commonwealth's Division of Risk Management. There were no claims in excess of coverage and no reductions in coverage during fiscal year 2021 and the three preceding fiscal years.

11. Commitments

The System extends investment commitments in the normal course of business. At June 30, 2021 and 2020, these commitments amounted to \$19,087,195,000 and \$18,021,577,000, respectively.

12. Statutory Contribution Adjustment

For fiscal year 2021, the employer retirement contribution rate for state employees was 14.46% and the employer retirement contribution rate for teachers was 16.62%. The rates for both of these groups were 100% of the adjusted actuarially determined rate. Additionally, the employer retirement contribution rates for SPORS, VaLORS and JRS were funded at 100% of the adjusted actuarially determined rate and were 26.33%, 21.90% and 29.84%, respectively. There was no adjustment to the employer contribution rates for political subdivision employers or to the member contribution rate of 5.00%.

For fiscal years 2021, other post-employment benefit plan contributions due or required also were based on the June 30, 2019, actuarial valuation, which used a 30-year funding period for the UAAL. The rate for Group Life Insurance was 1.34%, the rate for the Retiree Health Insurance Credit Program for state employees was 1.12% and the rate for the Retiree Health Insurance Credit Program for teachers was 1.21% of covered payroll. The rate for VSDP was 0.61%, and the rates for VLDP for teachers and political subdivision employers were 0.47% and 0.83% of covered payroll, respectively.

For fiscal year 2020, the employer retirement contribution rate for state employees was 13.52% and the employer retirement contribution rate for teachers was 15.68%. The rates for both of these groups were 100% of the adjusted actuarially determined rate. Additionally, the employer retirement contribution rates for SPORS, VaLORS and JRS were funded at 100% of the adjusted actuarially determined rate and were 24.88%, 21.61% and 34.39%, respectively. There was no

adjustment to the employer contribution rates for political subdivision employers or to the member contribution rate of 5.00%.

For fiscal year 2020, other post-employment benefit plan contributions due or required also were based on the June 30, 2017, actuarial valuation, which used a 30-year funding period for the UAAL. The rate for Group Life Insurance was 1.31%, the rate for the Retiree Health Insurance Credit Program for state employees was 1.17% and the rate for the Retiree Health Insurance Credit Program for teachers was 1.20% of covered payroll. The rate for VSDP was 0.62%, and the rates for VLDP for teachers and political subdivision employers were 0.41% and 0.72% of covered payroll, respectively.

The Board approved Pay-As-You-Go contribution rate for fiscal years 2021 and 2020 for employer groups participating in Line of Duty Act Program were \$717.31 and \$705.77, respectively.

Contributions to the VRS-administered other post-employment programs, with the exception of the Group Life Insurance program, are fully paid by the employer. The Group Life Insurance Program has a total contribution rate, which is allocated into an employee and an employer component using a 60/40 split. For fiscal year 2021, the split yields an employee contribution rate of 0.80% of covered payroll and an employer contribution rate of 0.54% of covered payroll. For fiscal year 2020, the split yields an employee contribution rate of 0.79% of covered payroll and an employer contribution rate of 0.52% of covered payroll. Employers may elect to pay all or part of the employee contribution; however, the employer must pay all of the employer contribution.

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
VIRGINIA RETIREMENT SYSTEM – STATE**

FOR THE PLAN YEARS ENDED JUNE 30

	VRS State		
	2021	2020	2019
Total pension liability:			
Service cost	\$ 404,703	\$ 406,776	\$ 379,359
Interest	1,704,842	1,666,047	1,627,637
Benefit changes	—	—	—
Difference between actual and expected experience	(281,382)	(12,440)	181,189
Assumption changes	412,575	—	663,566
Benefit payments	(1,486,951)	(1,427,873)	(1,360,833)
Refunds of contributions	(29,065)	(27,427)	(26,897)
Net change in total pension liability	724,722	605,083	1,464,021
Total pension liability – beginning	26,014,925	25,409,842	23,945,821
Total pension liability – ending (a)	\$ 26,739,647	\$ 26,014,925	\$ 25,409,842
Plan fiduciary net position:			
Contributions – employer	\$ 609,778	\$ 576,443	\$ 545,584
Contributions – member	207,065	210,896	201,481
Contributions – employer special	—	—	—
Net investment income	5,055,163	361,061	1,211,722
Benefit payments	(1,486,951)	(1,427,873)	(1,360,833)
Refunds of contributions	(29,065)	(27,427)	(26,897)
Administrative expense	(12,904)	(12,603)	(12,374)
Other	(737)	(539)	(762)
Net change in plan fiduciary net position	4,342,349	(320,042)	557,921
Plan fiduciary net position – beginning	18,770,068	19,090,110	18,532,189
Plan fiduciary net position – ending (b)	23,112,417	\$ 18,770,068	\$ 19,090,110
Net pension liability – ending (a-b)	3,627,230	\$ 7,244,857	\$ 6,319,732
Plan fiduciary net position as a percentage of the total pension liability (b/a)	86.44%	72.15%	75.13%
Covered payroll (c)	\$ 4,399,969	\$ 4,440,135	\$ 4,197,484
Net pension liability as a percentage of covered payroll ((a-b)/c)	82.44%	163.17%	150.56%

Note: This schedule should present 10 years of data; however, the information prior to fiscal year 2014 is not available.

(EXPRESSED IN THOUSANDS)

VRS State

2018		2017		2016		2015		2014	
\$	375,965	\$	370,235	\$	369,779	\$	375,149	\$	369,120
	1,606,772		1,562,819		1,533,764		1,482,951		1,436,064
	—		—		—		—		—
	(327,289)		(85,975)		(245,642)		59,923		—
	—		76,965		—		—		—
	(1,296,803)		(1,234,388)		(1,195,198)		(1,136,102)		(1,081,866)
	(30,236)		(30,837)		(25,240)		(27,724)		(25,036)
	328,409		658,819		437,463		754,197		698,282
	23,617,412		22,958,593		22,521,130		21,766,933		21,068,651
\$	23,945,821	\$	23,617,412	\$	22,958,593	\$	22,521,130	\$	21,766,933
\$	548,158	\$	535,424	\$	560,211	\$	480,657	\$	343,259
	201,920		201,391		200,184		195,582		198,035
	—		—		162,406		—		—
	1,302,241		1,963,811		277,166		728,083		2,243,999
	(1,296,803)		(1,234,388)		(1,195,198)		(1,136,102)		(1,081,866)
	(30,236)		(30,837)		(25,240)		(27,724)		(25,036)
	(11,481)		(11,612)		(10,140)		(10,302)		(12,341)
	28,502		(1,743)		(122)		(154)		123
	742,301		1,422,046		(30,733)		230,040		1,666,173
	17,789,888		16,367,842		16,398,575		16,168,535		14,502,362
\$	18,532,189	\$	17,789,888	\$	16,367,842	\$	16,398,575	\$	16,168,535
\$	5,413,632	\$	5,827,524	\$	6,590,751	\$	6,122,555	\$	5,598,398
	77.39%		75.33%		71.29%		72.81%		74.28%
\$	4,152,368	\$	4,020,893	\$	3,977,759	\$	3,878,632	\$	3,861,712
	130.37%		144.93%		165.69%		157.85%		144.97%

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
VIRGINIA RETIREMENT SYSTEM – TEACHER**

FOR THE PLAN YEARS ENDED JUNE 30

	VRS Teacher		
	2021	2020	2019
Total pension liability:			
Service cost	\$ 948,915	\$ 938,143	\$ 889,003
Interest	3,355,158	3,269,776	3,184,697
Benefit changes	—	—	—
Difference between actual and expected experience	(178,349)	(404,985)	(174,815)
Assumption changes	845,179	—	1,472,649
Benefit payments	(2,553,153)	(2,448,204)	(2,331,038)
Refunds of contributions	(38,464)	(36,211)	(36,715)
Net change in total pension liability	2,379,286	1,318,519	3,003,781
Total pension liability – beginning	51,001,855	49,683,336	46,679,555
Total pension liability – ending (a)	\$ 53,381,141	\$ 51,001,855	\$ 49,683,336
Plan fiduciary net position:			
Contributions – employer	\$ 1,416,135	\$ 1,327,774	\$ 1,280,964
Contributions – member	419,415	418,909	403,258
Contributions – non-employer	61,344	—	—
Net investment income	9,887,249	689,010	2,311,028
Benefit payments	(2,553,153)	(2,448,204)	(2,331,038)
Refunds of contributions	(38,464)	(36,211)	(36,715)
Administrative expense	(24,543)	(23,649)	(22,843)
Other	666	(1,169)	(1,448)
Net change in plan fiduciary net position	9,168,649	(73,540)	1,603,206
Plan fiduciary net position – beginning	36,449,229	36,522,769	34,919,563
Plan fiduciary net position – ending (b)	\$ 45,617,878	\$ 36,449,229	\$ 36,522,769
Net pension liability – ending (a-b)	\$ 7,763,263	\$ 14,552,626	\$ 13,160,567
Plan fiduciary net position as a percentage of the total pension liability (b/a)	85.46%	71.47%	73.51%
Covered payroll (c)	\$ 8,843,887	\$ 8,766,667	\$ 8,387,503
Net pension liability as a percentage of covered payroll ((a-b)/c)	87.78%	166.00%	156.91%

Note: This schedule should present 10 years of data; however, the information prior to fiscal year 2014 is not available.

(EXPRESSED IN THOUSANDS)

VRS Teacher

2018		2017		2016		2015		2014	
\$	885,510	\$	830,475	\$	828,856	\$	828,901	\$	831,501
	3,099,338		3,016,207		2,931,065		2,834,138		2,722,788
	—		—		—		—		—
	(440,308)		(642,745)		(391,881)		(212,089)		—
	—		218,559		—		—		—
	(2,241,927)		(2,147,781)		(2,081,069)		(1,980,353)		(1,874,636)
	(40,578)		(39,521)		(35,067)		(36,058)		(36,103)
	1,262,035		1,235,194		1,251,904		1,434,539		1,643,550
	45,417,520		44,182,326		42,930,422		41,495,883		39,852,333
\$	46,679,555	\$	45,417,520	\$	44,182,326	\$	42,930,422	\$	41,495,883
\$	1,292,988	\$	1,137,976	\$	1,062,338	\$	1,074,366	\$	853,634
	391,490		392,730		380,314		373,525		371,241
	—		—		—		192,884		—
	2,421,157		3,632,291		516,704		1,327,047		4,042,441
	(2,241,927)		(2,147,781)		(2,081,069)		(1,980,353)		(1,874,636)
	(40,578)		(39,521)		(35,067)		(36,058)		(36,103)
	(20,945)		(21,123)		(18,859)		(18,238)		(22,036)
	(2,167)		(3,238)		(222)		(284)		217
	1,800,018		2,951,334		(175,861)		932,889		3,334,758
	33,119,545		30,168,211		30,344,072		29,411,183		26,076,425
\$	34,919,563	\$	33,119,545	\$	30,168,211	\$	30,344,072	\$	29,411,183
\$	11,759,992	\$	12,297,975	\$	14,014,115	\$	12,586,350	\$	12,084,700
	74.81%		72.92%		68.28%		70.68%		70.88%
\$	8,086,986	\$	7,891,783	\$	7,624,612	\$	7,434,932	\$	7,313,025
	145.42%		155.83%		183.80%		169.29%		165.25%

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
VIRGINIA RETIREMENT SYSTEM – POLITICAL SUBDIVISIONS**

FOR THE PLAN YEARS ENDED JUNE 30

	VRS Political Subdivisions		
	2021	2020	2019
Total pension liability:			
Service cost	\$ 613,227	\$ 603,766	\$ 556,149
Interest	1,674,640	1,593,594	1,535,532
Benefit changes	13,507	19,657	3,948
Difference between actual and expected experience	(164,872)	221,364	45,032
Assumption changes	1,003,382	—	691,407
Benefit payments	(1,237,074)	(1,157,505)	(1,082,791)
Refunds of contributions	(42,460)	(38,323)	(40,249)
Net change in total pension liability	1,860,350	1,242,553	1,709,028
Total pension liability – beginning	25,449,316	24,206,763	22,497,735
Total pension liability – ending (a)	\$ 27,309,666	\$ 25,449,316	\$ 24,206,763
Plan fiduciary net position:			
Contributions – employer	\$ 579,989	\$ 521,543	\$ 499,293
Contributions – member	258,562	258,408	248,421
Net investment income	5,779,327	405,051	1,345,759
Benefit payments	(1,237,074)	(1,157,505)	(1,082,791)
Refunds of contributions	(42,460)	(38,323)	(40,249)
Administrative expense	(14,412)	(13,842)	(13,369)
Other	328	(274)	(853)
Net change in plan fiduciary net position	5,324,260	(24,942)	956,211
Plan fiduciary net position – beginning	21,234,090	21,259,032	20,302,821
Plan fiduciary net position – ending (b)	\$ 26,558,350	\$ 21,234,090	\$ 21,259,032
Net pension liability – ending (a-b)	\$ 751,316	\$ 4,215,226	\$ 2,947,731
Plan fiduciary net position as a percentage of the total pension liability (b/a)	97.25%	83.44%	87.82%
Covered payroll (c)	\$ 5,403,267	\$ 5,368,250	\$ 5,118,622
Net pension liability as a percentage of covered payroll ((a-b)/c)	13.90%	78.52%	57.59%

Note: This schedule should present 10 years of data; however, the information prior to fiscal year 2014 is not available.

(EXPRESSED IN THOUSANDS)

VRS Political Subdivisions

2018		2017		2016		2015		2014	
\$	544,762	\$	541,594	\$	535,322	\$	530,945	\$	524,758
	1,472,680		1,422,753		1,362,892		1,309,484		1,243,386
	10,811		36,652		2,053		1,135		—
	(43,177)		(205,649)		(87,268)		(185,419)		—
	—		(64,510)		—		—		—
	(1,010,021)		(941,856)		(893,585)		(819,201)		(754,706)
	(41,324)		(42,068)		(37,380)		(36,898)		(36,876)
	933,731		746,916		882,034		800,046		976,562
	21,564,004		20,817,088		19,935,054		19,135,008		18,158,446
\$	22,497,735	\$	21,564,004	\$	20,817,088	\$	19,935,054	\$	19,135,008
\$	490,286	\$	477,563	\$	543,947	\$	533,877	\$	539,366
	241,339		238,636		231,934		227,060		225,555
	1,415,454		2,113,973		300,995		761,164		2,272,284
	(1,010,021)		(941,856)		(893,585)		(819,201)		(754,706)
	(41,324)		(42,068)		(37,380)		(36,898)		(36,876)
	(12,236)		(12,220)		(10,696)		(10,358)		(12,153)
	(30,924)		(1,887)		(130)		(162)		120
	1,052,574		1,832,141		135,085		655,482		2,233,590
	19,250,247		17,418,106		17,283,021		16,627,539		14,393,949
\$	20,302,821	\$	19,250,247	\$	17,418,106	\$	17,283,021	\$	16,627,539
\$	2,194,914	\$	2,313,757	\$	3,398,982	\$	2,652,033	\$	2,507,469
	90.24%		89.27%		83.67%		86.70%		86.90%
\$	4,932,344	\$	4,765,842	\$	4,628,806	\$	4,513,335	\$	4,434,764
	44.50%		48.55%		73.43%		58.76%		56.54%

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)**

FOR THE PLAN YEARS ENDED JUNE 30

	SPORS		
	2021	2020	2019
Total pension liability:			
Service cost	\$ 22,042	\$ 22,167	\$ 20,079
Interest	79,549	77,231	72,715
Benefit changes	—	—	—
Difference between actual and expected experience	(9,431)	4,466	45,330
Assumption changes	58,257	—	31,773
Benefit payments	(73,227)	(64,991)	(62,683)
Refunds of contributions	(271)	(552)	(805)
Net change in total pension liability	76,919	38,321	106,409
Total pension liability – beginning	1,215,258	1,176,937	1,070,528
Total pension liability – ending (a)	\$ 1,292,177	\$ 1,215,258	\$ 1,176,937
Plan fiduciary net position:			
Contributions – employer	\$ 33,788	\$ 32,497	\$ 31,437
Contributions – member	6,489	6,600	6,379
Contributions – employer special	—	—	—
Net investment income	229,138	16,333	54,792
Benefit payments	(73,227)	(64,991)	(62,683)
Refunds of contributions	(271)	(552)	(805)
Administrative expense	(531)	(360)	(488)
Other	—	(38)	(61)
Net change in plan fiduciary net position	195,386	(10,511)	28,571
Plan fiduciary net position – beginning	854,762	865,273	836,702
Plan fiduciary net position – ending (b)	\$ 1,050,148	\$ 854,762	\$ 865,273
Net pension liability – ending (a-b)	\$ 242,029	\$ 360,496	\$ 311,664
Plan fiduciary net position as a percentage of the total pension liability (b/a)	81.27%	70.34%	73.52%
Covered payroll (c)	\$ 128,252	\$ 130,759	\$ 126,483
Net pension liability as a percentage of covered payroll ((a-b)/c)	188.71%	275.69%	246.41%

Note: This schedule should present 10 years of data; however, the information prior to fiscal year 2014 is not available.

SPORS

(EXPRESSED IN THOUSANDS)

2018		2017		2016		2015		2014	
\$	18,187	\$	18,880	\$	18,700	\$	18,847	\$	18,341
	71,251		74,042		72,618		70,350		67,978
	—		—		—		—		—
	(7,248)		(5,327)		(14,711)		(2,890)		—
	—		(68,707)		—		—		—
	(58,197)		(57,814)		(53,515)		(53,338)		(50,467)
	(867)		(630)		(584)		(375)		(685)
	23,126		(39,556)		22,508		32,594		35,167
	1,047,402		1,086,958		1,064,450		1,031,856		996,689
\$	1,070,528	\$	1,047,402	\$	1,086,958	\$	1,064,450	\$	1,031,856
\$	35,806	\$	31,888	\$	31,536	\$	28,427	\$	27,683
	6,311		5,701		5,759		5,680		5,646
	—		—		2,119		—		15,000
	58,148		87,265		12,634		32,466		98,682
	(58,197)		(57,814)		(53,515)		(53,338)		(50,467)
	(867)		(630)		(584)		(375)		(685)
	(509)		(926)		(590)		(471)		(431)
	(63)		(99)		(23)		(27)		—
	40,629		65,385		(2,664)		12,362		95,428
	796,073		730,688		733,352		720,990		625,562
\$	836,702	\$	796,073	\$	730,688	\$	733,352	\$	720,990
\$	233,826	\$	251,329	\$	356,270	\$	331,098	\$	310,866
	78.16%		76.00%		67.22%		68.89%		69.87%
\$	124,003	\$	111,395	\$	114,395	\$	110,059	\$	112,010
	188.56%		225.62%		311.44%		300.84%		277.53%

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)**

FOR THE PLAN YEARS ENDED JUNE 30

	VaLORS		
	2021	2020	2019
Total pension liability:			
Service cost	\$ 47,606	\$ 48,003	\$ 44,526
Interest	149,677	143,708	139,307
Benefit changes	—	—	—
Difference between actual and expected experience	(25,405)	22,645	11,067
Assumption changes	66,216	—	62,090
Benefit payments	(124,045)	(117,137)	(109,193)
Refunds of contributions	(5,791)	(4,893)	(4,933)
Net change in total pension liability	108,258	92,326	142,864
Total pension liability – beginning	2,282,351	2,190,025	2,047,161
Total pension liability – ending (a)	\$ 2,390,609	\$ 2,282,351	\$ 2,190,025
Plan fiduciary net position:			
Contributions – employer	\$ 76,415	\$ 79,914	\$ 75,327
Contributions – member	17,602	18,712	17,871
Contributions – employer special	—	—	—
Net investment income	405,217	28,579	93,872
Benefit payments	(124,045)	(117,137)	(109,193)
Refunds of contributions	(5,791)	(4,893)	(4,933)
Administrative expense	(943)	(623)	(831)
Other	—	(73)	(103)
Net change in plan fiduciary net position	368,455	4,479	72,010
Plan fiduciary net position – beginning	1,500,469	1,495,990	1,423,980
Plan fiduciary net position – ending (b)	\$ 1,868,924	\$ 1,500,469	\$ 1,495,990
Net pension liability – ending (a-b)	\$ 521,685	\$ 781,882	\$ 694,035
Plan fiduciary net position as a percentage of the total pension liability (b/a)	78.18%	65.74%	68.31%
Covered payroll (c)	\$ 348,650	\$ 369,996	\$ 349,998
Net pension liability as a percentage of covered payroll ((a-b)/c)	149.63%	211.32%	198.30%

Note: This schedule should present 10 years of data; however, the information prior to fiscal year 2014 is not available.

ValORS

(EXPRESSED IN THOUSANDS)

2018		2017		2016		2015		2014	
\$	45,179	\$	47,189	\$	45,608	\$	47,531	\$	46,504
	136,289		135,453		129,756		124,579		119,040
	—		—		—		—		—
	(26,111)		(1,457)		4,997		(4,849)		—
	—		(63,457)		—		—		—
	(104,776)		(96,224)		(92,270)		(84,990)		(78,412)
	(5,604)		(4,938)		(4,524)		(4,797)		(4,665)
	44,977		16,566		83,567		77,474		82,467
	2,002,184		1,985,618		1,902,051		1,824,577		1,742,110
\$	2,047,161	\$	2,002,184	\$	1,985,618	\$	1,902,051	\$	1,824,577
\$	73,793	\$	73,816	\$	62,900	\$	62,084	\$	52,483
	17,496		17,598		17,574		17,081		17,908
	—		—		16,492		—		15,000
	98,292		146,039		20,899		52,312		156,786
	(104,776)		(96,224)		(92,270)		(84,990)		(78,412)
	(5,604)		(4,938)		(4,524)		(4,797)		(4,665)
	(861)		(1,540)		(940)		(743)		(681)
	(247)		(310)		(38)		(44)		—
	78,093		134,441		20,093		40,903		158,419
	1,345,887		1,211,446		1,191,353		1,150,450		992,031
\$	1,423,980	\$	1,345,887	\$	1,211,446	\$	1,191,353	\$	1,150,450
\$	623,181	\$	656,297	\$	774,172	\$	710,698	\$	674,127
	69.56%		67.22%		61.01%		62.64%		63.05%
\$	345,531	\$	344,468	\$	345,504	\$	338,562	\$	352,492
	180.35%		190.52%		224.07%		209.92%		191.25%

**REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET PENSION LIABILITY:
JUDICIAL RETIREMENT SYSTEM**

FOR THE PLAN YEARS ENDED JUNE 30

		JRS	
	2021	2020	2019
Total pension liability:			
Service cost	\$ 19,335	\$ 20,650	\$ 18,767
Interest	44,788	44,234	44,139
Benefit changes	—	—	—
Difference between actual and expected experience	(10,245)	(9,446)	(7,158)
Assumption changes	53,040	—	14,077
Benefit payments	(47,750)	(46,546)	(43,587)
Refunds of contributions	(135)	(12)	—
Net change in total pension liability	59,033	8,880	26,238
Total pension liability – beginning	687,469	678,589	652,351
Total pension liability – ending (a)	\$ 746,502	\$ 687,469	\$ 678,589
Plan fiduciary net position:			
Contributions – employer	\$ 22,856	\$ 24,819	\$ 22,893
Contributions – member	1,868	3,436	3,208
Contributions – employer special	—	—	—
Net investment income	147,200	10,491	35,372
Benefit payments	(47,750)	(46,546)	(43,587)
Refunds of contributions	(135)	(12)	—
Administrative expense	(343)	(232)	(315)
Other	—	(42)	(39)
Net change in plan fiduciary net position	123,696	(8,086)	17,532
Plan fiduciary net position – beginning	549,455	557,541	540,009
Plan fiduciary net position – ending (b)	\$ 673,151	\$ 549,455	\$ 557,541
Net pension liability – ending (a-b)	\$ 73,351	\$ 138,014	\$ 121,048
Plan fiduciary net position as a percentage of the total pension liability (b/a)	90.17%	79.92%	82.16%
Covered payroll (c)	\$ 74,594	\$ 74,769	\$ 68,330
Net pension liability as a percentage of covered payroll ((a-b)/c)	98.33%	184.59%	177.15%

Note: This schedule should present 10 years of data, however, the information prior to fiscal year 2014 is not available.

JRS

(EXPRESSED IN THOUSANDS)

2018		2017		2016		2015		2014	
\$	19,228	\$	22,144	\$	21,978	\$	23,254	\$	24,024
	43,799		42,081		42,820		41,759		40,013
	—		—		(15,552)		—		—
	(15,786)		(14,774)		(18,681)		(9,107)		—
	—		16,114		—		—		—
	(41,165)		(40,895)		(41,341)		(40,205)		(37,984)
	—		—		—		—		—
	6,076		24,670		(10,776)		15,701		26,053
	646,275		621,605		632,381		616,680		590,627
\$	652,351	\$	646,275	\$	621,605	\$	632,381	\$	616,680
\$	28,096	\$	27,612	\$	33,036	\$	31,503	\$	27,727
	3,231		3,272		3,236		3,015		3,051
	—		—		8,466		—		—
	37,466		56,029		8,112		20,051		60,833
	(41,165)		(40,895)		(41,341)		(40,205)		(37,984)
	—		—		—		—		—
	(326)		(594)		(363)		(283)		(268)
	(42)		(64)		(15)		(17)		—
	27,260		45,360		11,131		14,064		53,359
	512,749		467,389		456,258		442,194		388,835
\$	540,009	\$	512,749	\$	467,389	\$	456,258	\$	442,194
\$	112,342	\$	133,526	\$	154,216	\$	176,123	\$	174,486
	82.78%		79.34%		75.19%		72.15%		71.71%
\$	68,245	\$	66,826	\$	66,621	\$	61,092	\$	61,020
	164.62%		199.81%		231.48%		288.29%		285.95%

REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS: PENSION PLANS

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contributions Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
VIRGINIA RETIREMENT SYSTEM (VRS) – STATE					
2021	\$ 636,236	\$ 636,236	\$ —	\$ 4,399,969	14.46%
2020	600,306	600,306	—	4,440,135	13.52%
2019	567,450	567,450	—	4,197,484	13.52%
2018	560,154	560,154	—	4,152,368	13.49%
2017	542,418	542,418	—	4,020,893	13.49%
2016	628,486	557,160	71,326	3,977,759	14.01%
2015	612,824	478,235	134,589	3,878,632	12.33%
2014	504,726	338,286	166,440	3,861,712	8.76%
2013	485,577	325,452	160,125	3,715,205	8.76%
2012	309,930	117,696	192,234	3,663,475	3.21%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER					
2021	\$ 1,469,854	\$ 1,469,854	\$ —	\$ 8,843,887	16.62%
2020	1,374,613	1,374,613	—	8,766,667	15.68%
2019	1,315,160	1,315,160	—	8,387,503	15.68%
2018	1,319,796	1,319,796	—	8,086,986	16.32%
2017	1,287,939	1,156,935	131,004	7,891,783	14.66%
2016	1,344,981	1,072,020	272,961	7,624,612	14.06%
2015	1,353,158	1,078,065	275,093	7,434,932	14.50%
2014	1,226,394	852,699	373,695	7,313,025	11.66%
2013	1,203,856	837,028	366,828	7,178,629	11.66%
2012	903,655	443,078	460,577	6,999,653	6.33%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS					
2021	\$ 610,434	\$ 610,473	\$ (39)	\$ 5,403,267	11.30%
2020	544,676	547,382	(2,706)	5,368,250	10.20%
2019	515,904	518,513	(2,609)	5,118,622	10.13%
2018	504,955	505,603	(648)	4,932,344	10.25%
2017	487,067	487,702	(635)	4,765,842	10.22%
2016	554,335	549,408	4,927	4,628,806	11.87%
2015	540,859	535,919	4,940	4,513,335	11.87%
2014	551,822	539,131	12,691	4,434,764	12.16%
2013	537,657	525,385	12,272	4,321,565	12.16%
2012	400,879	400,879	—	4,142,150	9.68%

REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS: PENSION PLANS, cont.

(EXPRESSED IN THOUSANDS)

Year Ended June 30		Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contributions Deficiency (Excess)		Covered Payroll	Contributions as a Percentage of Covered Payroll
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)							
2021	\$	33,769	\$ 33,769	\$ —	\$	128,252	26.33%
2020		32,533	32,533	—		130,759	24.88%
2019		31,469	31,469	—		126,483	24.88%
2018		35,391	35,391	—		124,003	28.54%
2017		31,792	31,792	—		111,395	28.54%
2016		35,211	31,561	3,650		114,395	27.59%
2015		33,876	28,417	5,459		110,059	25.82%
2014		36,538	27,711	8,827		112,010	24.74%
2013		34,535	26,193	8,342		105,872	24.74%
2012		26,250	11,441	14,809		102,701	11.14%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)							
2021	\$	76,354	\$ 76,354	\$ —	\$	348,650	21.90%
2020		79,956	79,956	—		369,996	21.61%
2019		75,635	75,635	—		349,998	21.61%
2018		72,734	72,734	—		345,531	21.05%
2017		72,511	72,511	—		344,468	21.05%
2016		72,763	65,101	7,662		345,504	18.84%
2015		71,301	59,824	11,477		338,562	17.67%
2014		68,806	52,169	16,637		352,492	14.80%
2013		66,463	50,392	16,071		340,489	14.80%
2012		55,306	24,481	30,825		347,181	7.05%
JUDICIAL RETIREMENT SYSTEM (JRS)							
2021	\$	22,259	\$ 22,259	\$ —	\$	74,594	29.84%
2020		25,713	25,713	—		74,769	34.39%
2019		23,498	23,498	—		68,330	34.39%
2018		28,642	28,642	—		68,245	41.97%
2017		28,047	28,047	—		66,826	41.97%
2016		37,008	33,291	3,717		66,621	49.97%
2015		35,336	31,560	3,776		61,092	51.66%
2014		33,018	27,728	5,290		61,020	45.44%
2013		32,185	27,028	5,157		59,481	45.44%
2012		27,631	18,907	8,724		59,053	32.02%

REQUIRED SUPPLEMENTARY SCHEDULE OF INVESTMENT RETURNS

FOR THE PLAN YEARS ENDED JUNE 30

	VRS Pooled Asset Portfolio*							
	2021	2020	2019	2018	2017	2016	2015	2014**
Annual money-weighted rate of return, net of investment expense	27.45%	1.42%	6.63%	7.57%	12.13%	1.83%	4.72%	15.67%

* Investments for all plans are pooled for investing purposes. Therefore, a money-weighted rate of return, net of investment expense, is only available for the pool and not for each individual plan.

** This schedule should present 10 years of data; however, the information prior to 2014 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Group Life Insurance Fund 2021	Group Life Insurance Fund 2020	Group Life Insurance Fund 2019	Group Life Insurance Fund 2018	Group Life Insurance Fund 2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 96,894	\$ 98,367	\$ 86,912	\$ 84,355	\$ 81,479
Interest	232,052	221,684	210,950	198,960	201,770
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	63,189	25,709	56,736	88,052	(39,461)
Changes of assumptions	(166,464)	—	122,011	—	(91,738)
Benefit payments	(172,263)	(212,060)	(199,879)	(200,285)	(184,092)
Net change in total OPEB liability	53,408	133,700	276,730	171,082	(32,042)
Total OPEB liability – beginning	3,523,938	3,390,238	3,113,508	2,942,426	2,974,468
Total OPEB liability – ending (a)	\$ 3,577,346	\$ 3,523,938	\$ 3,390,238	\$ 3,113,508	\$ 2,942,426
Plan fiduciary net position:					
Contributions – employer	\$ 111,797	\$ 107,252	\$ 102,175	\$ 98,530	\$ 94,082
Contributions – member	86,509	162,925	155,153	150,402	146,002
Net investment income	534,709	36,276	113,440	110,917	158,430
Benefit payments	(172,263)	(212,060)	(199,879)	(200,285)	(184,092)
Administrative expense	(862)	(824)	(709)	(664)	(31)
Other	(1,918)	(1,439)	(1,981)	(1,713)	(1,731)
Net change in plan fiduciary net position	557,972	92,130	168,199	157,187	212,660
Plan fiduciary net position – beginning	1,855,102	1,762,972	1,594,773	1,437,586	1,224,926
Plan fiduciary net position – ending (b)	\$ 2,413,074	\$ 1,855,102	\$ 1,762,972	\$ 1,594,773	\$ 1,437,586
Net OPEB liability – ending (a-b)	\$ 1,164,272	\$ 1,668,836	\$ 1,627,266	\$ 1,518,735	\$ 1,504,840
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	67.45%	52.64%	52.00%	51.22%	48.86%
Covered payroll (c)	\$ 20,679,890	\$ 20,612,888	\$ 19,633,771	\$ 19,044,361	\$ 18,473,085
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	5.63%	8.10%	8.29%	7.97%	8.15%

Note: This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Disability Insurance Trust Fund	Disability Insurance Trust Fund	Disability Insurance Trust Fund	Disability Insurance Trust Fund	Disability Insurance Trust Fund
	2021	2020	2019	2018	2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 32,679	\$ 32,988	\$ 29,232	\$ 27,527	\$ 27,884
Interest	17,222	18,774	15,788	15,503	15,810
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(22,057)	(46,473)	29,489	(11,237)	—
Changes of assumptions	(1,387)	—	4,180	—	(17,511)
Benefit payments	(28,790)	(27,804)	(24,376)	(31,073)	(30,056)
Net change in total OPEB liability	(2,333)	(22,515)	54,313	720	(3,873)
Total OPEB liability – beginning	269,531	292,046	237,733	237,013	240,886
Total OPEB liability – ending (a)	\$ 267,198	\$ 269,531	\$ 292,046	\$ 237,733	\$ 237,013
Plan fiduciary net position:					
Contributions – employer	\$ 26,542	\$ 26,994	\$ 25,263	\$ 27,260	\$ 24,130
Contributions – member	—	—	—	—	—
Net investment income	131,373	9,445	30,494	32,073	48,206
Benefit payments	(28,790)	(27,804)	(24,376)	(31,073)	(30,056)
Third-party administrator charges	(7,137)	(6,611)	(6,431)	(6,637)	(7,001)
Administrative expense	(600)	(631)	(787)	(961)	(717)
Other	311	586	1,117	(35)	(54)
Net change in plan fiduciary net position	121,699	1,979	25,280	20,627	34,508
Plan fiduciary net position – beginning	490,220	488,241	462,961	442,334	407,826
Plan fiduciary net position – ending (b)	\$ 611,919	\$ 490,220	\$ 488,241	\$ 462,961	\$ 442,334
Net OPEB liability – ending (a-b)	\$ (344,721)	\$ (220,689)	\$ (196,195)	\$ (225,228)	\$ (205,321)
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	229.01%	181.88%	167.18%	194.74%	186.63%
Covered payroll (c)	\$ 4,355,154	\$ 4,365,296	\$ 4,077,627	\$ 3,972,637	\$ 3,799,590
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	(7.92)%	(5.06)%	(4.81)%	(5.67)%	(5.40)%

Note: This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Virginia Local Disability Program				
	Teachers 2021	Teachers 2020	Teachers 2019	Teachers 2018	Teachers 2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 1,366	\$ 1,109	\$ 871	\$ 668	\$ 389
Interest	237	144	92	57	29
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(379)	406	(19)	(66)	—
Changes of assumptions	339	—	63	—	53
Benefit payments	(366)	(213)	(167)	(131)	(36)
Net change in total OPEB liability	1,197	1,446	840	528	435
Total OPEB liability – beginning	3,687	2,241	1,401	873	438
Total OPEB liability – ending (a)	4,884	3,687	\$ 2,241	\$ 1,401	\$ 873
Plan fiduciary net position:					
Contributions – employer	\$ 3,166	\$ 2,426	\$ 1,966	\$ 1,160	\$ 589
Contributions – member	—	—	—	—	—
Net investment income	1,031	45	83	29	—
Benefit payments	(366)	(213)	(167)	(131)	(36)
Third-party administrator charges	(988)	(935)	(829)	(794)	(484)
Administrative expense	(140)	(97)	(39)	(76)	(84)
Other	—	—	—	180	294
Net change in plan fiduciary net position	2,703	1,226	1,014	368	279
Plan fiduciary net position – beginning	2,887	1,661	647	279	—
Plan fiduciary net position – ending (b)	5,590	2,887	\$ 1,661	\$ 647	\$ 279
Net OPEB liability – ending (a-b)	(706)	800	\$ 580	\$ 754	\$ 594
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	114.46%	78.30%	74.12%	46.18%	31.96%
Covered payroll (c)	\$ 672,908	\$ 591,499	\$ 479,535	\$ 372,869	\$ 282,200
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	(0.10%)	0.14%	0.12%	0.20%	0.21%

Note: This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

	Virginia Local Disability Program				
	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions
	2021	2020	2019	2018	2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 1,820	\$ 1,553	\$ 1,191	\$ 876	\$ 664
Interest	278	261	105	58	25
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(603)	(1,250)	1,224	(95)	—
Changes of assumptions	(271)	—	69	—	(110)
Benefit payments	(385)	(236)	(188)	(165)	(44)
Net change in total OPEB liability	839	328	2,401	674	535
Total OPEB liability – beginning	4,317	3,989	1,588	914	379
Total OPEB liability – ending (a)	5,156	4,317	\$ 3,989	\$ 1,588	\$ 914
Plan fiduciary net position:					
Contributions – employer	\$ 3,338	\$ 2,684	\$ 2,226	\$ 1,463	\$ 740
Contributions – member	—	—	—	—	—
Net investment income	1,086	48	93	36	—
Benefit payments	(385)	(236)	(188)	(165)	(44)
Third-party administrator charges	(1,042)	(1,034)	(940)	(1,000)	(609)
Administrative expense	(148)	(107)	(45)	(96)	(106)
Other	—	—	—	227	370
Net change in plan fiduciary net position	2,849	1,355	1,146	465	351
Plan fiduciary net position – beginning	3,317	1,962	816	351	—
Plan fiduciary net position – ending (b)	6,166	3,317	\$ 1,962	\$ 816	\$ 351
Net OPEB liability – ending (a-b)	(1,010)	1,000	\$ 2,027	\$ 772	\$ 563
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	119.59%	76.84%	49.19%	51.39%	38.40%
Covered payroll (c)	\$ 401,715	\$ 372,635	\$ 309,020	\$ 242,807	\$ 183,629
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	(0.25%)	0.27%	0.66%	0.32%	0.31%

Note: This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

	Line of Duty Trust Fund 2021	Line of Duty Trust Fund 2020	Line of Duty Trust Fund 2019	Line of Duty Trust Fund 2018	Line of Duty Trust Fund 2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 21,241	\$ 16,019	\$ 13,292	\$ 15,197	\$ 17,648
Interest	9,207	12,443	12,019	9,258	8,305
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(18,371)	(64,121)	14,833	51,048	—
Changes of assumptions	26,413	109,371	18,941	(13,962)	(30,500)
Benefit payments	(13,095)	(12,191)	(12,854)	(12,398)	(10,255)
Net change in total OPEB liability	25,395	61,521	46,231	49,143	(14,802)
Total OPEB liability – beginning	423,147	361,626	315,395	266,252	281,054
Total OPEB liability – ending (a)	448,542	423,147	\$ 361,626	\$ 315,395	\$ 266,252
Plan fiduciary net position:					
Contributions – employer	\$ 13,633	\$ 13,567	\$ 13,377	\$ 10,035	\$ 11,024
Contributions – member	—	—	—	—	—
Net investment income	3,031	346	277	678	683
Benefit payments	(13,095)	(12,191)	(12,854)	(12,398)	(10,255)
Administrative expense	(979)	(810)	(508)	(742)	(1,283)
Other	630	581	659	855	584
Net change in plan fiduciary net position	3,220	1,493	951	(1,572)	753
Plan fiduciary net position – beginning	4,333	2,840	1,889	3,461	2,708
Plan fiduciary net position – ending (b)	7,553	4,333	\$ 2,840	\$ 1,889	\$ 3,461
Net OPEB liability – ending (a-b)	440,989	418,814	\$ 358,786	\$ 313,506	\$ 262,791
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	1.68%	1.02%	0.79%	0.60%	1.30%
Covered payroll (c)	*	*	*	*	*
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	N/A	N/A	N/A	N/A	N/A

* Contributions to the Line of Duty Trust Fund are based on the number of participants in the program using a per-capita-based contribution versus a payroll-based contribution.

Note: This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit				
	State	State	State	State	State
	2021	2020	2019	2018	2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 20,432	\$ 20,143	\$ 19,446	\$ 19,645	\$ 19,231
Interest	68,014	67,289	68,023	66,883	66,641
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(20,219)	(5,703)	(13,402)	745	—
Changes of assumptions	12,326	—	22,700	—	(12,229)
Benefit payments	(71,536)	(70,440)	(72,857)	(69,117)	(71,256)
Net change in total OPEB liability	9,017	11,289	23,910	18,156	2,387
Total OPEB liability – beginning	1,043,383	1,032,094	1,008,184	990,028	987,641
Total OPEB liability – ending (a)	1,052,400	1,043,383	\$ 1,032,094	\$ 1,008,184	\$ 990,028
Plan fiduciary net position:					
Contributions – employer	81,191	84,849	\$ 79,926	\$ 79,416	\$ 75,058
Contributions – employer special	38,656	—	—	—	—
Net investment income	34,790	2,185	6,189	5,706	7,706
Benefit payments	(71,536)	(70,440)	(72,857)	(69,117)	(71,256)
Administrative expense	(589)	(230)	(135)	(149)	(131)
Other	(30)	(9)	(8)	536	(546)
Net change in plan fiduciary net position	82,482	16,355	13,115	16,392	10,831
Plan fiduciary net position – beginning	125,378	109,023	95,908	79,516	68,685
Plan fiduciary net position – ending (b)	207,860	125,378	\$ 109,023	\$ 95,908	\$ 79,516
Net OPEB liability – ending (a-b)	844,540	918,005	\$ 923,071	\$ 912,276	\$ 910,512
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	19.75%	12.02%	10.56%	9.51%	8.03%
Covered payroll (c)	\$ 7,239,781	\$ 7,237,090	\$ 6,844,807	\$ 6,764,917	\$ 6,489,069
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	11.67%	12.68%	13.49%	13.49%	14.03%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit				
	Teacher 2021	Teacher 2020	Teacher 2019	Teacher 2018	Teacher 2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 21,713	\$ 21,738	\$ 20,979	\$ 20,887	\$ 20,351
Interest	94,626	93,964	93,526	92,399	91,661
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(9,325)	(13,054)	(2,398)	(7,255)	—
Changes of assumptions	15,792	—	35,149	—	(15,003)
Benefit payments	(93,607)	(92,086)	(90,456)	(89,420)	(83,510)
Net change in total OPEB liability	29,199	10,562	56,800	16,611	13,499
Total OPEB liability – beginning	1,448,675	1,438,113	1,381,313	1,364,702	1,351,203
Total OPEB liability – ending (a)	1,477,874	1,448,675	\$ 1,438,113	\$ 1,381,313	\$ 1,364,702
Plan fiduciary net position:					
Contributions – employer	107,172	105,210	100,643	99,469	87,613
Net investment income	37,093	2,291	7,350	6,097	8,818
Benefit payments	(93,607)	(92,086)	(90,455)	(89,420)	(83,510)
Administrative expense	(501)	(258)	(152)	(152)	(120)
Other	(13)	(12)	(9)	(446)	436
Net change in plan fiduciary net position	50,144	15,145	17,377	15,548	13,237
Plan fiduciary net position – beginning	144,161	129,016	\$ 111,639	\$ 96,091	\$ 82,854
Plan fiduciary net position – ending (b)	194,305	144,161	\$ 129,016	\$ 111,639	\$ 96,091
Net OPEB liability – ending (a-b)	1,283,569	1,304,514	\$ 1,309,097	\$ 1,269,674	\$ 1,268,611
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	13.15%	9.95%	8.97%	8.08%	7.04%
Covered payroll (c)	\$ 8,843,941	\$ 8,766,759	\$ 8,387,684	\$ 8,087,389	\$ 7,892,011
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	14.51%	14.88%	15.61%	15.70%	16.07%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit				
	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions
Change in the Net OPEB Liability	2021	2020	2019	2018	2017
Total OPEB liability:					
Service cost	\$ 1,532	\$ 1,063	\$ 997	\$ 960	\$ 972
Interest	5,113	2,797	2,721	2,644	2,618
Changes in benefit terms	—	32,238	—	—	—
Difference between actual and expected experience	(669)	624	964	339	—
Changes of assumptions	1,656	220	1,066	—	(1,015)
Benefit payments	(3,098)	(2,996)	(2,564)	(2,707)	(1,676)
Net change in total OPEB liability	4,534	33,946	3,184	1,236	899
Total OPEB liability – beginning	77,490	43,544	40,360	39,124	38,225
Total OPEB liability – ending (a)	82,024	77,490	\$ 43,544	\$ 40,360	\$ 39,124
Plan fiduciary net position:					
Contributions – employer	5,239	2,553	\$ 2,406	\$ 2,291	\$ 2,164
Net investment income	6,711	490	1,490	1,570	2,273
Benefit payments	(3,098)	(2,996)	(2,564)	(2,707)	(1,676)
Administrative expense	(86)	(47)	(32)	(37)	(37)
Other	2	(2)	(2)	(103)	111
Net change in plan fiduciary net position	8,768	(2)	1,298	1,014	2,835
Plan fiduciary net position – beginning	24,466	24,468	23,170	22,156	19,321
Plan fiduciary net position – ending (b)	33,234	24,466	\$ 24,468	\$ 23,170	\$ 22,156
Net OPEB liability – ending (a-b)	48,790	53,024	\$ 19,076	\$ 17,190	\$ 16,968
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	40.52%	31.57%	56.19%	57.41%	56.63%
Covered payroll (c)	\$ 1,489,771	\$ 1,477,727	\$ 1,081,702	\$ 1,022,007	\$ 966,611
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	3.27 %	3.59%	1.76%	1.68%	1.76%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit				
	Constitutional Officers	Constitutional Officers	Constitutional Officers	Constitutional Officers	Constitutional Officers
	2021	2020	2019	2018	2017
Change in the Net OPEB Liability					
Total OPEB liability:					
Service cost	\$ 776	\$ 746	\$ 687	\$ 677	\$ 671
Interest	2,118	2,050	2,010	1,913	1,890
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(241)	223	98	569	—
Changes of assumptions	567	—	757	—	(578)
Benefit payments	(2,047)	(1,970)	(1,825)	(1,723)	(1,568)
Net change in total OPEB liability	1,173	1,049	1,727	1,436	415
Total OPEB liability – beginning	32,405	31,356	29,629	28,193	27,778
Total OPEB liability – ending (a)	33,578	32,405	\$ 31,356	\$ 29,629	\$ 28,193
Plan fiduciary net position:					
Contributions – employer	2,666	2,526	\$ 2,794	\$ 2,378	\$ 2,320
Net investment income	954	86	238	183	215
Benefit payments	(2,047)	(1,970)	(1,825)	(1,723)	(1,568)
Administrative expense	(16)	(9)	(6)	(4)	(4)
Other	(1)	—	—	17	(15)
Net change in plan fiduciary net position	1,556	633	1,201	851	948
Plan fiduciary net position – beginning	5,112	4,479	3,278	2,427	1,479
Plan fiduciary net position – ending (b)	6,668	5,112	\$ 4,479	\$ 3,278	\$ 2,427
Net OPEB liability – ending (a-b)	26,910	27,293	\$ 26,877	\$ 26,351	\$ 25,766
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	19.86%	15.78%	14.28%	11.06%	8.61%
Covered payroll (c)	\$ 733,933	\$ 719,390	\$ 682,376	\$ 655,995	\$ 633,397
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	3.67%	3.79%	3.94%	4.02%	4.07%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit				
	Social Services Employees	Social Services Employees	Social Services Employees	Social Services Employees	Social Services Employees
Change in the Net OPEB Liability	2021	2020	2019	2018	2017
Total OPEB liability:					
Service cost	\$ 301	\$ 291	\$ 260	\$ 257	\$ 263
Interest	964	958	960	933	928
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(254)	(106)	(27)	186	—
Changes of assumptions	229	—	327	—	(162)
Benefit payments	(1,078)	(1,058)	(1,012)	(970)	(928)
Net change in total OPEB liability	162	85	508	406	101
Total OPEB liability – beginning	14,815	14,730	14,222	13,816	13,715
Total OPEB liability – ending (a)	14,977	14,815	\$ 14,730	\$ 14,222	\$ 13,816
Plan fiduciary net position:					
Contributions – employer	1,160	689	\$ 1,847	\$ 1,120	\$ 1,069
Net investment income	335	34	122	72	98
Benefit payments	(1,078)	(1,058)	(1,012)	(970)	(928)
Administrative expense	(6)	(3)	(3)	(1)	(2)
Other	—	—	—	7	(7)
Net change in plan fiduciary net position	411	(338)	954	228	230
Plan fiduciary net position – beginning	1,935	2,273	1,319	1,091	861
Plan fiduciary net position – ending (b)	2,346	1,935	\$ 2,273	\$ 1,319	\$ 1,091
Net OPEB liability – ending (a-b)	12,631	12,880	\$ 12,457	\$ 12,903	\$ 12,725
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	15.66%	13.06%	15.43%	9.27%	7.90%
Covered payroll (c)	\$ 300,727	\$ 298,257	\$ 279,503	\$ 263,298	\$ 251,084
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	4.20 %	4.32%	4.46%	4.9%	5.07%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

REQUIRED SUPPLEMENTARY SCHEDULE OF CHANGES IN EMPLOYERS' NET OTHER POST-EMPLOYMENT BENEFIT (OPEB) LIABILITY AND RELATED RATIOS, cont.

(EXPRESSED IN THOUSANDS)

Change in the Net OPEB Liability	Health Insurance Credit				
	Registrars 2021	Registrars 2020	Registrars 2019	Registrars 2018	Registrars 2017
Total OPEB liability:					
Service cost	\$ 18	\$ 16	\$ 16	\$ 12	\$ 12
Interest	39	40	39	36	35
Changes in benefit terms	—	—	—	—	—
Difference between actual and expected experience	(21)	(44)	(22)	1	—
Changes of assumptions	7	—	12	—	(10)
Benefit payments	(35)	(7)	(12)	(12)	(27)
Net change in total OPEB liability	8	5	33	37	10
Total OPEB liability – beginning	595	590	557	520	510
Total OPEB liability – ending (a)	603	595	\$ 590	\$ 557	\$ 520
Plan fiduciary net position:					
Contributions – employer	54	44	\$ 36	\$ 32	\$ 47
Net investment income	23	2	5	4	3
Benefit payments	(35)	(7)	(12)	(12)	(27)
Administrative expense	—	—	—	—	—
Other	—	—	—	—	—
Net change in plan fiduciary net position	42	39	29	24	23
Plan fiduciary net position – beginning	126	87	58	34	11
Plan fiduciary net position – ending (b)	168	126	\$ 87	\$ 58	\$ 34
Net OPEB liability – ending (a-b)	435	469	\$ 503	\$ 499	\$ 486
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	27.86%	21.18%	14.75%	10.41%	6.54%
Covered payroll (c)	\$ 13,391	\$ 12,745	\$ 11,770	\$ 11,512	\$ 11,047
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	3.25%	3.68%	4.27%	4.33%	4.40%

This schedule should present 10 years of data; however, the information prior to 2017 is unavailable.

**REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS:
OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS**

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contributions Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
GROUP LIFE INSURANCE FUND					
2021	\$ 111,671	\$ 111,671	\$ —	\$ 20,679,890	0.54%
2020	107,187	107,187	—	20,612,888	0.52%
2019	102,096	102,096	—	19,633,771	0.52%
2018	99,031	99,031	—	19,044,361	0.52%
2017	96,060	96,060	—	18,473,085	0.52%
2016	95,383	86,385	8,998	17,996,821	0.48%
2015	92,864	84,103	8,761	17,521,463	0.48%
2014	91,580	82,940	8,640	17,279,273	0.48%
2013	88,985	80,590	8,395	16,789,539	0.48%
2012	71,957	47,293	24,664	16,353,785	0.29%
DISABILITY INSURANCE TRUST FUND					
2021	\$ 26,566	\$ 26,566	\$ —	\$ 4,355,154	0.61%
2020	27,065	27,065	—	4,365,296	0.62%
2019	25,281	25,281	—	4,077,627	0.62%
2018	26,219	26,219	—	3,972,637	0.66%
2017	25,077	25,077	—	3,799,590	0.66%
2016	27,187	24,580	2,607	3,724,248	0.66%
2015	26,244	23,728	2,516	3,595,080	0.66%
2014	20,610	16,701	3,909	3,553,444	0.47%
2013	21,032	17,043	3,989	3,626,208	0.47%
2012	30,285	1,096	29,189	4,037,955	0.03%
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHER					
2021	\$ 3,163	\$ 3,163	\$ —	\$ 672,908	0.47%
2020	2,425	2,425	—	591,499	0.41%
2019	1,966	1,966	—	479,535	0.41%
2018	1,156	1,156	—	372,869	0.31%
2017	875	875	—	282,200	0.31%
2016	536	536	—	184,729	0.29%
2015	276	276	—	95,328	0.29%
2014*	10	10	—	3,549	0.29%
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS					
2021	\$ 3,334	\$ 3,334	—	\$ 401,715	0.83%
2020	2,683	2,683	—	372,635	0.72%
2019	2,225	2,225	—	309,020	0.72%
2018	1,457	1,457	—	242,807	0.60%
2017	1,102	1,102	—	183,629	0.60%
2016	741	741	—	123,509	0.60%
2015	377	377	—	62,801	0.60%
2014*	41	41	—	6,818	0.60%

**REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS:
OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS, cont.**

LINE OF DUTY TRUST FUND**							
2021	\$	24,929	\$	13,767	\$	11,162	N/A
2020		24,481		13,590		10,891	N/A
2019		24,176		13,421		10,755	N/A
2018		23,214		10,652		12,562	N/A
2017		23,503		10,785		12,718	N/A
2016		23,328		9,756		13,572	N/A
2015		23,847		9,974		13,873	N/A
2014		22,103		10,381		11,722	N/A
2013		21,895		9,341		12,554	N/A
2012		25,033		8,323		16,710	N/A

**REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS:
OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS, cont.**

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contributions Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
HEALTH INSURANCE CREDIT – STATE					
2021	\$ 81,086	\$ 81,086	\$ —	\$ 7,239,781	1.12%
2020	84,674	84,674	—	7,237,090	1.17%
2019	80,084	80,084	—	6,844,807	1.17%
2018	79,802	79,802	—	6,762,917	1.18%
2017	76,571	76,571	—	6,489,069	1.18%
2016	73,961	66,375	7,586	6,321,454	1.05%
2015	71,522	64,186	7,336	6,112,951	1.05%
2014	63,385	60,367	3,018	6,036,629	1.00%
2013	59,618	56,779	2,839	5,677,848	1.00%
2012	60,222	7,686	52,536	5,681,295	0.14%
HEALTH INSURANCE CREDIT – TEACHER					
2021	\$ 107,012	\$ 107,012	\$ —	\$ 8,843,941	1.21%
2020	105,201	105,201	—	8,766,759	1.20%
2019	100,652	100,652	—	8,387,684	1.20%
2018	99,475	99,475	—	8,087,389	1.23%
2017	97,072	87,601	9,471	7,892,011	1.11%
2016	89,976	80,826	9,150	7,625,071	1.06%
2015	87,739	78,817	8,922	7,435,548	1.06%
2014	85,571	81,183	4,388	7,313,792	1.11%
2013	83,763	79,468	4,295	7,159,267	1.11%
2012	75,999	42,222	33,777	7,036,940	0.60%
HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS					
2021	\$ 5,191	\$ 5,191	\$ —	\$ 1,489,771	0.35%
2020	2,494	2,494	—	1,477,727	0.17%
2019	2,353	2,353	—	1,081,702	0.22%
2018	2,208	2,208	—	1,022,007	0.22%
2017	2,088	2,088	—	966,611	0.22%
2016	1,936	1,936	—	921,923	0.21%
2015	1,859	1,859	—	886,366	0.21%
2014	1,875	1,875	—	859,540	0.22%
2013	2,035	2,035	—	1,019,421	0.20%
2012	1,974	1,974	—	980,836	0.20%
HEALTH INSURANCE CREDIT – CONSTITUTIONAL OFFICERS					
2021	\$ 2,642	\$ 2,642	\$ —	\$ 733,933	0.36%
2020	2,734	2,734	—	719,390	0.38%
2019	2,593	2,593	—	682,376	0.38%
2018	2,362	2,362	—	655,995	0.36%
2017	2,280	2,280	—	633,397	0.36%
2016***	1,950	1,830	120	609,359	0.30%
HEALTH INSURANCE CREDIT – SOCIAL SERVICES EMPLOYEES					
2021	\$ 1,143	\$ 1,143	\$ —	\$ 300,727	0.38%
2020	1,283	1,283	—	298,257	0.43%
2019	1,202	1,202	—	279,503	0.43%
2018	1,106	1,106	—	263,298	0.42%
2017	1,055	1,055	—	251,084	0.42%
2016***	961	824	137	240,250	0.34%

**REQUIRED SUPPLEMENTARY SCHEDULE OF EMPLOYER CONTRIBUTIONS:
OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS, cont.**

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contributions Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
HEALTH INSURANCE CREDIT – REGISTRARS					
2021	\$ 52	\$ 52	\$ —	\$ 13,391	0.39%
2020	50	50	—	12,745	0.39%
2019	46	46	—	11,770	0.39%
2018	47	47	—	11,512	0.41%
2017	45	45	—	11,047	0.41%
2016***	36	30	6	9,987	0.30%

* Fiscal year 2014 was the first year for the Virginia Local Disability Program.

** Contributions to the Line of Duty Trust Fund are based on the number of participants in the program using a per-capita-based contribution versus a payroll-based contribution.

***Although the Health Insurance Credit Program for constitutional officers, social services employees and registrars existed prior to fiscal year 2016, the program was funded in a different manner and the results do not provide comparability with the current presentations.

SCHEDULE OF INVESTMENT EXPENSES

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	2021	2020
Management Fees:		
Public Equity Managers	\$ 57,620	\$ 49,662
Fixed Income Managers	4,407	2,652
Credit Strategies Managers	78,670	64,132
Real Assets Managers	102,091	103,871
Alternative Investment Managers	151,619	128,799
Hedge Fund Managers	66,408	71,501
Dynamic Strategies Managers	5,442	4,331
Risk Based Investments Managers	12,683	16,751
Currency Managers	2,700	2,700
Total External Management Fees	481,640	444,399
Performance Fees	27,180	7,599
Miscellaneous Fees and Expenses:		
Custodial Fees	4,500	4,500
Legal Fees	913	770
Other Fees and Expenses	1,617	7,493
Total Miscellaneous Fees and Expenses	7,030	12,763
In-House Investment Management	38,575	38,183
Total Investment Expenses	\$ 554,425	\$ 502,944

SCHEDULE OF ADMINISTRATIVE EXPENSES: ACTUAL TO BUDGET

YEARS ENDED JUNE 30, 2021 AND 2020

(EXPRESSED IN THOUSANDS)

	Totals	
	2021	2020
Personnel Services:		
Salaries and Wages	\$ 39,478	\$ 38,879
Per Diem Services	335	322
Retirement Contributions	4,618	4,184
Social Security	2,528	2,481
Group Life and Medical Insurance	5,573	5,455
Compensated Absences	427	874
Total Personnel Services	52,959	52,195
Professional Services:		
Data Processing	22,419	19,840
Actuarial and Consulting Services	2,630	2,857
Legal Services	431	506
Medical Review Services	671	804
Management Services	110	128
Personnel Development Services	80	50
Total Professional Services	26,341	24,185
Communication Services:		
Media Services	19	308
Printing	473	182
Postal and Delivery Services	536	412
Telecommunications	886	847
Total Communication Services	1,914	1,749
Rentals:		
Business Equipment	—	—
Office Space	2,081	2,049
Total Rentals	2,081	2,049
Other Services and Charges:		
Skilled and Clerical Services	246	161
Depreciation	5,754	7,914
Dues and Memberships	156	145
Equipment	5,890	2,791
Insurance	129	146
Repairs and Maintenance	980	753
Supplies and Materials	277	198
Travel and Transportation	178	683
Miscellaneous	188	265
Total Other Services and Charges	13,798	13,056
Total Administrative Expenses	\$ 97,093	\$ 93,234
Adjustment for Capitalization of Expenses	(909)	(725)
Total Administrative Expenses (GAAP basis)	96,184	92,509
Adjustments Necessary to Convert Administrative Expenses on the GAAP Basis to the Budgetary Basis at Year End (Net)	(5,132)	(7,099)
Administrative Expenses (Budgetary Basis)	\$ 91,052	\$ 85,410
Administrative Expenses Appropriated	\$ 105,692	\$ 94,721
Distribution of Administrative Expenses:		
Total Administrative Expenses	96,184	92,509
Less: In-house Investment Management	(38,575)	(38,183)
Net Administrative Expenses	\$ 57,609	\$ 54,326

SCHEDULE OF PROFESSIONAL AND CONSULTING SERVICES

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Actuarial, Legal and Oversight Services			
Auditor of Public Accounts	Financial Reporting Auditor	\$	250.0
Attorney General	Legal Services		14.2
Cavanaugh MacDonald LLC	Actuarial Services and Benefits Consulting		805.3
Ice Miller LLP	Legal Services		86.4
Joint Legislative Audit Review Commission	Oversight Responsibilities		118.9
Total Actuarial, Legal and Oversight Services		\$	1,274.8
Consulting Services			
Advantage 2000	Social Security Advocacy and Disability Tracking	\$	26.1
Albourne America LLC	Investment Consultant Services		400.0
Bishops Services	Due Diligence Services		51.5
Boynton Rothschild Rowland Architects	Parking Deck Study		28.2
CEM Benchmarking Inc.	Benchmarking Analysis		85.0
County Court Reporters	Court Reporting Services		26.3
Farnsworth & Taylor	Hearing Officer for Disability Cases		13.0
FX Transparency LLC	Investment Advisory Services		30.0
Gartner Group Inc.	Research & Advisory		59.2
Genex	Job Analysis		0.4
Harrison & Turk PC	Fact Finding Hearing Officer for Disability Cases		28.2
AON Hewitt Investments	Investment Consultant Services		20.0
John Frye	Fact Finding Hearing Officer for Disability Cases		51.0
Life Status 360 LLC	Location Services		14.4
McLagan Partners Inc.	Investment Compensation Study		14.0
Michael Katzen	Fact Finding Hearing Officer for Disability Cases		176.1
MMRO	Medical Board Review and Examinations		670.2
Sagitec Solutions LLC	VRS Modernization Project Solution Vendor		1,968.9
Torreycove Capital	Investment Consulting Services		50.0
Total Consulting Services		\$	3,712.5
Total Professional and Consulting Services		\$	4,987.3



Virginia
Retirement
System®

INVESTMENT SECTION





Investment Section

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Description of Hybrid Defined Contribution Plan

Description of Defined Contribution Plans Investment Options

Investment Option Performance Summary: Defined Contribution Plans

Chief Investment Officer's Letter



Ronald D. Schmitz, Chief Investment Officer

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Richmond, Virginia 23218-2500

Toll-free: 888-827-3847 • TDD: 804-344-3190

August 30, 2021

To: Members of the Board of Trustees and Participants of the Virginia Retirement System

As I write this letter following the end of the fiscal year, the economy created 943,000 new jobs in July and the unemployment rate fell sharply from 5.8% to 5.4%, with the decline reflected in nearly all age, educational and racial groups. More important, perhaps, is that the trend in job growth has been sustained – the number of jobs created in the past three months (May-July) was 60% higher than during the three months prior to that (February-April).

The improvement in the jobs market reflects diverse economic growth, especially in the service sector. There is, however, a long way to go for the economy to return to the level of employment it had at the start of the pandemic. Compared with February 2020, non-farm employment is still down by 5.7 million jobs. Allowing for population growth, the gap between actual and full employment is considerably wider.

Still, wages and salaries continue to rise at a level that should easily offset the drop in government and social benefits. In addition, consumers have plenty of pent-up savings and borrowing power, and despite supply chain bottlenecks, spending remains robust.

PERFORMANCE OVERVIEW

The VRS Trust Fund experienced an outstanding year, generating a 27.5% return – a record level of fiscal year performance – not seen in the past 30 years. It also exceeded the benchmark by 220 basis points for the 12 months. This outcome was achieved given some advantageous asset class positioning and strong results from the primary asset class programs and multi-asset strategies.

The following table shows that longer-term numbers are well ahead of the multi-asset class benchmark and exceed the long-term assumed rate of return of 6.75%. This result helps to maintain a stable contribution rate for VRS-participating employers.

Annualized Return for Periods Ended June 30, 2021:

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
VRS Total Fund	27.5%	11.3%	10.7%	8.8%	7.3%	7.2%	8.1%
Benchmark*	25.3%	10.6%	10.2%	8.3%	6.8%	6.8%	7.5%

Investment return calculations were prepared using a time-weighted return methodology based on market value, net of investment expenses.

** The VRS Total Fund Benchmark is a blend of the asset class benchmarks at policy weights. Benchmarks are selected with the help of a third-party investment consultant.*

The investment objective of the VRS Defined Benefit Plan portfolio is to maximize returns while managing risk within an acceptable range. Due to the long-term nature of the plan's liabilities, VRS is a long-term investor with a long planning horizon. The total fund is highly diversified to help mitigate losses from significant market downturns similar to what we saw in the first quarter of 2020. Stocks, bonds, real estate, private equity, private debt, cash and other investment strategies serve to balance the total portfolio to avoid all assets behaving in the same manner at the same time. Diversification also follows the mandate of the *Code of Virginia* (§ 51.1-124.30(C)) by helping to prevent frequent shifts in participating employers' contribution rates and providing rate consistency from year to year.

The VRS portfolio is positioned to provide diversification across five primary asset classes. Only two of the five primary asset classes did not outperform for the fiscal year; importantly, however, the Total Fund did outperform its benchmark. A discussion of the primary asset classes follows.

ASSET CLASS COMMENTARY

Figures 3.1 and 3.2, which follow this letter, show the asset allocation of the fund at June 30, 2021, as well as performance by asset class for various periods ending on that date. Comments about each portfolio's structure and holdings follow those graphics.

Each asset class had strong absolute and/or relative performance. I'll walk through highlights from each of the portfolio segments at a high level.

Public Equity

Starting with Public Equity, the June 30, 2021, quarter continued a strong run in the stock market, predicated on high earnings and upward revisions. Positive market sentiment was largely fueled by the approval of vaccines last fall, which triggered a reopening trade into the equity markets. Value narrowly outperformed growth, reversing a trend spanning the last two to three years. The fiscal year also saw an end to the strong dominance of the U.S. markets over global indexes, as ACWI IMI exceeded the return of the S&P 500 – driven by small-cap and emerging market returns.

The most difficult area of the market, as it affected VRS, was in the low volatility space. These attractive, more defensive companies with higher quality balance sheets and more stable earnings, were not heavily rewarded by investors this past year. Our returns were somewhat lower due to a slightly defensive stance.

Overall, managers performed well on a risk-adjusted basis as stock selection paid off. The internal portfolio team did reasonably well in enhanced index strategies while having a tougher time in strategies that involved higher quality, more defensive stocks.

Fixed Income

A good chunk of the Fixed Income portfolio's fiscal year return came in the fourth quarter. Though it was a low return year, the 12-month return of 3.3% was a remarkable 2.6% ahead of the index. The ups and downs of COVID-19, and the related fiscal and monetary actions, supplied an environment rich in spread swap opportunities – and the team took great advantage.

For example, investment grade and high-yield corporate debt was overweight earlier in the year and has been brought back to neutral as the yield advantage waned versus Treasury Bonds. Emerging Market Debt offers attractive yields, but to a smaller extent than a year ago. Last, securitized holdings (mortgage pools) are also still somewhat attractive.

Credit Strategies

Strong Credit Strategies portfolio performance was seen throughout the year and ended June 30 at a healthy 18.4%, more than 7% ahead of the benchmark return of 11.3%. Of all the asset classes, this was the highest excess return for the year.

In the Non-Rate-Sensitive area, Absolute Return and Distressed strategies did extremely well. Rate-sensitive assets were led by Convertible Bonds – an outside-the-benchmark position meant to be used opportunistically. The strategic shift from a mix of public and private holdings to a mostly private portfolio has been well-timed and was a big advantage this year. It should provide beneficial returns in the years ahead.

Real Assets

The Real Assets program had a strong year compared to long-term expected returns and to its benchmark with an 11.3% return. Relative performance was stellar as the team bested the benchmark by just shy of 5% – and that is undoubtedly an impressive number.

Most all components of the portfolio outperformed relevant benchmarks. Natural Resources exceeded its index by over 10% and infrastructure outperformed by almost 8%. The public real estate investment trust (REIT) portfolio slightly lagged a strong 34.8% benchmark, while the largest segment of the portfolio – more traditional, privately held real estate – bested its index by just shy of 4%.

Private Equity

Typically, Private Equity does not keep up with its public benchmark in strong bull markets, and this year was no exception. Though lagging the benchmark slightly, the portfolio performed more robustly than anticipated. A healthy June quarter contributed to a 12-month number of 54.1% – our strongest asset class return for the fiscal year in absolute terms.

The private equity industry continues to evolve as managers are aggressively seeking businesses that are resilient in the face of pandemic headwinds. The long history that VRS has in the asset class, as well as specifically in growth investing, has been an advantage compared to programs that are more oriented to buyout strategies.

Multi-Asset Programs

Private Investment Partnerships (PIP) performance was strong in fiscal year 2021 as the portfolio recovered from COVID-19 related markdowns a year earlier. Returns were 30.8% for the year – almost 6% ahead of the benchmark. The portfolio was largely driven by an overweight in private equity holdings that performed well versus real asset and private credit holdings.

The Dynamic Strategies (DSTRAT) portfolio – our most tactical portfolio – had a stellar year, generating 29.3% compared to its benchmark return of 25.8%. Like the broader VRS portfolio, risk

assets experienced a COVID-19 recovery from the spring 2020 panic, and equity tilts drove the outperformance by all three external managers as well as the internal portfolio.

The Risk-Based Investing (RBI) portfolio generated a 12.3% return easily eclipsing the 8% benchmark. All segments of the portfolio performed well, except long Treasuries. The intent of this program is to provide fairly consistent positive returns that differ from the ups and downs of the equity market.

ASSET ALLOCATION

As a well-diversified portfolio, the VRS Fund does not invest solely in the stock market. Instead, we use a broad array of complementary asset classes like stocks, bonds, private credit, real estate holdings and other real assets, as well as private equity. This strategy may mean that in equity bull markets, VRS may not track popular indexes, like the S&P 500. But it also means that in bear markets – like March 2020, or in the housing bubble of 2008 – the portfolio stands up much better than stocks, greatly mitigating losses.

This approach balances risk and reward, which leads to a smoother, more stable pattern of contribution rates for VRS-participating employers.

MARKET OUTLOOK

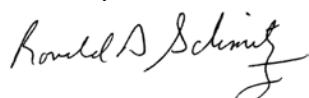
Some of the primary areas that we are now watching include coronavirus variants and their potential impact on economic activity; inflationary pressures (Are price increases transitory or longer-term issues?); central bank actions regarding monetary policy (Low interest rates to persist or will central banks begin to raise rates to quell inflation?); and governmental stimulus.

Economic statistics are generally strong. Although asset prices are high, the outlook is positive at this point in time.

A LAST WORD

In closing, I want to thank the Board of Trustees and the Investment Advisory Committee for their dedication and support over this past year. Many thanks, also, to my colleagues in VRS administration. Finally, my appreciation goes out to our superb team of investment professionals. Together, we will continue to build on the great legacy that exists at VRS.

Sincerely,



Ronald D. Schmitz
Chief Investment Officer

The Investment Section provides detailed information regarding the structure of the investment portfolio. This information includes performance, asset allocations, portfolio highlights, a list of VRS' money managers and public equity commissions for the fiscal year. The section also presents the System's investment management fees and expenses and an investment summary.

Investment Account

The VRS Board of Trustees has fiduciary responsibility to invest the fund solely in the interest of the beneficiaries of the System. As established by the *Code of Virginia*, "the Board shall invest the assets of the Retirement System with the care, skill, prudence and due diligence that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims."

Benefit payments are projected to occur over a long period of time, allowing VRS to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the VRS investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the Board in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. The asset-liability analysis considers both sides of the VRS balance sheet in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact on funded status and contribution rates.

The Board delegates authority to the Chief Investment Officer to allocate the System's investments within the approved asset allocation policy and within the Board-approved active risk budget. The total fund active risk budget describes the degree of tolerance for yearly variation in the fund's performance relative to the Total Fund VRS Custom Benchmark.

The primary risk measure used for this purpose is Total Fund Tracking Error, calculated as the standard deviation of the difference between the fund's return and the return of the Total Fund VRS Custom Benchmark. From this measure, probability estimates can be derived to help the Board estimate the risk of underperforming the benchmark by certain margins.

The investment staff manages the VRS portfolio on a day-to-day basis according to policies and guidelines established by the Board. The staff manages assets on a direct basis and through outside investment managers. Managers employ both active and passive investment strategies. The Board has established various performance benchmarks to serve as tools for measuring progress toward the achievement of long-term investment goals.

The asset allocation mix of the VRS fund as of June 30, 2021, is shown in Figure 3.1.

FIGURE 3.1: ASSET ALLOCATION MIX

AS OF JUNE 30, 2021

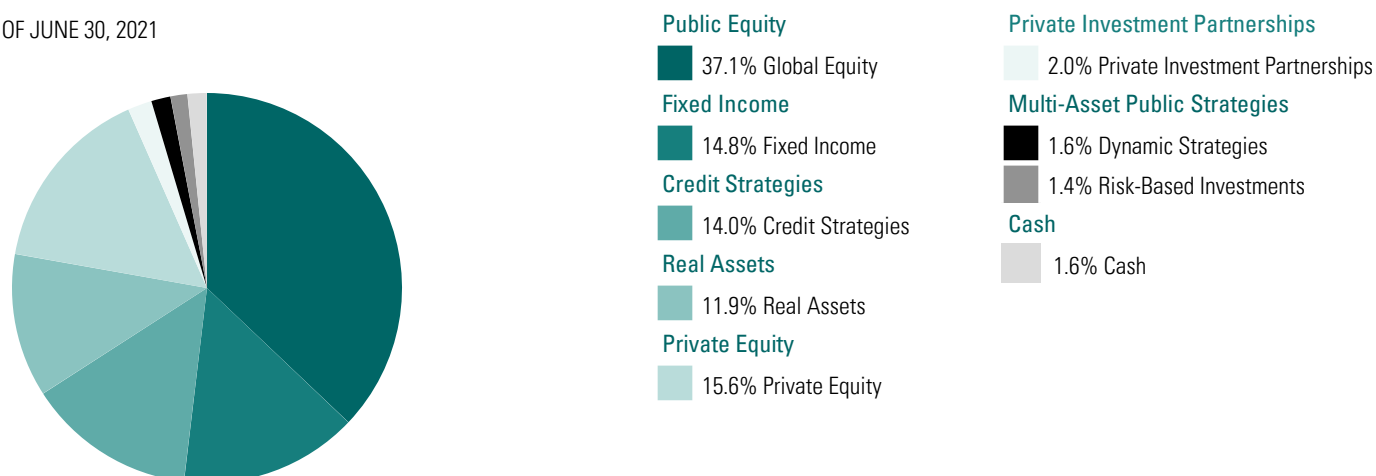


FIGURE 3.2: INVESTMENT PERFORMANCE SUMMARY

ANNUALIZED DATA FOR THE PERIOD ENDING JUNE 30, 2021

	1 Year	3 Years	5 Years	10 Years
1. Total Fund				
VRS	27.5%	11.3%	10.7%	8.8%
VRS Custom Benchmark ¹	25.3%	10.6%	10.2%	8.3%
2. Total Public Equity				
VRS	41.0%	13.3%	13.4%	10.2%
Custom Benchmark ²	41.5%	14.5%	14.4%	10.3%
3. Total Fixed Income				
VRS	3.3%	7.0%	4.2%	4.2%
Custom Benchmark ³	0.7%	5.4%	3.1%	3.4%
4. Total Credit Strategies				
VRS	18.4%	8.2%	8.0%	6.6%
Custom Benchmark ⁴	11.3%	6.7%	6.5%	5.7%
5. Total Real Assets				
VRS	11.3%	6.6%	8.0%	10.0%
Custom Benchmark ⁵	6.4%	5.2%	6.1%	8.5%
6. Total Private Equity				
VRS	54.1%	21.0%	19.8%	15.8%
Custom Benchmark ⁶	57.8%	16.3%	17.1%	14.0%
7. Total Private Investment Partnerships				
VRS	30.8%	9.3%	9.2%	N/A
Custom Benchmark ⁷	25.0%	9.4%	9.3%	N/A
8. Total Multi-Asset Public Strategies				
VRS	20.4%	6.0%	N/A	N/A
Custom Benchmark ⁸	16.6%	8.7%	N/A	N/A

Investment return calculations were prepared using a time-weighted return methodology based on market value, net of investment expenses.

FIGURE 3.2: INVESTMENT PERFORMANCE SUMMARY, cont.

¹ The VRS Custom Benchmark is a blend of the Asset Class Benchmarks at policy weights.

² Effective February 2020, the Public Equity Custom Benchmark is the MSCI ACWI IMI (net VRS tax rates) Index.

³ Effective July 2020, the Fixed Income Custom Benchmark is a blend of the Bloomberg Barclays Aggregate Bond Index (90%), Bloomberg Barclays U.S. HY Ba/B 2% Issuer Cap Index (5%), and JP Morgan EMBI Global Core Index (5%).

⁴ Effective January 2020, the Credit Strategies Custom Benchmark is a blend of the S&P Performing Loan Index (60%), Bloomberg Barclays U.S. HY Ba/B 2% Issuer Cap Index (30%) and Bloomberg Barclays U.S. Aggregate Bond Index (10%).

⁵ Effective July 2014, the Real Assets Custom Benchmark is the market value weighted blend of the Total Real Estate Benchmark, of which 85% is the NCREIF Private Real Estate Benchmark (ODCE Index (net) lagged by three months) and 15% is the Total REIT Benchmark (FTSE/EPRA/NAREIT Developed REIT Index), and the Other Real Assets Custom Benchmark (the CPI-U Index plus 400 basis points per annum lagged by three months) with modified benchmarking for Other Real Assets during the increased allocation period.

⁶ Effective July 2020, the Private Equity Custom Benchmark is the MSCI ACWI IMI Index (net VRS tax rates) lagged by three months with modified benchmarking during the increased allocation period.

⁷ Effective January 2020, the Private Investment Partnerships Custom Benchmark is the weighted average of the custom Private Equity Benchmark (MSCI ACWI IMI Index (net VRS tax rates) lagged by three months) (40%), the NCREIF Private Real Estate Benchmark (ODCE Index (net) lagged by three months) (30%), the Other Real Assets Custom Benchmark (the CPI-U Index plus 400 basis points per annum lagged by three months) (10%), the Bloomberg Barclays US HY Ba/B 2% Issuer Cap Index (10%), and the S&P Performing Loan Index) (10%).

⁸ Effective July 2018, the Multi-Asset Public Strategies Custom Benchmark is the market value weighted average of the benchmarks of the mandates (Dynamic Strategies and Risk-Based Investments) within the program.

Portfolio Highlights

PUBLIC EQUITY

The market value of the Total Public Equity Program as of June 30, 2021, was \$37.2 billion, representing approximately 37% of the total fund. The program is dominated by traditional strategies valued at \$28.56 billion or 76.7%. The program also employs equity-oriented hedge fund strategies valued at \$8.67 billion or 23.3%. The objective of the portfolio is to exceed the Custom Benchmark over longer-term periods, net of all costs. The current Custom Benchmark is the MSCI All Country World Index (ACWI) IMI (net of VRS tax rates).

The Traditional Public Equity portfolio had 58% invested in domestic equity and 42% in international equity, and 38% was managed internally.

At fiscal year-end, the ACWI IMI benchmark was comprised of 57.9% of the MSCI U.S. Investible Market Index (IMI), 29.3% of the MSCI World excluding U.S. IMI and 12.8% in the MSCI Emerging IMI.

Traditional Public Equity versus the MSCI ACWI IMI strategic sectors and region weights are as follows:

FIGURE 3.3: TRADITIONAL EQUITY CUSTOM BENCHMARK SECTORS AND REGIONS*

Strategic Sectors	VRS	ACWI IMI	Regions	VRS	ACWI IMI
Communication Services	9.87%	8.65%	North America	60.88%	60.93%
Consumer Discretionary	12.49%	12.86%	Europe/Middle East/Africa	18.04%	18.47%
Consumer Staples	6.99%	6.55%	Asia Pacific	19.90%	19.59%
Energy	2.65%	3.40%	Latin and South America	1.18%	1.01%
Financials	13.71%	13.90%	Total	100.00%	100.00%
Health Care	13.04%	11.59%			
Industrials	9.72%	10.86%			
Information Technology	19.90%	20.82%			
Materials	5.31%	5.27%			
Real Estate	2.85%	3.47%			
Utilities	3.47%	2.63%			
Total	100.00%	100.00%			

* Based on Barra's classification of sectors and regions and excludes cash.

The top 10 holdings in the Total Public Equity Program comprised 7.7% of the program at fiscal year-end.

Two companies, Verizon Communications and MasterCard, were replaced by Berkshire Hathaway Inc. and Taiwan Semiconductor Manufacturing on this year's schedule.

FIGURE 3.4: PUBLIC EQUITY – TOP 10 EXPOSURES*

AS OF JUNE 30, 2021

Company	Fair Value	Shares
Microsoft	\$ 574,719,226	2,121,518
Apple	453,789,431	3,313,299
Alphabet	423,549,773	171,280
Amazon.com	294,426,094	85,585
Johnson & Johnson	230,863,176	1,401,379
Facebook	210,824,223	606,322
Roche Holding	169,333,799	449,071
Berkshire Hathaway Inc.	169,034,557	608,213
Taiwan Semiconductor Manufacturing	167,550,166	7,304,434
Bristol-Myers Squibb	164,167,586	2,456,863

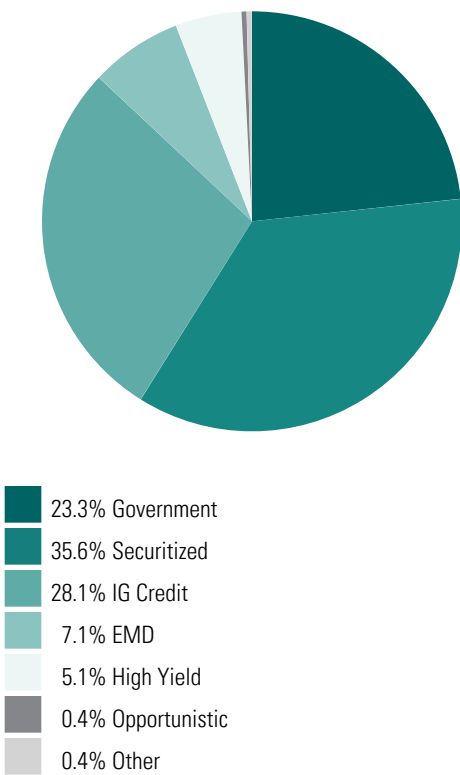
* Aggregated various share classes based on parent company. Refer to the "More Information" section on page 158 for details on how to request additional information.

FIXED INCOME

VRS invests a portion of its portfolio in fixed income investments to reduce total fund volatility, produce income and provide for some protection in the event of a deflationary environment. The market value of the Fixed Income Program as of June 30, 2021, was \$13.6 billion, representing 13.3% of the total fund.

FIGURE 3.5: FIXED INCOME PORTFOLIO BY SECTOR ALLOCATION

AS OF JUNE 30, 2021



The Fixed Income Program is internally invested in a diversified portfolio of debt securities, such as government securities, corporate securities, mortgage-backed securities and emerging market debt. The objective of the program is to exceed the return of the Fixed Income blended benchmark comprised of 90% Bloomberg Barclays U.S. Aggregate Index, 5% JPM EMBI Global Core Index and 5% Bloomberg Barclays U.S. HY Ba/B 2% Issuer Constrained Index, while staying in compliance with risk limits. For fiscal year 2021, the return of the program was 3.3% versus a return of 0.7% for the benchmark.

FIGURE 3.6: FIXED INCOME PORTFOLIO BY CREDIT QUALITY BREAKDOWN

AS OF JUNE 30, 2021

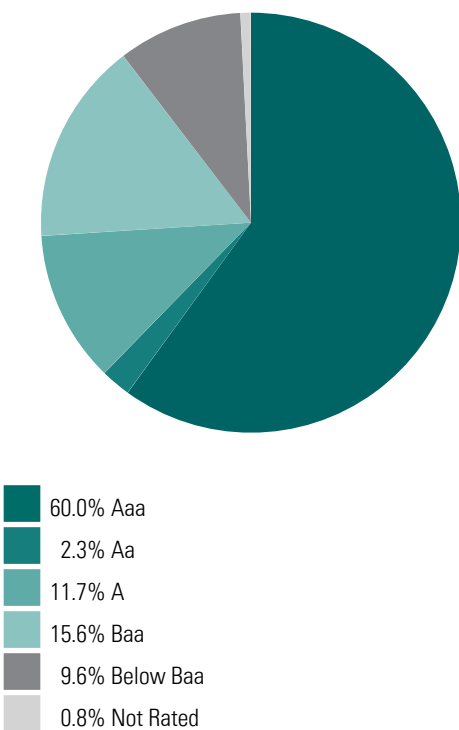


FIGURE 3.7: FIXED INCOME – TOP 10 HOLDINGS BY MARKET VALUE*

AS OF JUNE 30, 2021

Security	Par Value	Fair Value
FANNIE MAE/FREDDIE MAC AGENCY MBS	\$593,000,000	\$617,834,840
FANNIE MAE/FREDDIE MAC AGENCY MBS	350,000,000	353,552,500
GINNIE MAE MBS	319,000,000	329,954,460
TREASURY NOTE	261,350,000	259,899,508
FANNIE MAE/FREDDIE MAC AGENCY MBS	205,000,000	215,912,150
GINNIE MAE MBS	200,000,000	208,520,000
TREASURY NOTE	204,300,000	204,843,458
TREASURY NOTE	160,400,000	159,434,392
GINNIE MAE MBS	141,919,630	148,039,204
TREASURY NOTE	135,080,000	134,794,981

* Refer to the "More Information" section on page 160 for details on how to request additional information.

SHORT-TERM INVESTMENTS AND TRANSITION ACTIVITY

Generally, VRS desires to remain fully invested at all times and seeks to minimize its holdings of cash investments. Temporary cash balances are invested in short-term money market instruments with the goal of maintaining high credit quality and liquidity, as well as to synthetically replicate exposure to equity and/or fixed income.

PRIVATE EQUITY

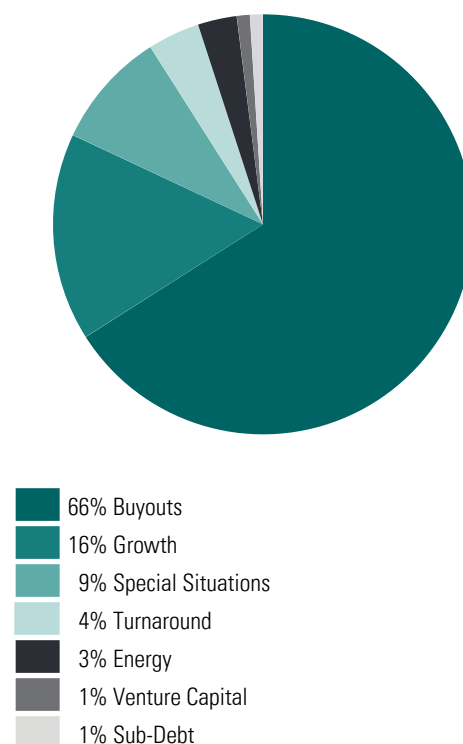
VRS invests in private equity to achieve returns greater than those available in the public equity markets. Specifically, the program seeks to outperform the Morgan Stanley Capital International All Country World Index (MSCI ACWI). Program returns are calculated on both a time-weighted basis and a dollar-weighted, or internal rate-of-return (IRR) basis. On a time-weighted basis, the program return for fiscal year 2021 was 54.1%. On a dollar-weighted, or IRR basis, the private equity one-year return was 54.7% as of March 31, 2021.

As of June 30, 2021, the carrying value of the program was approximately \$15.9 billion. Most of the program is invested in limited partnerships.

Sectors in which the program invests include leveraged buyouts, venture capital, growth, sub-debt, turnaround, energy and special situations. The Private Equity Program's market value by subclass was as follows:

FIGURE 3.8: PRIVATE EQUITY PROGRAM

AS OF JUNE 30, 2021



REAL ASSETS

A portion of the VRS portfolio is invested in real assets to help diversify the Total Fund by providing exposure to asset classes and sectors that offer low historical correlations with the public markets and with the additional objectives of generating competitive risk-adjusted returns, significant operating cash flows and inflation linkages. The portfolio continued to grow in fiscal year 2021, producing an 11.3% return and outperforming the benchmark by 490 basis points. The private real estate portfolio delivered a 5.3% return while the real estate investment trusts (REITs) produced a total return of 34.2%. Investments in infrastructure, natural resources, timberland and farmland produced a 15.4% return for the fiscal year.

The percentage of the Total Fund represented by the Real Assets portfolio fluctuated over the course of the year decreasing to 11.9% at fiscal year-end. In dollar terms, the real asset portfolio grew \$887 million due primarily to asset income and appreciation, with distributions from existing investments outpacing contributions to new investments by approximately \$364 million.

At fiscal year-end, the portfolio strategy composition was approximately 57% private real estate, 17% infrastructure, 11% REITs, 8% energy and mining, 4% timberland and 3% farmland. Portfolio leverage as a percentage of total real assets was 31% as of June 30, 2021.

FIGURE 3.9: REAL ASSETS BY SECTOR

AS OF JUNE 30, 2021

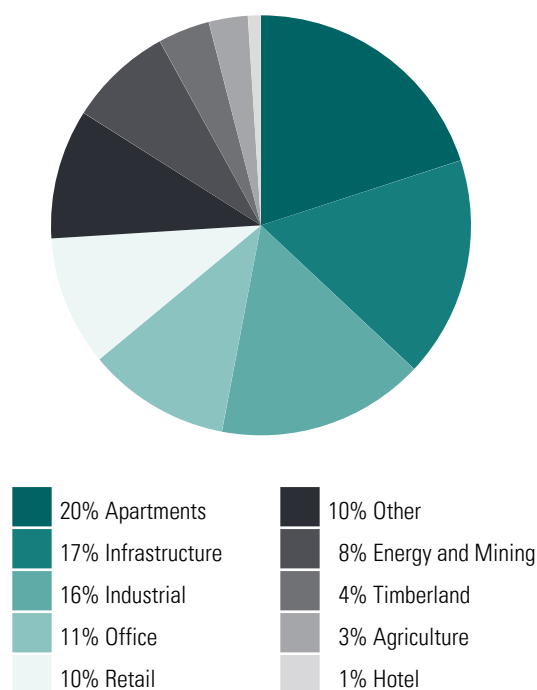
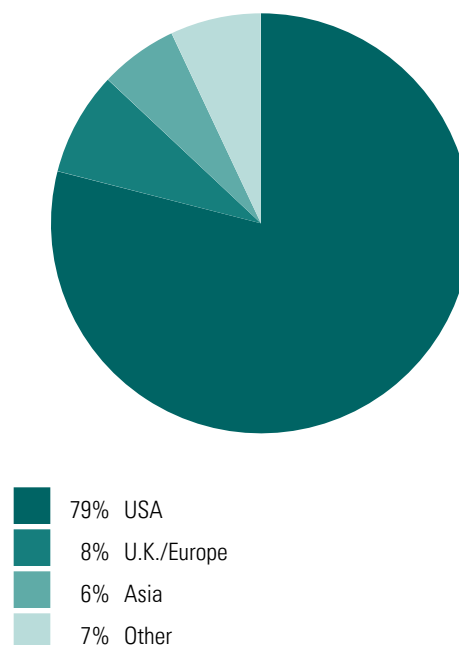


FIGURE 3.10: REAL ASSETS BY GEOGRAPHIC REGION

AS OF JUNE 30, 2021

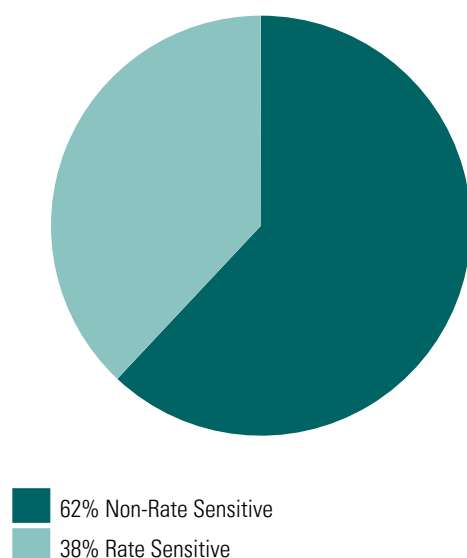


CREDIT STRATEGIES

VRS allocates a portion of the portfolio to credit-related investments. The Credit Strategies program generates returns through income and capital appreciation. The objective of the program is to provide an attractive risk/return profile relative to the Custom Credit Strategies benchmark. For the fiscal year, the program returned 18.4%, while the program's custom benchmark returned 11.3%.

FIGURE 3.11: CREDIT STRATEGIES PROGRAM

AS OF JUNE 30, 2021



CURRENCY

VRS has currency risk due to its investments in non-dollar-denominated assets. To help control this risk, VRS has a Currency Program that uses a combination of internal hedging strategies and external management. The external currency management part aims to lower overall Fund volatility and provide diversified alpha across the Fund. Investments include constrained positions in global currencies. The currency positions are typically traded on a forward basis, and thus no capital is necessary at the time of the trade. At forward settlement date, gains and losses are received/paid out against a notional value.

The current notional value, as of June 30, 2021, was \$1.8 billion. For the fiscal year, it returned 0.2% versus a zero benchmark.

MULTI-ASSET PUBLIC STRATEGIES

The Board of Trustees approved the Multi-Asset Public Strategies (MAPS) program on July 1, 2018, to manage strategies that add value and mitigate risk beyond the structure allowed by individual asset class program mandates. The program is separated into two portfolios with differing objectives. The Risk-Based Investment portfolio invests in strategies that offer meaningful diversification to the exposures of the overall Plan. The Dynamic Strategies portfolio seeks to add value across asset classes through the incorporation of macro perspectives. As of June 30, 2021, the total program had a market value of \$3.1 billion and was invested with six multi-asset class public investments managers, one equity manager and one internally managed fixed income strategy. During the fiscal year, it returned 20.4% against the program's custom benchmark, which returned 16.6%.

PRIVATE INVESTMENT PARTNERSHIPS

Beginning July 1, 2018, the VRS Board approved a strategic allocation to Private Investment Partnerships (PIP). These investments had previously been part of the Strategic Opportunities Portfolio. The objective of the program is to provide an attractive risk/return profile relative to the Private Investment Partnerships benchmark.

Managers in this program invest broadly across the private and less liquid components of the credit, private equity, real asset and real estate investment spaces. During the fiscal year the program returned 30.8% while its custom benchmark returned 25.0%.

MORE INFORMATION

A complete list of the investment portfolio is available upon request. Address requests to the VRS FOIA Coordinator, Virginia Retirement System, P.O. Box 2500, Richmond, VA 23218-2500. More information is available at varetire.org/web-policy/foia.

VRS Money Managers

The diversified investment structure as of June 30, 2021, is reflected in the following tables, which list VRS managers by investment program and style.

PUBLIC EQUITY MONEY MANAGERS

External Managers – Top 10 Managers	Style Description
Acadian Asset Management	Emerging, Non-U.S. Small-Cap
Ariel	Global
Arrowstreet Capital	Global
Baillie Gifford	Emerging, Global
J.P. Morgan	U.S. Large-Cap
Jackson Square	U.S. Small-Cap
Lansdowne	Global
LSV Asset Management	Global, Non-U.S. Small-Cap, U.S. Small-Cap
Nordea	Emerging, Global
Internal Portfolios	Style Description
Afton	U.S. Small
Matoaka	Non-U.S. Large
Mobjack	U.S. Large
Piedmont	Non-U.S. Large
Potomac	U.S. Large
Internal Emerging	Emerging
Top 10 Equity Hedge Funds	Style Description
Advent	Convertible
Arisaig	Long
Cevian	Activist
Eminence	Long/Short
Farallon	Multi-Strat
Maverick Capital	Long/Short
Select	Long/Short
Taiyo	Activist
Theleme	Long/Short
ValueAct Capital	Activist

FIXED INCOME

Internal Portfolios	Style Description
VRS Investment Grade Credit	High-Quality Corporates
VRS Securitized	Mortgage and Other Asset-Backed Securities
VRS Government	U.S. and Other Government-Related Debt
VRS Emerging Market Debt	EM Sovereign and Quasi-Sovereign Debt
VRS Systematic High Yield	High-Yield Corporates
VRS Fixed-Income Opportunistic	Various Fixed-Income Related Assets

(Continued)

VRS Money Managers *(continued)*

EXTERNAL PORTFOLIOS	Style Description
FI Payden & Rygel EMD	Emerging Market Debt
FI PIMCO EMD	Emerging Market Debt
FI AQR High Yield	High-Yield Corporates
FI Man Numeric High Yield	High-Yield Corporates
PRIVATE EQUITY – TOP 10 MANAGERS	Style Description
Apax Partners	Buyout
Apollo	Buyout
Bain Capital	Buyout
CVC Capital	Buyout
General Atlantic	Growth
Grosvenor	Customized Separate Account
Hellman and Friedman	Buyout
TA Associates	Growth
Stone Point	Buyout
Veritas	Buyout
CREDIT STRATEGIES – TOP 10 MANAGERS	Style Description
Allianz Global Investors	Convertibles
Anchorage Capital	High-Yield
Beach Point Capital Management	Distressed, Leveraged Loans, Opportunistic
Blackrock	Direct Lending
HPS Investment Partners	Direct Lending, Mezzanine
J.P. Morgan	High-Yield
Pacific Investment Management Co.	High-Yield
Prudential	Investment-Grade, Mezzanine
Schroders	Structured and Securitized Credit
Solus	Opportunistic, Leveraged Loan
PRIVATE INVESTMENT PARTNERSHIPS	Style Description
Carlyle	Multi-Asset Class Private Investments
KKR	Multi-Asset Class Private Investments
CURRENCY	Style Description
First Quadrant	Developed

REAL ASSETS – TOP 10 MANAGERS**Style Description**

Blackstone Real Estate Partners	Core, Enhanced Core, Opportunistic Real Estate
Clarion Partners	Enhanced Core Real Estate
Industry Funds Management	Global Infrastructure
J.P. Morgan Asset Management Inc.	Core Real Estate
Morgan Stanley	Core & Global Infrastructure
Pantheon Ventures	Global Infrastructure, Global Natural Resources
PGIM	Core & Enhanced Core Real Estate
Pritzker Realty Group	Enhanced Core & Opportunistic Real Estate
Stonepeak Infrastructure Partners	Core-plus Infrastructure
VRS – Internal Equity Management	Global REITs

MULTI-ASSET PUBLIC STRATEGIES**Style Description**

AQR	Multi-Asset Class Public Investments
Blackrock	Multi-Asset Class Public Investments
Capstone	Multi-Asset Class Public Investments
J.P. Morgan	Multi-Asset Class Public Investments
Morgan Stanley	Multi-Asset Class Public Investments
Internal Portfolio Strategy	Multi-Asset Class Public Investments
Schroders	Equities
Internal Fixed Income	Long-Duration Treasuries

Public Equity Commissions

AS OF JUNE 30, 2021

Broker	Commission	Shares	Average Commission Per Share
Goldman Sachs & Co., New York	\$ 1,658,760.75	156,087,808	\$ 0.0106
Credit Suisse, New York (CSUS)	1,000,836.05	152,676,262	0.0066
National Financial Services Corp., New York	955,454.95	75,975,908	0.0126
Merrill Lynch International London Equities	469,190.35	274,045,203	0.0017
UBS Equities, London	218,528.42	52,394,799	0.0042
Morgan Stanley & Co. Inc., New York	182,931.48	95,983,438	0.0019
Sanford C. Bernstein & Co. Inc., New York	136,743.95	9,498,403	0.0144
Citigroup Global Markets LTD, London	126,685.67	15,096,726	0.0084
Instinet Europe Limited, London	124,943.44	16,652,918	0.0075
UBS Securities LLC, Stamford	115,807.66	19,813,060	0.0058
Other Brokers	1,908,888.98	4,086,475,534	0.0005
Total FY 2021	\$ 6,898,771.70	4,954,700,059	\$ 0.0014

SCHEDULE OF INVESTMENT EXPENSES

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Assets Under Management	Management Fees and Expenses
External Management:		
Public Equity Managers	\$ 14,579,415	\$ 59,784
Fixed Income Managers	6,472,288	4,407
Credit Strategies Managers	13,994,898	78,670
Real Assets Managers	12,680,000	127,107
Alternative Investment Managers	16,174,225	151,619
Hedge Funds Managers	8,372,225	66,408
Risk-Based Investments Managers	4,353,930	12,683
Currency Managers*	—	2,700
Dynamic Strategy	1,672,192	5,442
Internal Management:	26,231,325	38,575
Miscellaneous Fees and Expenses:		
Custodial Fees	—	4,500
Legal Fees	—	913
Other Fees and Expenses	—	1,617
Total	\$ 104,530,498	\$ 554,425

* The fees related to Active Currency Overlay Program are based on the managers' notional account values. The total notional value at June 30, 2021, was \$1.8 billion.

Investment Summary

In accordance with Section 51.1-124.31 of the *Code of Virginia* (1950), as amended, the Board of Trustees has pooled substantially all defined benefit plan assets of the Virginia Retirement System, the State Police Officers' Retirement System, the Judicial Retirement System, the Group Life

Insurance Fund and the Retiree Health Insurance Credit Fund into a common investment pool. The common investment pool of the pension trust funds, other trust funds and custodial funds held the following composition of investments at June 30, 2021 and 2020:

(EXPRESSED IN THOUSANDS)

	2021 Fair Value	Percent of Total Value	2020 Fair Value	Percent of Total Value
Bonds and Mortgage Securities:				
U.S. Government and Agencies	\$ 4,330,230	4.12%	\$ 2,914,682	3.48%
Mortgage Securities	3,845,183	3.66%	4,056,194	4.84%
Corporate and Other Bonds	14,889,600	14.17%	13,110,381	15.66%
Total Bonds and Mortgage Securities	23,065,013	21.95%	20,081,257	23.98%
Common and Preferred Stocks	27,394,488	26.08%	22,987,340	27.45%
Index and Pooled Funds:				
Equity Index and Pooled Funds	13,887,361	13.22%	10,230,872	12.22%
Fixed-Income Commingled Funds	1,482,629	1.41%	1,377,164	1.64%
Total Index and Pooled Funds	15,369,990	14.63%	11,608,036	13.86%
Real Assets	10,754,327	10.24%	9,931,630	11.86%
Private Equity	27,883,423	26.55%	18,698,079	22.34%
Short-Term Investments:				
Treasurer of Virginia – LGIP Investment Pool	503,439	0.48%	361,958	0.43%
Foreign Currencies	77,125	0.07%	61,091	0.08%
Total Short-Term Investments	580,564	0.55%	423,049	0.51%
Total Investments	\$ 105,047,805	100.00%	\$ 83,729,391	100.00%

Description of Hybrid Defined Contribution Plan

Defined contribution plan assets for Hybrid Retirement Plan members are maintained in two separate accounts. The Hybrid 401(a) Cash Match Plan account contains the hybrid plan member and employer mandatory contributions and the employer match on the voluntary member

contributions. The Hybrid 457 Deferred Compensation Plan account contains the hybrid plan member's voluntary contributions. The schedule below shows the assets in each investment option and the accumulated plan assets in each option.

HYBRID PARTICIPANT ACCOUNT PLAN ASSETS BY FUND OPTION*

AS OF JUNE 30, 2021

Fund Name	Hybrid 401(a)	Hybrid 457	Total
Retirement Portfolio	\$ 28,550,698	\$ 14,608,752	\$ 43,159,450
Target Date 2025 Portfolio	47,840,296	27,494,766	75,335,062
Target Date 2030 Portfolio	68,225,874	37,515,946	105,741,820
Target Date 2035 Portfolio	84,579,243	44,573,767	129,153,010
Target Date 2040 Portfolio	87,394,512	44,009,005	131,403,517
Target Date 2045 Portfolio	101,355,624	49,013,930	150,369,554
Target Date 2050 Portfolio	125,156,718	56,352,921	181,509,639
Target Date 2055 Portfolio	192,497,477	74,085,490	266,582,967
Target Date 2060 Portfolio	90,767,846	32,537,491	123,305,337
Target Date 2065 Portfolio	3,316,155	1,114,218	4,430,373
Money Market Fund	4,898,710	1,221,410	6,120,120
Stable Value Fund	1,797,771	2,705,525	4,503,296
Bond Fund	1,205,428	1,496,923	2,702,351
Inflation-Protected Bond Fund	538,941	938,925	1,477,866
High-Yield Bond Fund	1,125,626	1,500,634	2,626,260
Stock Fund	20,820,153	22,222,513	43,042,666
Small/Mid-Cap Stock Fund	7,296,283	8,134,965	15,431,248
International Stock Fund	3,382,548	4,051,965	7,434,513
Global Real Estate Fund	1,449,742	1,865,238	3,314,980
VRS Investment Portfolio – PIPVRSIP	10,165	7,843	18,008
VRS Investment Portfolio	189,524	80,370	269,894
Self-Directed Brokerage	1,449,110	1,273,090	2,722,200
Total Plan Assets	\$ 873,848,444	\$ 426,805,687	\$ 1,300,654,131

* Fund totals have been rounded to the nearest dollar amount.

Description of Defined Contribution Plans Investment Options

Participants in the System's Hybrid Retirement Plan benefit structure have access to a number of core investment options for contributions to their defined contribution plan. These options are intended to provide participants with a variety of investment choices while controlling the associated costs. In addition to the option-specific annual operating expense detailed in the Investment Option Performance Summary, participants pay an annual record-keeping fee of \$30.50 that is deducted from their accounts on a monthly basis (approximately \$2.54 per month).

Participants with more than one account in the Plan pay only one annual fee of \$30.50. At June 30, 2021, the plans provided the following core investment options to participants.

DO-IT-FOR-ME FUNDS

Retirement Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that object, the portfolio will be broadly diversified across global asset classes.

U.S. Bonds: 54.1% U.S. Large/Mid-Cap Stocks: 20.8% International Stocks: 12.5%
U.S. Inflation-Index Bonds: 5.6% U.S. Small-Cap Stocks: 3.6%
Commodities: 1.7% Developed Real Estate: 1.7%

Target Date 2025 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Bonds: 45.0% U.S. Large/Mid-Cap Stocks: 26.3% International Stocks: 16.6%
U.S. Inflation-Index Bonds: 5.1% U.S. Small-Cap Stocks: 3.1%
Developed Real Estate: 2.3% Commodities: 1.5%

Target Date 2030 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Bonds: 33.7% U.S. Large/Mid-Cap Stocks: 33.1% International Stocks: 22.1%
U.S. Inflation-Index Bonds: 4.3% Developed Real Estate: 2.9%
U.S. Small-Cap Stocks: 2.6% Commodities: 1.2%

Target Date 2035 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 39.7% International Stocks: 27.4% U.S. Bonds: 23.0%
Developed Real Estate: 3.5% U.S. Inflation-Index Bonds: 3.3%
U.S. Small-Cap Stocks: 2.1% Commodities: 0.9%

Target Date 2040 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 45.5% International Stocks: 32.4% U.S. Bonds: 13.5%
Developed Real Estate: 4.1% U.S. Inflation-Index Bonds: 2.2% U.S. Small-Cap Stocks: 1.6% Commodities: 0.6%

Target Date 2045 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 50.5% International Stocks: 36.5% U.S. Bonds: 5.7%
Developed Real Estate: 4.6% U.S. Small-Cap Stocks: 1.3% U.S. Inflation-Index Bonds: 1.1% Commodities: 0.3%

Target Date 2050 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 53.2% International Stocks: 38.9% Developed Real Estate: 4.8%
U.S. Bonds: 1.6% U.S. Small-Cap Stocks: 1.1% U.S. Inflation-Index Bonds: 0.3% Commodities: 0.1%

Target Date 2055 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 53.8% International Stocks: 39.4% Developed Real Estate: 4.8%
U.S. Small-Cap Stocks: 1.0% U.S. Bonds: 0.9% U.S. Inflation-Index Bonds: 0.2% Commodities: 0.1%

Target Date 2060 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 53.8% International Stocks: 39.4% Developed Real Estate: 4.8%
U.S. Small-Cap Stocks: 1.0% U.S. Bonds: 0.9% U.S. Inflation-Index Bonds: 0.1%

Target Date 2065 Portfolio: Seeks to provide for retirement outcomes consistent with investor preferences throughout the savings and drawdown phase based on quantitatively measured risk that investors, on average, may be willing to accept. In pursuit of that objective, the portfolio will be broadly diversified across global asset classes, with asset allocations becoming more conservative over time.

U.S. Large/Mid-Cap Stocks: 53.8% International Stocks: 39.4% Developed Real Estate: 4.8%
U.S. Small-Cap Stocks: 1.0% U.S. Bonds: 1.0%

HELP-ME-DO-IT FUNDS

Money Market Fund: Seeks to provide a high level of current income as is consistent with liquidity and stability of principal.

Other Repurchase Agreement: 39.6% Financial Company Commercial Paper: 24.1% Certificate of Deposit: 15.8%
Asset-Backed Commercial Paper: 6.0% Non-Negotiable Time Deposit: 5.3%
Non-U.S. Sovereign, Sub-Sovereigns and Supranational Debt: 4.1% U.S. Government Agency Repurchase Agreement: 3.1%
Non-Financial Company Commercial Paper: 1.2% U.S. Treasury Debt: 0.8%

Stable Value Fund: Seeks to provide safety of principal, while earning a level of interest income consistent with an underlying portfolio of short- to intermediate-duration high-quality fixed income (bond) securities and cash or cash equivalents, and liquidity to accommodate participant transactions.

Corporates: 24.1% U.S. Treasury/Agency: 19.5% Agency MBS: 18.0% Asset-Backed: 17.1% Taxable Municipals: 5.6%
Other U.S. Government: 5.2% Cash/Equivalents: 5.1% CMBS: 4.6% Non-Agency MBS: 0.9%

Bond Fund: Seeks to track the performance of the Bloomberg Barclays Aggregate Bond Index. The index is an unmanaged index that represents the broad U.S. investment-grade bond market and is comprised of U.S. treasury securities, government agency bonds, corporate bonds, mortgage-backed securities, asset-backed securities and a small amount of foreign bonds traded in the U.S.

Treasury: 37.8% Mortgages: 27.3% Industrials: 16.0% Financials: 8.0% Non-U.S. Credit: 3.7% CMBS: 2.2%
Utilities: 2.1% Cash: 1.2% Taxable Municipals: 0.7% Agencies: 0.6% Asset-Backed Securities: 0.3%

Inflation-Protected Bond Fund: Seeks to track the performance of the Bloomberg Barclays U.S. Treasury Inflation-Protected Securities Index. The index is an unmanaged index that represents the U.S. Treasury Inflation-Protection Securities (TIPS) market. The index includes investment-grade TIPS with one or more years to final maturity.

U.S. Treasury: 98.5% Cash: 1.5%

High-Yield Bond Fund: Seeks to achieve returns that exceed, over time, its benchmark, the ICE BofA U.S. High-Yield BB-B Constrained Index. The index is an unmanaged index of BB-B rated securities that caps any single issuer exposure to 2.0%. The index is indicative of the higher quality high-yield bond market.

Communications: 20.7% Consumer Cyclical: 20.3% Consumer Non-Cyclical: 17.8%
Energy: 13.7% Capital Goods: 10.9% Basic Industry: 6.1% Technology: 4.6%
Finance: 2.6% Transportation: 1.2% Utilities: 1.0% Other Industrial: 1.0% Other/Cash: 0.2%

Stock Fund: Seeks to track the performance of the Standard & Poor's 500 Index. The index is an unmanaged index that represents the broad large-capitalization U.S. stock market and is comprised of 500 widely held U.S. stocks chosen by Standard & Poor's.

Information Technology: 27.4% Health Care: 13.0% Consumer Discretionary: 12.3%
Financials: 11.3% Communication Services: 11.1% Industrials: 8.5% Consumer Staples: 5.9%
Energy: 2.9% Real Estate: 2.6% Materials: 2.6% Utilities: 2.5%

Small/Mid-Capitalization Stock Fund: Seeks to track the performance of the Russell 2500 Index. The index is an unmanaged index that represents the broad middle- to smaller-capitalization U.S. stock market.

Information Technology: 16.3% Industrials: 15.9% Health Care: 15.8% Financials: 13.7%
Consumer Discretionary: 12.7% Real Estate: 8.2% Materials: 5.3%
Energy: 3.6% Consumer Staples: 3.2% Communication Services: 3.1% Utilities: 2.4%

International Stock Fund: Seeks to track the performance of the MSCI ACWI ex-U.S. IMI Index. The index is an unmanaged index that represents the equity performance of large, mid- and small-cap segments of developed and emerging markets, excluding the U.S.

Financials: 17.4% Consumer Discretionary: 13.7% Industrials: 13.1%
Information Technology: 12.8% Health Care: 9.0% Materials: 8.6% Consumer Staples: 8.1%
Communication Services: 6.4% Energy: 4.3% Real Estate: 3.6% Utilities: 3.0%

Global Real Estate Fund: Seeks to track the performance of the FTSE EPRA/NAREIT Developed Index. The index is an unmanaged index that is designed to reflect the performance of listed real estate companies worldwide, including the U.S.

Retail REITs: 14.2% Residential REITs: 13.1% Specialized REITs: 12.7% Industrial REITs: 12.4%
Real Estate Operating Companies: 11.2% Office REITs: 10.6% Diversified REITs: 8.5% Health Care REITs: 7.4%
Diversified Real Estate Activities: 5.9% Hotel & Resort REITs: 2.6%
Real Estate Development: 1.5% Hotels, Resorts & Cruise Lines: 0.1%

VRS Investment Portfolio (VRSIP): Seeks to maximize return while managing risk within an acceptable range. Due to the long-term nature of the defined benefit plan's liabilities, the horizon for investment decisions is generally defined as 10 years or longer.

Public Equity: 37.1% Private Equity: 15.6% Fixed Income: 14.8% Credit Strategies: 14.0%
Real Assets: 11.9% MAPS: 3.0% PIP: 2.0% Cash: 1.6%

DO-IT-MYSELF FUNDS

Self-Directed Brokerage Account (SDBA): Allows investors to select from thousands of publicly traded mutual funds, exchange-traded funds (ETFs) and individual securities in addition to the available core investment options. The SDBA option is offered through TD Ameritrade. The SDBA option is for knowledgeable investors who acknowledge and understand the risks and costs associated with the investments contained in this option.

In addition to the annual record-keeping fee and operating expenses, this option is subject to transaction fees charged by TD Ameritrade and investment management-related fees and expenses for the funds or investments selected.

Investment Option Performance Summary: Defined Contribution Plans

AS OF JUNE 30, 2021

(RETURNS GREATER THAN ONE YEAR ARE ANNUALIZED)

DO-IT-FOR-ME PATH: TARGET DATE PORTFOLIOS

Investment Options	Inception Date	1 Year	3 Years	5 Years	10 Years or Since Inception	Total Annual Operating Expenses	
						As a %	Per \$1,000
Retirement Portfolio	08/01/05	15.80%	9.42%	7.82%	6.32%	0.08%	\$0.80
Custom Benchmark ¹		15.77%	9.36%	7.77%	6.27%		
Target Date 2025 Portfolio	07/05/06	20.20%	10.32%	9.46%	7.52%	0.08%	\$0.80
Custom Benchmark ¹		20.17%	10.25%	9.38%	7.46%		
Target Date 2030 Portfolio	08/01/05	25.05%	11.42%	10.68%	8.25%	0.08%	\$0.80
Custom Benchmark ¹		25.01%	11.34%	10.57%	8.16%		
Target Date 2035 Portfolio	07/05/06	29.86%	12.49%	11.85%	8.94%	0.08%	\$0.80
Custom Benchmark ¹		29.81%	12.39%	11.72%	8.82%		
Target Date 2040 Portfolio	08/01/05	34.35%	13.42%	12.88%	9.52%	0.08%	\$0.80
Custom Benchmark ¹		34.26%	13.30%	12.74%	9.40%		
Target Date 2045 Portfolio	07/05/06	37.97%	14.18%	13.63%	9.98%	0.08%	\$0.80
Custom Benchmark ¹		37.85%	14.04%	13.47%	9.84%		
Target Date 2050 Portfolio	09/30/07	39.86%	14.59%	13.97%	10.23%	0.08%	\$0.80
Custom Benchmark ¹		39.73%	14.44%	13.81%	10.10%		
Target Date 2055 Portfolio	05/19/10	40.14%	14.67%	14.01%	10.40%	0.08%	\$0.80
Custom Benchmark ¹		40.07%	14.53%	13.86%	10.25%		
Target Date 2060 Portfolio	11/17/14	40.11%	14.66%	14.00%	10.61%	0.08%	\$0.80
Custom Benchmark ¹		40.07%	14.53%	13.86%	10.46%		
Target Date 2065 Portfolio	09/23/19	40.02%	N/A	N/A	21.01%	0.08%	\$0.80
Custom Benchmark ¹		40.06%	N/A	N/A	21.08%		

(Continued)

Investment Option Performance Summary: Defined Contribution Plans (cont.)

HELP-ME-DO-IT PATH: INDIVIDUAL OPTIONS

Investment Options	Inception Date					Total Annual Operating Expenses	
		1 Year	3 Years	5 Years	10 Years or Since Inception	As a %	Per \$1,000
Money Market Fund Benchmark: FTSE 3-Month Treasury Bill Index Yield as of June 30, 2021, was 0.15%	11/01/99	0.18%	1.44%	1.36%	0.72%	0.08%	\$0.80
Stable Value Fund Custom Benchmark ² Yield as of June 30, 2021, was 2.23%	02/01/95	1.89%	2.23%	2.09%	1.98%	0.24%	\$2.40
Bond Fund Benchmark: Bloomberg Barclays U.S. Aggregate Bond Index	11/01/99	(0.30)%	5.39%	3.07%	3.45%	0.03%	\$0.30
Inflation-Protected Bond Fund Benchmark: Bloomberg Barclays U.S. Treasury Inflation-Protected Securities Index	07/30/02	6.61%	6.63%	4.31%	3.50%	0.03%	\$0.30
High-Yield Bond Fund Benchmark: ICE BofA U.S. High-Yield BB-B Constrained Index	05/31/04	17.45%	7.77%	7.50%	6.84%	0.40%	\$4.00
Stock Fund Benchmark: S&P 500 Index	11/01/99	40.84%	18.73%	17.69%	14.88%	0.01%	\$0.10
Small/Mid-Cap Stock Fund Benchmark: Russell 2500 Index ³	11/01/99	57.81%	15.26%	16.40%	12.90%	0.02%	\$0.20
International Stock Fund Benchmark: MSCI ACWI ex-U.S. IMI Index ⁴	11/01/99	37.37%	9.69%	11.44%	6.44%	0.06%	\$0.60
Global Real Estate Fund Benchmark: FTSE EPRA/NAREIT Developed Index ⁵	10/01/02	34.51%	7.32%	5.87%	8.23%	0.08%	\$0.80
VRS Investment Portfolio (VRSIP) VRS Custom Benchmark ⁶	07/01/08	27.46%	11.30%	10.70%	8.81%	0.60%	\$6.00

¹ Benchmarks are calculated using blended returns of third-party indices that proportionately reflect the respective weightings of the Portfolios' asset classes. Weightings are adjusted quarterly to reflect the Portfolios' asset allocation shifts over time. Indices currently used to calculate the custom benchmarks are Russell 1000 Index, Russell 2000 Index, MSCI ACWI ex-U.S. IMI Index, Bloomberg Barclays U.S. Aggregate Bond Index, Bloomberg Barclays U.S. Treasury Inflation-Protected Securities Index, FTSE EPRA/NAREIT Developed Index and the Bloomberg Commodity Index Total Return.

² Effective August 2016, the benchmark represents a hypothetical return generated by the monthly yields of actively traded U.S. Treasuries based on [50% two-year maturity + 50% three-year maturity] plus an annualized spread of 0.25% and is representative of the Fund's expected return profile, given how the Fund is managed and book value accounting treatment. Prior to August 2016, the custom benchmark was based on the monthly yield of actively traded U.S. Treasuries with a three-year maturity plus an annualized spread of 0.50%. The benchmark returns are linked.

³ Effective July 2012, the performance benchmark is the Russell 2500 Index. Prior to July 2012, the performance benchmark was the Russell Small-Cap Completeness Index. The benchmark returns are linked.

⁴ Effective August 2016, the performance benchmark is the MSCI ACWI ex-U.S. IMI Index. It was the MSCI World ex-U.S. Index from July 2012 through July 2016, and prior to July 2012, it was the MSCI EAFE Index. The benchmark returns are linked.

⁵ Effective July 2012, the performance benchmark is the FTSE EPRA/NAREIT Developed Index. Prior to July 2012, the performance benchmark was the Dow Jones U.S. Select REIT Index. The benchmark returns are linked.

⁶ The VRS Custom Benchmark is a blend of the asset class benchmarks at policy weights.

ACTUARIAL SECTION





Actuarial Section

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Actuary's Certification Letter: Pension Plans



Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

January 14, 2021

Board of Trustees
Virginia Retirement System
1200 E. Main Street
Richmond, VA 23219

Dear Trustees:

We are pleased to submit the results of the annual actuarial valuation for the following divisions of the Virginia Retirement System (VRS), prepared as of June 30, 2020.

- State Employees
- Teachers
- State Police (SPORS)
- Judicial
- Virginia Law Officers (VaLORS)

In addition, this report includes information in aggregate on the actuarial valuations of the Political Subdivisions participating in VRS as of June 30, 2020. We have prepared, and provided separately, actuarial valuation reports for each of the Political Subdivisions. Please refer to the individual reports for the valuation results, summary of actuarial assumptions and methods, and plan provisions for each of the Political Subdivision plans.

The purpose of this report is to provide a summary of the funded status of VRS as of June 30, 2020, and to recommend rates of contribution. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The funded status of the plan is the ratio of the assets to the actuarial accrued liability. While the market value of assets gives an indication of the funded status of a plan at a particular point in time and is used for financial reporting, it is not used directly in the calculation of the employer contribution rates. A less volatile actuarial value of assets, which smooths the effect of market fluctuations over a five-year period, is applied to determine the funded status for rate-setting purposes. For informational purposes, we exhibit the funded status based on this smoothed actuarial value of assets basis as well as the market value in this report. While the current funded status can be used to show the current fiscal health of the plan as of the valuation date, it is not the only indicator of future contributions to the plan. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

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The calculations in this report have been made on a basis consistent with our understanding of VRS's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. For example, actuarial computations for purposes of fulfilling financial accounting requirements under Governmental Accounting Standards No. 67 and No. 68 are provided in separate reports.

The valuation results indicate that the full employer contribution rates shown in the table below are sufficient to fund the normal cost for all members and finance the unfunded accrued liability of the plans. For comparison, in the table below we present the employer contribution rates for fiscal years ending 2021 and 2022 based on the June 30, 2019, actuarial valuation and the rates for fiscal years 2019 and 2020 based on the June 30, 2017, actuarial valuation. Contribution rates for VRS employers are established every two years. The actuarially calculated employer contribution rates based on the June 30, 2020, valuation presented in this report are for informational purposes only. The total employer rates include the average employer rate for the defined contribution component of the Hybrid Plan.

System	Fiscal Years 2019/2020	Fiscal Years 2021/2022		Informational Only		
	Board & General Assembly Approved	Board Approved	General Assembly Approved	Actuarially Determined Employer Rate for Defined Benefit Plan	Employer Rate for Hybrid DC Component	Total Employer Rate for Retirement Plans
2017 Valuation		2019 Valuation		2020 Valuation		
State	13.52%	14.46%	14.46%	13.58%	0.99%	14.57%
Teachers	15.68%	16,62%	16,62%	15,90%	0.75%	16.65%
SPORS	24.88%	26.26%	26.33%	26.72%	N/A	26.72%
VaLORS	21.61%	21.88%	21.90%	22.13%	N/A	22.13%
Judicial	34.39%	29,84%	29,84%	27.47%	1.77%	29.24%
Political Subdivisions (Average rates)	7.60%	8.33%	8.33%	7.63%	0.79%	8.42%

Subsequent to the 2019 rate-setting valuations, legislation was passed during the 2020 General Assembly session that modified the funding provided for the SPORS and VaLORS plans. The budget amendment provided additional funding pursuant to the passage of House Bill 1495 and Senate Bill 54. These bills allow retired law-enforcement personnel to return to work as school security officers while continuing to receive their retirement allowance. The increased funding covers estimated costs related to incentivizing members to retire earlier than originally expected, thus impacting retirement patterns and increasing plan liabilities. The rate funded in the 2021/2022 budget for SPORS was 26.33%, up from the 26.26% certified by the VRS Board. Similarly the VaLORS rate funded in the 2021/2022 budget was 21.90%, up from 21.88% certified by the VRS Board.

The promised benefits of VRS are included in the calculated contribution rates which are developed using the entry age normal cost method. The valuation takes into account the differentiation between Plan 1 vested members, Plan 1 non-vested members as of January 1, 2013, resulting from HB 1130 and SB 498, Plan 2 members, and the Hybrid Plan. Five-year smoothed market value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded accrued liability. In accordance with the supplemental contribution provision under the 2011 Appropriation Act, Item 469(l)(6), the portion of the unfunded accrued liability with respect to deferred contributions for the 2010-2012 biennium is amortized using a level-dollar, closed, 10-year period beginning June 30, 2011. Amendments to the 2016-2017 Virginia budget accelerated the payback of the full outstanding balance of the deferred contributions to all plans except Teachers. In accordance with the funding policy adopted by the Board of Trustees in 2013, the balance



of the unfunded accrued liability as of June 30, 2013, is being amortized by regular annual contributions as a level percentage of payroll over a closed 23-year period and changes in the unfunded accrued liability since June 30, 2013, are amortized over a closed 20-year period. The amortization of the unfunded accrued liability assumes that payroll will increase by 3% annually and the amortization period will decrease by one year until reaching 0 years.

We have prepared several supporting schedules shown in the actuarial section of the *Comprehensive Annual Financial Report*, including the Schedule of Active Member Data and the Analysis of Financial Experience. In addition, we prepared the underlying schedules from which the selected information in the annual report was extracted. For completeness, the table of Changes in Unfunded Actuarial Accrued Liabilities in Section V and the Retiree and Beneficiary Data in Schedule I include the information with respect to the Political Subdivisions participating in VRS.

Our organization has only a contractual relationship with the Virginia Retirement System to provide actuarial consulting services and we do not provide other services to nor have a financial interest in the Virginia Retirement System. There are no known interests or relationships that our firm has with the Virginia Retirement System that may impair or appear to impair the objectivity of our work.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared for funding purposes with assumptions and methods that meet the parameters of the Actuarial Standards of Practice, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

We note that as we are preparing this report, the world is in the midst of a pandemic. We have considered available information but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in the future of any adjustments that we believe would be appropriate.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Table of Contents, which immediately follows {in the valuation report}, outlines the material contained in the report.

Respectfully submitted,

A stylized, handwritten signature in dark ink, appearing to read 'LL'.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in dark ink, reading 'Micki R. Taylor'.

Micki R. Taylor, ASA, FCA, MAAA
Senior Actuary

The Actuarial Section presents information about the assumptions adopted by the Board of Trustees and used by the VRS actuary to evaluate the funded status of the pension plans. This information includes trend data about retirements, disabilities, terminations and salary increase rates. The section also provides summaries of the pension plans administered by the System and any changes.

Summary of Actuarial Assumptions and Methods

On April 26, 2017, the VRS Board of Trustees adopted most of the actuarial assumptions and methods on the recommendation of its actuary. They were based on an analysis of plan experience for the four-year period July 1, 2012, through June 30, 2016, and were used for the June 30, 2020, valuation.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS: PENSION PLANS

	2011-2012	2013	2014-2016	2017	2018	2019	2020
Investment Rate of Return	7.00%	7.00%	7.00%	7.00%	7.00%	6.75%	6.75%
Inflation Assumption	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Cost of Living (COLA) Assumption							
Plan 1	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Plan 2	0.0225	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Hybrid	N/A	N/A	0.0225	0.0225	2.25%	2.25%	2.25%
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Change in Decremental Assumptions	No	Yes	No	Yes	No	No	No
Value of Ancillary Benefits Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Value of Post-Retirement Adjustments to Date Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assets Valuation Method	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market

SOLVENCY TEST: PENSION PLANS

(EXPRESSED IN THOUSANDS)

Valuation Date (June 30)	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Assets		
	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members*	Valuation Assets	(1)	(2)	(3)
VIRGINIA RETIREMENT SYSTEM (VRS)							
2020	\$ 14,082,163	\$ 60,926,216	\$ 26,884,877	\$ 78,759,722	100.00%	100.00%	13.95%
2019	13,613,905	58,337,920	27,182,146	76,244,148	100.00%	100.00%	15.79%
2018	13,221,525	54,132,392	25,820,901	73,204,795	100.00%	100.00%	22.66%
2017	12,887,047	51,247,606	25,716,631	69,214,246	100.00%	100.00%	19.75%
2016	12,518,183	48,717,939	25,882,870	65,203,736	100.00%	100.00%	15.33%
2015	12,176,530	46,783,519	25,751,093	62,083,601	100.00%	100.00%	12.13%
2014	11,819,771	44,469,489	25,794,124	57,144,567	100.00%	100.00%	3.32%
2013	11,420,836	42,383,697	25,273,058	52,124,581	100.00%	96.00%	—%
2012	9,479,988	39,996,442	28,382,426	51,211,915	100.00%	100.00%	6.11%
2011	9,116,662	37,539,539	28,528,577	52,558,997	100.00%	100.00%	20.69%
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)							
2020	\$ 109,787	\$ 707,082	\$ 389,555	\$ 880,834	100.00%	100.00%	16.42%
2019	105,943	682,809	392,368	858,632	100.00%	100.00%	17.81%
2018	103,710	646,580	362,603	830,978	100.00%	100.00%	22.25%
2017	99,643	622,206	318,779	785,677	100.00%	100.00%	20.02%
2016	100,291	585,837	395,852	744,656	100.00%	100.00%	14.79%
2015	95,394	586,984	368,323	710,864	100.00%	100.00%	7.73%
2014	92,637	562,413	374,105	662,244	100.00%	100.00%	1.92%
2013	88,814	548,115	359,761	591,983	100.00%	91.80%	—%
2012	78,465	563,612	371,201	587,160	100.00%	90.30%	—%
2011	74,943	540,097	370,664	616,603	100.00%	100.00%	0.42%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)							
2020	\$ 250,900	\$ 1,498,644	\$ 509,009	\$ 1,546,528	100.00%	86.45%	—%
2019	244,233	1,432,206	534,799	1,484,995	100.00%	86.63%	—%
2018	240,390	1,317,732	499,382	1,413,876	100.00%	89.05%	—%
2017	240,517	1,219,673	517,591	1,328,178	100.00%	89.18%	—%
2016	237,416	1,160,507	586,334	1,235,490	100.00%	86.00%	—%
2015	232,824	1,088,742	585,155	1,155,767	100.00%	84.77%	—%
2014	230,522	977,848	611,675	1,058,010	100.00%	84.60%	—%
2013	223,467	916,886	601,757	941,933	100.00%	78.40%	—%
2012	176,172	861,342	715,499	909,399	100.00%	85.10%	—%
2011	174,963	763,631	744,597	926,082	100.00%	98.40%	—%
JUDICIAL RETIREMENT SYSTEM (JRS)							
2020	\$ 42,320	\$ 452,071	\$ 183,481	\$ 566,239	100.00%	100.00%	39.16%
2019	42,660	427,846	199,235	553,136	100.00%	100.00%	41.47%
2018	41,009	413,609	191,044	536,022	100.00%	100.00%	42.61%
2017	39,104	407,862	184,556	505,834	100.00%	100.00%	31.90%
2016	37,648	395,698	174,452	476,321	100.00%	100.00%	24.63%
2015	36,784	390,690	172,914	442,250	100.00%	100.00%	8.55%
2014	38,522	370,265	199,382	406,053	100.00%	99.30%	—%
2013	38,439	360,470	191,717	368,671	100.00%	91.60%	—%
2012	38,578	335,501	208,377	361,097	100.00%	96.10%	—%
2011	37,981	312,423	219,091	371,051	100.00%	100.00%	9.42%

* Employer-financed portion.

Aggregate Accrued Liabilities are determined under the entry age normal cost method (System-funded method used to determine employer contribution requirements).

The progress of a retirement system in accumulating assets to pay benefits when due can be measured by examining the extent to which assets accumulated for benefits cover 1) active member contributions to the System; 2) liabilities for future benefits to retirees and beneficiaries; and 3) liabilities for the employer-financed portion of service already rendered by active members. In a system receiving actuarially determined employer contributions, the liabilities for member contributions and future benefits to retirees and beneficiaries will generally be fully covered by accumulated assets. In addition, the liabilities for service already rendered will be partially covered by the remainder of the accumulated assets and will increase over time.

SOLVENCY TEST: VRS PENSION PLANS

(EXPRESSED IN THOUSANDS)

Valuation Date (June 30)	Aggregate Accrued Liabilities for				Valuation Assets	Portion of Accrued Liabilities				
	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members*	(1)		(2)	(3)			
VRS – STATE										
2020	\$	3,514,856	\$	16,410,519	\$	5,825,960	\$19,333,674	100.00%	96.39%	—%
2019		3,459,343		15,831,694		6,107,151	18,932,104	100.00%	97.73%	—%
2018		3,416,685		14,911,769		5,786,703	18,392,939	100.00%	100.00%	1.11%
2017		3,374,835		14,148,870		5,787,829	17,547,764	100.00%	100.00%	0.42%
2016		3,324,003		13,408,506		6,145,734	16,672,776	100.00%	99.55%	—%
2015		3,267,188		12,960,842		6,063,528	15,881,597	100.00%	97.33%	—%
2014		3,202,604		12,433,349		6,186,983	14,826,208	100.00%	93.50%	—%
2013		3,113,926		11,954,023		6,000,702	13,714,404	100.00%	88.70%	—%
2012		2,559,930		11,363,015		7,021,313	13,740,366	100.00%	98.40%	—%
2011		2,475,123		10,844,164		7,088,671	14,406,275	100.00%	100.00%	15.33%
VRS – TEACHER										
2020	\$	6,811,064	\$	30,055,902	\$	13,967,817	\$37,556,121	100.00%	100.00%	4.93%
2019		6,520,986		28,810,438		13,972,535	36,233,796	100.00%	100.00%	6.46%
2018		6,282,723		26,726,567		13,506,886	34,673,952	100.00%	100.00%	12.32%
2017		6,082,982		25,474,535		13,448,500	32,684,868	100.00%	100.00%	8.38%
2016		5,871,258		24,559,074		13,151,297	30,768,277	100.00%	100.00%	2.57%
2015		5,679,555		23,776,912		13,107,711	29,441,485	100.00%	99.94%	—%
2014		5,494,752		22,720,375		13,082,542	27,026,576	100.00%	94.80%	—%
2013		5,310,701		21,627,490		12,914,143	24,724,679	100.00%	89.80%	—%
2012		4,573,244		20,361,089		14,156,075	24,391,761	100.00%	97.30%	—%
2011		4,394,657		19,066,272		14,310,803	25,166,124	100.00%	100.00%	11.92%
VRS – POLITICAL SUBDIVISIONS										
2020	\$	3,756,243	\$	14,459,794	\$	7,091,101	\$21,869,927	100.00%	100.00%	51.53%
2019		3,633,576		13,695,788		7,102,460	21,078,248	100.00%	100.00%	52.78%
2018		3,522,117		12,494,055		6,527,313	20,137,904	100.00%	100.00%	63.15%
2017		3,429,230		11,624,201		6,480,302	18,981,614	100.00%	100.00%	60.62%
2016		3,322,922		10,750,359		6,585,839	17,762,683	100.00%	100.00%	56.02%
2015		3,229,787		10,045,765		6,579,854	16,760,519	100.00%	100.00%	52.96%
2014		3,122,415		9,315,765		6,524,599	15,291,783	100.00%	100.00%	43.74%
2013		2,996,209		8,802,184		6,358,213	13,685,498	100.00%	100.00%	29.68%
2012		2,346,814		8,272,338		7,205,038	13,079,788	100.00%	100.00%	34.15%
2011		2,246,882		7,629,103		7,129,103	12,986,598	100.00%	100.00%	43.63%
VRS – TOTAL										
2020	\$	14,082,163	\$	60,926,215	\$	26,884,878	\$78,759,722	100.00%	100.00%	13.95%
2019		13,613,905		58,337,920		27,182,146	76,244,148	100.00%	100.00%	15.79%
2018		13,221,525		54,132,392		25,820,901	73,204,795	100.00%	100.00%	22.66%
2017		12,887,047		51,247,606		25,716,631	69,214,246	100.00%	100.00%	19.75%
2016		12,518,183		48,717,939		25,882,870	65,203,736	100.00%	100.00%	15.33%
2015		12,176,530		46,783,519		25,751,093	62,083,601	100.00%	100.00%	12.13%
2014		11,819,771		44,469,489		25,794,124	57,144,567	100.00%	100.00%	3.32%
2013		11,420,836		42,383,697		25,273,058	52,124,581	100.00%	96.00%	—%
2012		9,479,988		39,996,442		28,382,426	51,211,915	100.00%	100.00%	6.11%
2011		9,116,662		37,539,539		28,528,577	52,558,997	100.00%	100.00%	20.69%

* Employer-financed portion.

Aggregate Accrued Liabilities are determined under the entry age normal cost method (System-funded method used to determine employer contribution requirements).

The progress of a retirement system in accumulating assets to pay benefits when due can be measured by examining the extent to which assets accumulated for benefits cover 1) active member contributions to the System; 2) liabilities for future benefits to retirees and beneficiaries; and 3) liabilities for the employer-financed portion of service already rendered by active members. In a system receiving actuarially determined employer contributions, the liabilities for member contributions and future benefits to retirees and beneficiaries will generally be fully covered by accumulated assets. In addition, the liabilities for service already rendered will be partially covered by the remainder of the accumulated assets and will increase over time.

SCHEDULE OF FUNDING (ACTUARIAL VALUE OF ASSETS BASIS): ALL PENSION PLANS

(EXPRESSED IN THOUSANDS)

Actuarial Valuation Date June 30	Actuarial Value of Assets (a)	Actuarial Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b-a)/(c)
VIRGINIA RETIREMENT SYSTEM (VRS) **						
2020	\$ 78,759,722	\$ 101,893,256	\$ 23,133,534	77.3%	\$ 18,749,343	123.4%
2019	76,244,148	99,133,971	22,889,823	76.9%	18,242,017	125.5%
2018	73,204,795	93,174,818	19,970,023	78.6%	17,614,448	113.4%
2017*	69,214,246	89,851,284	20,637,038	77.0%	16,764,876	123.1%
2016	65,203,736	87,118,992	21,915,256	74.8%	16,325,998	134.2%
2015	62,083,601	84,711,142	22,627,541	73.3%	15,901,380	142.3%
2014	57,144,567	82,083,384	24,938,817	69.6%	15,671,359	159.1%
2013*	52,124,581	79,077,591	26,953,010	65.9%	15,269,079	176.5%
2012	51,211,915	77,858,856	26,646,941	65.8%	14,880,275	179.1%
2011	52,558,997	75,184,760	22,625,763	69.9%	14,708,859	153.8%
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)						
2020	\$ 880,834	\$ 1,206,424	\$ 325,590	73.0%	\$ 131,255	248.1%
2019	858,632	1,181,120	322,488	72.7%	132,230	243.9%
2018	830,978	1,112,893	281,915	74.7%	126,523	222.8%
2017*	785,677	1,040,628	254,951	75.5%	110,265	231.2%
2016	744,656	1,081,980	337,324	68.8%	114,877	293.6%
2015	710,864	1,050,701	339,837	67.7%	110,543	307.4%
2014	662,244	1,029,155	366,911	64.3%	112,303	326.7%
2013*	591,983	996,690	404,707	59.4%	109,006	371.3%
2012	587,160	1,013,278	426,118	57.9%	104,189	409.0%
2011	616,603	985,704	369,101	62.6%	99,669	370.3%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)						
2020	\$ 1,546,528	\$ 2,258,553	\$ 712,025	68.5%	\$ 363,896	195.7%
2019	1,484,995	2,211,238	726,243	67.2%	369,776	196.4%
2018	1,413,876	2,057,504	643,628	68.7%	346,106	186.0%
2017*	1,328,178	1,977,781	649,603	67.2%	339,150	191.5%
2016	1,235,490	1,984,257	748,767	62.3%	352,677	212.3%
2015	1,155,767	1,906,721	750,954	60.6%	330,397	227.3%
2014	1,058,010	1,820,045	762,035	58.1%	352,709	216.1%
2013*	941,933	1,742,110	800,177	54.1%	342,154	233.9%
2012	909,399	1,753,014	843,615	51.9%	344,616	244.8%
2011	926,082	1,683,191	757,109	55.0%	356,240	212.5%
JUDICIAL RETIREMENT SYSTEM (JRS)						
2020	\$ 566,239	\$ 677,872	\$ 111,633	83.5%	\$ 74,734	149.4%
2019	553,136	669,741	116,605	82.6%	76,848	151.7%
2018	536,022	645,662	109,640	83.0%	67,424	162.6%
2017*	505,834	631,522	125,688	80.1%	66,288	189.6%
2016	476,321	607,798	131,477	78.4%	65,524	200.7%
2015	442,250	600,388	158,138	73.7%	61,881	255.6%
2014	406,053	608,169	202,116	66.8%	59,373	340.4%
2013*	368,671	590,626	221,955	62.4%	57,110	388.6%
2012	361,097	582,456	221,359	62.0%	56,958	388.6%
2011	371,051	569,494	198,443	65.2%	58,919	336.8%

* Revised economic and demographic assumptions due to experience study.

** The breakdown of VRS data into state, teacher and political subdivisions is also presented in the Statistical Section.

SCHEDULE OF FUNDING (ACTUARIAL VALUE OF ASSETS BASIS): VRS PENSION PLANS

(EXPRESSED IN THOUSANDS)

Actuarial Valuation Date June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (b-a)/(c)
VIRGINIA RETIREMENT SYSTEM (VRS) – STATE						
2020	\$ 19,333,674	\$ 25,751,335	\$ 6,417,661	75.1%	\$ 4,428,496	144.9%
2019	18,932,104	25,398,188	6,466,084	74.5%	4,375,061	147.8%
2018	18,392,939	24,115,157	5,722,218	76.3%	4,161,922	137.5%
2017*	17,547,764	23,311,534	5,763,770	75.3%	4,037,072	142.8%
2016	16,672,776	22,878,243	6,205,467	72.9%	4,002,477	155.0%
2015	15,881,597	22,291,558	6,409,961	71.2%	3,872,724	165.5%
2014	14,826,208	21,822,936	6,966,728	67.9%	3,854,779	181.5%
2013*	13,714,404	21,068,651	7,354,247	65.1%	3,716,548	197.9%
2012	13,740,366	20,944,258	7,203,892	65.6%	3,713,119	194.0%
2011	14,406,275	20,407,958	6,001,683	70.6%	3,686,259	162.8%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER						
2020	\$ 37,556,121	\$ 50,834,783	\$ 13,278,662	73.9%	\$ 8,911,307	149.0%
2019	36,233,796	49,303,959	13,070,163	73.5%	8,608,489	151.8%
2018	34,673,952	46,516,176	11,842,224	74.5%	8,479,023	139.7%
2017*	32,684,868	45,006,017	12,321,149	72.6%	7,919,450	155.6%
2016	30,768,277	43,581,629	12,813,352	70.6%	7,666,824	167.1%
2015	29,441,485	42,564,178	13,122,693	69.2%	7,488,507	175.2%
2014	27,026,576	41,297,669	14,271,093	65.4%	7,362,793	193.8%
2013*	24,724,679	39,852,334	15,127,655	62.0%	7,211,543	209.8%
2012	24,391,761	39,090,408	14,698,647	62.4%	7,004,577	209.8%
2011	25,166,124	37,771,732	12,605,608	66.6%	6,922,130	182.1%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS						
2020	\$ 21,869,927	\$ 25,307,138	\$ 3,437,211	86.4%	\$ 5,409,540	63.5%
2019	21,078,248	24,431,824	3,353,576	86.3%	5,258,467	63.8%
2018	20,137,904	22,543,485	2,405,581	89.3%	4,973,503	48.4%
2017*	18,981,614	21,533,733	2,552,119	88.1%	4,808,354	53.1%
2016	17,762,683	20,659,120	2,896,437	86.0%	4,656,697	62.2%
2015	16,760,519	19,855,406	3,094,887	84.4%	4,540,149	68.2%
2014	15,291,783	18,962,779	3,670,996	80.6%	4,453,787	82.4%
2013*	13,685,498	18,156,606	4,471,108	75.4%	4,340,988	103.0%
2012	13,079,788	17,824,190	4,744,402	73.4%	4,162,579	114.0%
2011	12,986,598	17,005,070	4,018,472	76.4%	4,100,470	98.0%
VIRGINIA RETIREMENT SYSTEM (VRS) – TOTAL						
2020	\$ 78,759,722	\$ 101,893,256	\$ 23,133,534	77.3%	\$ 18,749,343	123.4%
2019	76,244,148	99,133,971	22,889,823	76.9%	18,242,017	125.5%
2018	73,204,795	93,174,818	19,970,023	78.6%	17,614,448	113.4%
2017*	69,214,246	89,851,284	20,637,038	77.0%	16,764,876	123.1%
2016	65,203,736	87,118,992	21,915,256	74.8%	16,325,998	134.2%
2015	62,083,601	84,711,142	22,627,541	73.3%	15,901,380	142.3%
2014	57,144,567	82,083,384	24,938,817	69.6%	15,671,359	159.1%
2013*	52,124,581	79,077,591	26,953,010	65.9%	15,269,079	176.5%
2012	51,211,915	77,858,856	26,646,941	65.8%	14,880,275	179.1%
2011	52,558,997	75,184,760	22,625,763	69.9%	14,708,859	153.8%

* Revised economic and demographic assumptions due to experience study.

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: PENSION PLANS

Valuation Date (June 30)	Active Members				Number of Employers
	Number	Annual Payroll (000s)	Average Annual Pay	Annualized % Change in Average Pay	
VIRGINIA RETIREMENT SYSTEM (VRS)					
2020	336,604	\$ 18,336,555	\$ 54,475	(0.1)%	608
2019	334,610	18,242,017	54,517	3.6%	608
2018	334,858	17,614,448	52,603	4.3%	604
2017	332,538	16,764,879	50,415	2.0%	606
2016	330,257	16,325,998	49,434	2.2%	606
2015	328,833	15,901,380	48,357	1.4%	602
2014	328,494	15,671,359	47,707	2.6%	601
2013	328,277	15,269,079	46,513	2.6%	599
2012	328,385	14,880,275	45,314	0.5%	599
2011	326,357	14,708,859	45,070	0.6%	594
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)					
2020	1,924	\$ 131,255	\$ 68,220	(1.3)%	1
2019	1,914	132,230	69,086	2.9%	1
2018	1,885	126,523	67,121	14.6%	1
2017	1,882	110,265	58,589	(1.1)%	1
2016	1,940	114,877	59,215	6.8%	1
2015	1,994	110,543	55,438	(0.7)%	1
2014	2,011	112,303	55,844	2.6%	1
2013	2,002	109,006	54,449	(1.7)%	1
2012	1,881	104,189	55,390	(3.4)%	1
2011	1,738	99,669	57,347	3.8%	1
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)					
2020	8,554	\$ 363,896	\$ 42,541	—%	1
2019	8,692	369,776	42,542	7.2%	1
2018	8,718	346,106	39,700	2.1%	1
2017	8,718	339,150	38,902	0.4%	1
2016	9,106	352,677	38,730	3.4%	1
2015	8,820	330,397	37,460	0.1%	1
2014	9,429	352,709	37,407	2.5%	1
2013	9,372	342,154	36,508	(0.6)%	1
2012	9,383	344,616	36,728	(0.7)%	1
2011	9,631	356,240	36,989	4.0%	1
JUDICIAL RETIREMENT SYSTEM (JRS)					
2020	449	\$ 74,734	\$ 166,445	0.1%	1
2019	462	76,848	166,338	2.6%	1
2018	416	67,424	162,077	2.9%	1
2017	421	66,288	157,454	—%	1
2016	416	65,524	157,510	2.1%	1
2015	401	61,881	154,317	0.1%	1
2014	385	59,373	154,216	2.9%	1
2013	381	57,110	149,895	—%	1
2012	380	56,958	149,889	0.2%	1
2011	394	58,919	149,541	—%	1

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: VRS PENSION PLANS

Valuation Date (June 30)	Active Members					Number of Employers
	Number	Annual Payroll (000s)	Average Annual Pay	Annualized % Change in Average Pay		
VRS – STATE						
2020	75,069	\$ 4,428,496	\$ 58,992	0.9%	1	
2019	74,799	4,375,061	58,491	4.8%	1	
2018	74,582	4,161,922	55,803	3.4%	1	
2017	74,807	4,037,072	53,967	1.1%	1	
2016	74,968	4,002,477	53,389	3.7%	1	
2015	75,256	3,872,724	51,461	1.1%	1	
2014	75,730	3,854,779	50,902	3.9%	1	
2013	75,879	3,716,548	48,980	0.6%	1	
2012	76,274	3,713,119	48,681	0.1%	1	
2011	75,820	3,686,259	48,619	5.2%	1	
VRS – TEACHER						
2020	150,681	\$ 8,498,519	\$ 56,401	(2.1)%	144	
2019	149,396	8,608,489	57,622	3.0%	144	
2018	151,585	8,479,023	55,936	6.2%	144	
2017	150,416	7,919,450	52,650	2.3%	145	
2016	149,018	7,666,824	51,449	1.4%	145	
2015	147,645	7,488,507	50,720	1.2%	145	
2014	146,977	7,362,793	50,095	2.3%	145	
2013	147,257	7,211,543	48,972	2.9%	145	
2012	147,216	7,004,577	47,580	0.5%	144	
2011	146,152	6,922,130	47,363	(1.2)%	144	
VRS – POLITICAL SUBDIVISIONS						
2020	110,854	\$ 5,409,540	\$ 48,799	2.5%	463	
2019	110,415	5,258,467	47,625	4.1%	463	
2018	108,691	4,973,503	45,758	2.1%	459	
2017	107,315	4,808,354	44,806	2.3%	460	
2016	106,271	4,656,697	43,819	2.2%	460	
2015	105,932	4,540,149	42,859	1.8%	456	
2014	105,787	4,453,787	42,101	2.0%	455	
2013	105,141	4,340,988	41,287	4.0%	453	
2012	104,895	4,162,579	39,683	1.0%	454	
2011	104,385	4,100,470	39,282	(0.1)%	449	
VRS – TOTAL						
2020	336,604	\$ 18,336,555	\$ 54,475	(0.1)%	608	
2019	334,610	18,242,017	54,517	3.6%	608	
2018	334,858	17,614,448	52,603	4.3%	604	
2017	332,538	16,764,876	50,415	2.0%	606	
2016	330,257	16,325,998	49,434	2.2%	606	
2015	328,833	15,901,380	48,357	1.4%	602	
2014	328,494	15,671,359	47,707	2.6%	601	
2013	328,277	15,269,079	46,513	2.6%	599	
2012	328,385	14,880,275	45,314	0.5%	599	
2011	326,357	14,708,859	45,070	0.6%	594	

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: PENSION PLANS

	Retirees and Beneficiaries							
Valuation Date (June 30)	Added to Rolls		Removed From Rolls		Rolls at End of Year		Annualized % Increase in Annual Allowances	Average Annual Allowance
	Number	Allowances*	Number	Allowances	Number	Allowances		
VIRGINIA RETIREMENT SYSTEM (VRS)								
2020	13,171	\$ 386,370,000	6,050	\$ 127,713,000	216,061	\$ 5,045,910,000	5.4%	\$ 23,354
2019	13,506	418,151,000	5,684	128,747,000	208,940	4,787,253,000	6.4%	22,912
2018	12,633	369,352,000	5,618	113,124,000	201,118	4,497,849,000	6.0%	22,364
2017	12,067	309,556,000	5,432	101,892,000	194,103	4,241,621,000	5.1%	21,852
2016	12,444	272,010,000	4,944	93,004,000	187,468	4,033,957,000	4.6%	21,518
2015	12,348	313,032,000	5,067	90,733,000	179,968	3,854,951,000	6.1%	21,420
2014	11,912	289,092,000	4,719	89,997,000	172,687	3,632,652,000	5.8%	21,036
2013	11,297	303,240,000	4,574	83,618,000	165,494	3,433,557,000	6.8%	20,747
2012	10,493	305,440,000	4,411	91,446,000	158,771	3,213,935,000	7.1%	20,243
2011	11,630	248,784,000	4,210	31,978,000	152,689	2,999,941,000	7.8%	19,647
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)								
2020	75	\$ 4,770,000	31	\$ 1,694,000	1,481	\$ 63,771,000	5.1%	\$ 43,059
2019	78	4,973,000	21	1,850,000	1,437	60,695,000	5.4%	42,237
2018	63	3,942,000	29	1,618,000	1,380	57,572,000	4.2%	41,719
2017	97	4,994,000	31	1,178,000	1,346	55,248,000	7.4%	41,046
2016	45	1,775,000	36	1,512,000	1,280	51,432,000	0.5%	40,181
2015	66	3,871,000	34	1,555,000	1,271	51,169,000	4.7%	40,259
2014	55	2,972,000	24	1,124,000	1,239	48,853,000	3.9%	39,429
2013	44	2,652,000	36	1,491,000	1,208	47,005,000	2.5%	38,912
2012	54	3,619,000	20	1,543,000	1,200	45,844,000	4.7%	38,203
2011	68	2,954,000	24	412,000	1,166	43,768,000	6.2%	37,537
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)								
2020	342	\$ 10,265,000	104	\$ 4,536,000	5,261	\$ 116,615,000	5.2%	\$ 22,166
2019	345	10,633,000	83	3,335,000	5,023	110,886,000	7.0%	22,076
2018	422	11,565,000	74	3,584,000	4,761	103,588,000	8.3%	21,758
2017	354	9,403,000	65	3,496,000	4,413	95,607,000	6.6%	21,665
2016	365	8,051,000	67	2,737,000	4,124	89,700,000	6.3%	21,751
2015	397	10,242,000	36	2,006,000	3,826	84,386,000	10.8%	22,056
2014	311	7,736,000	59	6,956,000	3,465	76,150,000	1.0%	21,977
2013	336	8,561,000	34	(2,847,000)	3,213	75,370,000	17.8%	23,458
2012	347	9,437,000	37	2,505,000	2,911	63,962,000	12.2%	21,973
2011	316	6,677,000	33	1,145,000	2,601	57,030,000	10.7%	21,926
JUDICIAL RETIREMENT SYSTEM (JRS)								
2020	38	\$ 3,944,000	28	\$ 1,938,000	553	\$ 45,412,000	4.6%	\$ 82,119
2019	29	3,069,000	12	1,225,000	543	43,406,000	4.4%	79,937
2018	22	2,442,000	16	1,537,000	526	41,562,000	2.2%	79,015
2017	28	2,408,000	25	1,539,000	520	40,657,000	2.2%	78,187
2016	26	2,332,000	20	1,317,000	517	39,788,000	2.6%	76,959
2015	40	3,844,000	34	2,147,000	511	38,773,000	4.6%	75,877
2014	32	2,952,000	16	2,045,000	505	37,076,000	2.5%	73,418
2013	40	3,483,000	14	205,000	489	36,169,000	10.0%	73,966
2012	34	3,354,000	17	1,022,000	463	32,891,000	7.6%	71,039
2011	25	1,717,000	30	1,514,000	446	30,559,000	0.7%	68,518

* Additions to allowances include added retirees and the annual COLA provided to existing retirees and beneficiaries.

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: VRS PENSION PLANS

Valuation Date (June 30)	Retirees and Beneficiaries						Annualized % Increase in Annual Allowances	Average Annual Allowance
	Added to Rolls		Removed From Rolls		Rolls at End of Year			
	Number	Allowances*	Number	Allowances	Number	Allowances		
VRS – STATE								
2020	3,439	\$ 108,643,000	2,077	\$ 45,694,000	60,069	\$1,425,109,000	4.6%	\$ 23,725
2019	3,490	115,623,000	1,956	44,964,000	58,707	1,362,160,000	5.5%	23,203
2018	3,448	107,317,000	1,943	39,665,000	57,173	1,291,501,000	5.5%	22,589
2017	3,323	90,543,000	1,961	38,698,000	55,668	1,223,849,000	4.4%	21,985
2016	3,338	78,366,000	1,734	32,636,000	54,306	1,172,004,000	4.1%	21,581
2015	3,263	89,596,000	1,824	31,662,000	52,702	1,126,274,000	5.4%	21,371
2014	3,152	80,896,000	1,718	34,128,000	51,263	1,068,340,000	4.6%	20,840
2013	2,864	81,985,000	1,650	28,163,000	49,829	1,021,572,000	5.6%	20,502
2012	2,739	85,005,000	1,618	30,250,000	48,615	967,750,000	6.0%	19,906
2011	2,994	66,569,000	1,564	14,936,000	47,494	912,995,000	6.0%	19,223
VRS – TEACHER								
2020	5,637	\$ 175,626,000	2,268	\$ 54,987,000	97,403	\$2,465,245,000	5.1%	\$ 25,310
2019	6,064	195,493,000	2,060	53,519,000	94,034	2,344,606,000	6.4%	24,934
2018	5,030	157,985,000	1,997	45,558,000	90,030	2,202,632,000	5.4%	24,466
2017	4,850	132,452,000	1,922	43,246,000	86,997	2,090,205,000	4.5%	24,026
2016	5,085	115,790,000	1,733	38,675,000	84,069	2,000,999,000	4.0%	23,802
2015	5,135	140,493,000	1,816	38,434,000	80,717	1,923,884,000	5.6%	23,835
2014	5,086	135,345,000	1,596	32,303,000	77,398	1,821,825,000	6.0%	23,538
2013	4,929	142,836,000	1,607	35,947,000	73,908	1,718,783,000	6.6%	23,256
2012	4,520	147,153,000	1,550	36,908,000	70,586	1,611,894,000	7.3%	22,836
2011	5,291	123,035,000	1,433	14,549,000	67,616	1,501,649,000	7.8%	22,208
VRS – POLITICAL SUBDIVISIONS								
2020	4,095	\$ 102,101,000	1,705	\$ 27,032,000	58,589	\$1,155,556,000	6.9%	\$ 19,723
2019	3,952	107,035,000	1,668	30,264,000	56,199	1,080,487,000	7.6%	19,226
2018	4,155	104,050,000	1,678	27,901,000	53,915	1,003,716,000	8.2%	18,617
2017	3,894	86,561,000	1,549	19,948,000	51,438	927,567,000	7.7%	18,033
2016	4,021	77,854,000	1,477	21,693,000	49,093	860,954,000	7.0%	17,537
2015	3,950	82,943,000	1,427	20,637,000	46,549	804,793,000	8.4%	17,289
2014	3,674	72,851,000	1,405	23,566,000	44,026	742,487,000	7.1%	16,865
2013	3,504	78,419,000	1,317	19,508,000	41,757	693,202,000	9.3%	16,601
2012	3,234	73,282,000	1,243	24,288,000	39,570	634,291,000	8.4%	16,030
2011	3,345	59,180,000	1,213	2,493,000	37,579	585,297,000	10.7%	15,575
VRS – TOTAL								
2020	13,171	\$ 386,370,000	6,050	\$ 127,713,000	216,061	\$5,045,910,000	5.4%	\$ 23,354
2019	13,506	418,151,000	5,684	128,747,000	208,940	4,787,253,000	6.4%	22,912
2018	12,633	369,352,000	5,618	113,124,000	201,118	4,497,849,000	6.0%	22,364
2017	12,067	309,556,000	5,432	101,892,000	194,103	4,241,621,000	5.1%	21,852
2016	12,444	272,010,000	4,944	93,004,000	187,468	4,033,957,000	4.6%	21,518
2015	12,348	313,032,000	5,067	90,733,000	179,968	3,854,951,000	6.1%	21,420
2014	11,912	289,092,000	4,719	89,997,000	172,687	3,632,652,000	5.8%	21,036
2013	11,297	303,240,000	4,574	83,618,000	165,494	3,433,557,000	6.8%	20,747
2012	10,493	234,416,000	4,011	65,755,000	158,771	3,213,935,000	7.1%	20,243
2011	11,630	248,784,000	4,210	31,978,000	152,689	2,999,941,000	7.8%	19,647

* Additions to Allowances include added retirees and the annual COLA provided to existing retirees and beneficiaries.

FIGURE 4.1: ANALYSIS OF ACTUARIAL GAINS AND LOSSES – PENSION PLANS

FOR THE YEAR ENDED JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

	VRS	SPORS	ValORS	JRS	Total
A. Calculation of Expected Unfunded Actuarial Accrued Liability (UAAL)					
1. UAAL as of June 30, 2019	\$ 22,889,823	\$ 322,488	\$ 726,243	\$ 116,605	\$ 24,055,159
2. Normal Cost for Previous Year	1,825,467	20,766	44,968	19,344	1,910,545
3. Actual Contributions During the Year	(3,261,897)	(38,700)	(97,930)	(27,980)	(3,426,507)
4. Interest at Previous Year's Rate of 6.75%					
a. On UAAL	1,545,063	21,768	49,021	7,871	1,623,723
b. On Normal Cost	123,219	1,402	3,035	1,306	128,962
c. On contributions	(110,089)	(1,306)	(3,305)	(944)	(115,644)
d. Total	1,558,193	21,864	48,751	8,233	1,637,041
5. Expected UAAL as of June 30, 2020 (A1+A2+A3+A4)	23,011,586	326,418	722,032	116,202	24,176,238
6. Actual UAAL as of June 30, 2020	23,133,534	325,590	712,025	111,633	24,282,782
7. Total Gain/(Loss) (A5-A6)	(121,948)	828	10,007	4,569	(106,544)
B. Calculation of Asset Gain/(Loss)					
1. Actuarial Value of Assets (AVA) as of June 30, 2019	76,244,148	858,632	1,484,995	553,136	79,140,911
2. Contributions During the Year	3,261,897	38,700	97,930	27,980	3,426,507
3. Benefit Payments During the Year	(5,135,544)	(65,543)	(122,029)	(46,557)	(5,369,673)
4. Interest at Previous Year's Rate of 6.75%					
a. On AVA at Beginning of Year	5,146,480	57,958	100,237	37,337	5,342,012
b. On Contributions	110,089	1,306	3,305	944	115,644
c. On Benefit Payments	(173,324)	(2,212)	(4,118)	(1,571)	(181,225)
d. Total	5,083,245	57,052	99,424	36,710	5,276,431
5. Expected AVA as of June 30, 2020 (B1+B2+B3+B4)	79,453,746	888,841	1,560,320	571,269	82,474,176
6. Actual AVA as of June 30, 2020	78,759,722	880,834	1,546,528	566,239	81,753,323
7. Total Gain/(Loss) on Assets (B6-B5)	(694,024)	(8,007)	(13,792)	(5,030)	(720,853)
C. Calculation of Liability Gain/(Loss)					
1. Gain/(Loss) Due to Changes in Actuarial Assumptions	—	—	—	—	—
2. Gain/(Loss) Due to Plan Amendments	(12,325)	—	—	—	(12,325)
3. Gain/(Loss) Due to Change in Asset Method	—	—	—	—	—
4. Liability Experience Gain/(Loss) (A7-B7-C1-C2-C3)	\$ 584,401	\$ 8,835	\$ 23,799	\$ 9,599	\$ 626,634

FIGURE 4.2: ANALYSIS OF ACTUARIAL GAINS AND LOSSES – VRS PENSION PLANS

FOR THE YEAR ENDED JUNE 30, 2020

(EXPRESSED IN THOUSANDS)

	State	Teacher	Political Subdivisions	Total
A. Calculation of Expected Unfunded Actuarial Accrued Liability (UAAL)				
1. UAAL as of June 30, 2019	\$ 6,466,084	\$ 13,070,163	\$ 3,353,576	\$ 22,889,823
2. Normal Cost for Previous Year	381,055	878,823	565,589	1,825,467
3. Actual Contributions During the Year	(774,197)	(1,721,864)	(765,836)	(3,261,897)
4. Interest at Previous Year's Rate of 6.75%				
a. On UAAL	436,461	882,236	226,366	1,545,063
b. On Normal Cost	25,721	59,321	38,177	123,219
c. On Contributions	(26,129)	(58,113)	(25,847)	(110,089)
d. Total	436,053	883,444	238,696	1,558,193
5. Expected UAAL as of June 30, 2020 (A1+A2+A3+A4)	6,508,995	13,110,566	3,392,025	23,011,586
6. Actual UAAL as of June 30, 2020	6,417,661	13,278,662	3,437,211	23,133,534
7. Total Gain/(Loss) (A5-A6)	91,334	(168,096)	(45,186)	(121,948)
B. Calculation of Asset Gain/(Loss)				
1. Actuarial Value of Assets (AVA) as of June 30, 2019	18,932,104	36,233,796	21,078,248	76,244,148
2. Contributions During the Year	774,197	1,721,864	765,836	3,261,897
3. Benefit Payments During the Year	(1,455,300)	(2,484,416)	(1,195,828)	(5,135,544)
4. Interest at Previous Year's Rate of 6.75%				
a. On AVA at Beginning of Year	1,277,917	2,445,781	1,422,782	5,146,480
b. On Contributions	26,129	58,113	25,847	110,089
c. On Benefit Payments	(49,116)	(83,849)	(40,359)	(173,324)
d. Total	1,254,930	2,420,045	1,408,270	5,083,245
5. Expected AVA as of June 30, 2020 (B1+B2+B3+B4)	19,505,931	37,891,289	22,056,526	79,453,746
6. Actual AVA as of June 30, 2020	19,333,674	37,556,121	21,869,927	78,759,722
7. Total Gain/(Loss) on Assets (B6-B5)	(172,257)	(335,168)	(186,599)	(694,024)
C. Calculation of Liability Gain/(Loss)				
1. Gain/(Loss) Due to Changes in Actuarial Assumptions	—	—	—	—
2. Gain/(Loss) Due to Plan Amendments	—	—	(12,325)	(12,325)
3. Gain/(Loss) Due to Change in Asset Method	—	—	—	—
4. Liability Experience Gain/(Loss) (A7-B7-C1-C2-C3)	\$ 263,591	\$ 167,072	\$ 153,738	\$ 584,401

Actuarial Assumptions and Methods

On April 26, 2017, the VRS Board of Trustees adopted most of the actuarial assumptions and methods on the recommendation of its actuary. The assumptions for the pension plans include the Virginia Retirement System (VRS), the State Police Officers' Retirement System (SPORS), the Virginia Law Officers' Retirement System (VaLORS) and the Judicial Retirement System (JRS). They were based on an analysis of plan experience for the four-year period July 1, 2012, through June 30, 2016, and were used for the June 30, 2020, valuation.

ACTUARIAL ASSUMPTIONS AND METHODS: PENSION PLANS

FOR THE JUNE 30, 2020, VALUATION

Investment Return Rate: 6.75% per annum, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% real rate of return. Benefits are assumed to increase annually by 2.50% for Plan 1 members receiving benefits or vested as of January 1, 2013, and by 2.25% for all other members.

Mortality Rates

Pre-Retirement: RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at age 81 and Older Projected With Scale BB to 2020:

- State – Males set back 1 year, 85% of rates and females set back 1 year
- State Police – Males 90% of rates, females set forward 1 year
- VaLORS – Males 90% of rates, females set forward 1 year
- Judicial – Males set back 1 year, 85% of rates, females set back 1 year
- Political subdivisions, non-hazardous duty – Males 95% of rates, females 105% of rates
- Political subdivisions, hazardous duty – Males 90% of rates, females set forward 1 year

Post-Retirement: RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at age 50 and Older Projected With Scale BB to 2020

- State – Males set forward 1 year, females set back 1 year with 1.5% increase compounded from age 70 to 85
- Teachers – Males 1% increase compounded from age 70 to 90, females set back 3 years with 1.5% increase compounded from age 65 to 70 and 2% increase compounded from age 75 to 90
- State Police – Males set forward 1 year with 1% increase compounded from ages 70 to 90, females set forward 3 years
- VaLORS – Males set forward 1 year with 1% increase compounded from ages 70 to 90, females set forward 3 years
- Judicial – Males set forward 1 year, females set back 1 year with 1.5% compounding increase from age 70 to 85
- Political subdivisions, non-hazardous duty – Males set forward 3 years, females 1% increase compounded from ages 70 to 90
- Political subdivisions, hazardous duty – Males set forward 1 year, females 1% increase compounded from ages 70 to 90, females set forward 3 years

Post-Disablement: RP-2014 Disabled Mortality Rates Projected With Scale BB to 2020:

- State – Males 115% of rates, females 130% of rates
- Teachers – Males and females 115% of rates
- State Police – Males set forward 2 years, unisex using 100% males
- VaLORS – Males set forward 2 years, unisex using 100% males
- Judicial – Males 115% of rates, females 130% of rates
- Political subdivisions, non-hazardous duty – Males set forward 2 years, 110% of rates, females 125% of rates
- Political subdivisions, hazardous duty – Males set forward 2 years, unisex using 100% males

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS

Sample rates of retirement for members eligible to retire are shown below.

State Employees

Plan 1 – Male						
Years of Service						
Age	5	6-9	10	11-29	30	≥31
50	0.00%	0.00%	3.25%	3.25%	12.50%	12.50%
55	4.50%	4.50%	4.50%	3.50%	5.00%	9.00%
59	4.50%	4.00%	4.00%	4.00%	10.00%	9.00%
60	4.50%	5.00%	5.00%	5.00%	11.50%	9.00%
61	15.00%	7.50%	7.50%	7.50%	16.50%	15.00%
62	15.00%	10.00%	10.00%	10.00%	20.00%	20.00%
64	15.00%	13.50%	13.50%	13.50%	20.00%	17.50%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	27.50%	22.00%	22.00%	22.00%	22.00%	22.00%
70	20.00%	22.00%	22.00%	22.00%	22.00%	22.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Plan 1 – Female						
Years of Service						
Age	5	6-9	10	11-29	30	≥31
50	0.00%	0.00%	3.00%	3.00%	7.50%	7.50%
55	5.00%	5.00%	5.00%	4.00%	10.00%	9.00%
59	5.00%	5.00%	5.00%	5.00%	10.00%	9.00%
60	5.00%	5.00%	5.00%	5.00%	12.00%	12.50%
61	7.50%	8.00%	8.00%	8.00%	16.50%	17.50%
62	10.00%	12.00%	12.00%	12.00%	22.50%	25.00%
64	17.50%	15.00%	15.00%	15.00%	22.50%	17.50%
65	27.50%	27.50%	27.50%	27.50%	27.50%	30.00%
67	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

State Employees

Plan 2 and Hybrid – Male

Years of Service

Age	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.50%
55	0.00%	0.00%	0.00%	5.00%	9.00%	9.00%	9.00%
59	0.00%	10.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	11.50%	11.50%	9.00%	9.00%	9.00%	9.00%	9.00%
61	16.50%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
62	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
64	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
70	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 11.50% when age plus service equals 90.

Plan 2 and Hybrid – Female

Years of Service

Age	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.50%
55	0.00%	0.00%	0.00%	10.00%	9.00%	9.00%	9.00%
59	0.00%	10.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	12.00%	12.00%	12.50%	12.50%	12.50%	12.50%	12.50%
61	16.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
62	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
64	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
65	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
67	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 12.00% when age plus service equals 90.

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Teachers

Plan 1 – Male						
Years of Service						
Age	5	6-9	10	11-29	30	≥31
50	0.00%	0.00%	2.00%	2.00%	17.50%	17.50%
55	7.00%	7.00%	7.00%	4.50%	22.50%	15.00%
59	10.00%	6.00%	6.00%	6.00%	22.50%	15.00%
60	10.00%	7.00%	7.00%	7.00%	22.50%	15.00%
61	11.00%	8.50%	8.50%	8.50%	30.00%	25.00%
62	17.00%	15.00%	15.00%	15.00%	35.00%	35.00%
64	18.00%	15.00%	15.00%	15.00%	35.00%	25.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	35.00%
67	30.00%	35.00%	35.00%	35.00%	35.00%	35.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Plan 1 – Female						
Years of Service						
Age	5	6-9	10	11-29	30	≥31
50	0.00%	0.00%	2.40%	2.40%	15.00%	15.00%
55	6.00%	6.00%	6.00%	5.00%	22.50%	16.00%
59	8.00%	6.00%	6.00%	6.00%	22.50%	20.00%
60	9.00%	8.00%	8.00%	8.00%	22.50%	20.00%
61	15.00%	10.00%	10.00%	10.00%	30.00%	25.00%
62	15.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	25.00%	15.00%	15.00%	15.00%	35.00%	30.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	35.00%
67	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Teachers

Plan 2 and Hybrid – Male							
Years of Service							
Age	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	17.50%
55	0.00%	0.00%	0.00%	22.50%	15.00%	15.00%	15.00%
59	0.00%	22.50%	15.00%	15.00%	15.00%	15.00%	15.00%
60	22.50%	22.50%	15.00%	15.00%	15.00%	15.00%	15.00%
61	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
62	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
64	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 22.50% when age plus service equals 90.

Plan 2 and Hybrid – Female							
Years of Service							
Age	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	15.00%
55	0.00%	0.00%	0.00%	22.50%	16.00%	16.00%	16.00%
59	0.00%	22.50%	20.00%	20.00%	20.00%	20.00%	20.00%
60	22.50%	22.50%	20.00%	20.00%	20.00%	20.00%	20.00%
61	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
62	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 22.50% when age plus service equals 90.

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers Plan 1

Age	Male Years of Service					Female Years of Service				
	5	10	11-29	30	≥31	5	10	11-29	30	≥31
50	0.00%	2.75%	2.75%	10.00%	10.00%	0.00%	3.50%	3.50%	16.00%	16.00%
55	6.00%	6.00%	5.00%	10.00%	10.00%	4.50%	4.50%	5.00%	22.00%	16.00%
59	10.00%	4.50%	4.50%	10.00%	14.00%	10.50%	6.00%	6.00%	20.00%	16.00%
60	10.00%	6.00%	6.00%	10.00%	14.00%	10.50%	7.50%	7.50%	14.00%	16.00%
61	10.00%	10.00%	10.00%	10.00%	14.00%	10.50%	10.00%	10.00%	14.00%	16.00%
62	10.00%	14.00%	14.00%	25.00%	30.00%	10.50%	14.00%	14.00%	34.50%	27.50%
64	10.00%	15.00%	15.00%	25.00%	25.00%	10.50%	17.00%	17.00%	10.00%	18.00%
65	25.00%	25.00%	25.00%	25.00%	37.00%	25.00%	25.00%	25.00%	25.00%	27.50%
67	15.00%	25.00%	25.00%	25.00%	25.00%	15.00%	27.50%	27.50%	27.50%	27.50%
70	27.50%	25.00%	25.00%	25.00%	25.00%	15.00%	27.50%	27.50%	27.50%	27.50%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers Plan 2 and Hybrid

Age	Male Years of Service								
	5	6-25	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	10.00%	10.00%	10.00%
59	0.00%	0.00%	0.00%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%
60	10.00%	10.00%	10.00%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%
61	10.00%	10.00%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
62	10.00%	14.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	10.00%	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	25.00%	25.00%	37.50%	37.00%	37.00%	37.00%	37.00%	37.00%	37.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	27.50%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers Plan 2 and Hybrid, cont.

Age	Female								
	Years of Service								
	5	6-25	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	22.00%	16.00%	16.00%	16.00%
59	0.00%	0.00%	0.00%	20.00%	16.00%	16.00%	16.00%	16.00%	16.00%
60	10.50%	10.50%	14.00%	14.00%	16.00%	16.00%	16.00%	16.00%	16.00%
61	10.50%	10.00%	14.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%
62	10.50%	14.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
64	10.50%	17.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
65	25.00%	25.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
67	15.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
70	15.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers Plan 1

Age	Male					Female				
	Years of Service					Years of Service				
	5	10	11-29	30	≥31	5	10	11-29	30	≥31
50	0.00%	5.00%	5.00%	10.00%	10.00%	0.00%	5.50%	5.50%	6.00%	6.00%
55	5.50%	5.50%	5.00%	14.00%	10.00%	7.00%	7.00%	5.50%	12.00%	10.00%
59	10.00%	5.50%	5.50%	12.00%	10.00%	6.00%	5.50%	5.50%	15.00%	10.00%
60	10.00%	6.00%	6.00%	12.00%	10.00%	8.50%	7.50%	7.50%	15.00%	10.00%
61	15.00%	10.00%	10.00%	25.00%	22.00%	8.50%	7.50%	7.50%	20.00%	17.50%
62	13.00%	17.00%	17.00%	35.00%	30.00%	19.00%	17.00%	17.00%	20.00%	25.00%
64	20.00%	15.00%	15.00%	27.00%	25.00%	11.00%	15.00%	15.00%	25.00%	15.00%
65	27.00%	27.00%	27.00%	27.00%	30.00%	28.00%	28.00%	28.00%	28.00%	35.00%
67	27.00%	25.00%	25.00%	25.00%	25.00%	17.50%	22.00%	22.00%	22.00%	22.00%
70	27.00%	25.00%	25.00%	25.00%	25.00%	30.00%	22.00%	22.00%	22.00%	22.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers Plan 2 and Hybrid

Male									
Years of Service									
Age	5	6-25	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	14.00%	10.00%	10.00%	10.00%
59	0.00%	0.00%	0.00%	12.00%	10.00%	10.00%	10.00%	10.00%	10.00%
60	10.00%	10.00%	12.00%	12.00%	10.00%	10.00%	10.00%	10.00%	10.00%
61	15.00%	10.00%	25.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
62	13.00%	17.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	20.00%	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	27.00%	27.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
67	27.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	27.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Female									
Years of Service									
Age	5	6-25	30	31	33	35	37	39	≥40
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	12.00%	10.00%	10.00%	10.00%
59	0.00%	0.00%	0.00%	15.00%	10.00%	10.00%	10.00%	10.00%	10.00%
60	8.50%	8.50%	15.00%	15.00%	10.00%	10.00%	10.00%	10.00%	10.00%
61	8.50%	7.50%	20.00%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
62	19.00%	17.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
64	11.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
65	28.00%	28.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	17.50%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
70	30.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
≥75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers – All Plans

Age	Male Years of Service				Female Years of Service			
	5	6-24	25	≥26	5	6-24	25	≥26
50	7.00%	7.00%	26.00%	26.00%	5.00%	5.00%	32.00%	32.00%
55	7.00%	6.00%	15.00%	20.50%	5.00%	7.50%	25.00%	21.00%
59	7.00%	12.50%	32.00%	27.50%	5.00%	14.00%	25.00%	40.00%
60	21.00%	21.00%	21.00%	27.50%	20.00%	20.00%	20.00%	40.00%
61	37.50%	27.50%	27.50%	27.50%	20.00%	20.00%	20.00%	20.00%
62	50.00%	32.00%	32.00%	32.00%	20.00%	35.00%	35.00%	35.00%
63	50.00%	32.00%	32.00%	32.00%	20.00%	30.00%	30.00%	30.00%
64	50.00%	40.00%	40.00%	40.00%	20.00%	30.00%	30.00%	30.00%
≥65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers – All Plans

Age	Male Years of Service				Female Years of Service			
	5	6-24	25	≥26	5	6-24	25	≥26
50	9.00%	9.00%	27.50%	27.50%	9.25%	9.25%	50.00%	50.00%
55	9.00%	7.50%	20.00%	18.00%	12.50%	9.00%	20.00%	18.00%
59	9.00%	12.00%	20.00%	24.00%	12.50%	9.00%	20.00%	24.00%
60	15.00%	15.00%	15.00%	27.50%	20.00%	20.00%	20.00%	27.50%
61	15.00%	27.50%	27.50%	27.50%	20.00%	27.50%	27.50%	27.50%
62	15.00%	27.50%	27.50%	27.50%	20.00%	27.50%	27.50%	27.50%
63	25.00%	30.00%	30.00%	30.00%	20.00%	30.00%	30.00%	30.00%
64	20.00%	30.00%	30.00%	30.00%	20.00%	30.00%	30.00%	30.00%
≥65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

State Police Officers – All Plans

Age	Years of Service	
	5-24	≥25
50	10.00%	10.00%
55	6.00%	10.00%
59	10.00%	10.00%
60	10.00%	10.00%
≥65	100.00%	100.00%

FIGURE 4.3: RETIREMENT RATES – PENSION PLANS, cont.

Sample rates of retirement for members eligible to retire are shown below.

Virginia Law Officers – All Plans

Years of Service – Male				
Age	5	6-24	25	≥26
50	11.00%	11.00%	35.00%	35.00%
55	10.00%	8.00%	18.00%	25.00%
59	10.00%	12.00%	18.00%	20.00%
60	18.00%	18.00%	18.00%	20.00%
≥65	100.00%	100.00%	100.00%	100.00%

Years of Service – Female				
Age	5	6-24	25	≥26
50	10.00%	10.00%	37.50%	37.50%
55	10.00%	8.00%	25.00%	27.50%
59	10.00%	13.00%	30.00%	22.50%
60	20.00%	20.00%	20.00%	22.50%
≥65	100.00%	100.00%	100.00%	100.00%

Judges – All Plans

Age	Rate
60	15.00%
65	15.00%
70	50.00%
≥73	100.00%

FIGURE 4.4: DISABILITY RATES – PENSION PLANS

As shown below for selected ages.

State Employees

25% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0390%	0.0330%
30	0.0910%	0.2110%
40	0.2120%	0.3540%
50	0.4970%	0.6290%
60	0.6900%	0.7350%

Teachers

5% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0005%	0.0003%
30	0.0064%	0.0081%
40	0.0325%	0.0481%
50	0.1444%	0.1609%
60	0.3395%	0.3321%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

20% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0050%	0.0010%
30	0.0070%	0.0230%
40	0.1390%	0.1340%
50	0.3840%	0.3300%
60	0.8080%	0.5300%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers

15% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0050%	0.0010%
30	0.0220%	0.0010%
40	0.1300%	0.0580%
50	0.4290%	0.2740%
60	0.6560%	0.6400%

FIGURE 4.4: DISABILITY RATES – PENSION PLANS, cont.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

70% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0190%	0.0120%
30	0.0520%	0.5580%
40	0.2670%	0.7940%
50	0.5000%	1.0900%
60	1.0550%	1.7880%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers

45% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0010%	0.0050%
30	0.0580%	0.1570%
40	0.2180%	0.2010%
50	0.4160%	0.4130%
60	0.5750%	1.6050%

State Police Officers

85% of disability cases are assumed to be service-related.

Age	Rate
≤44	0.1940%
50	0.4810%
55	0.7700%
60	0.8970%
70	1.3680%

Virginia Law Officers

35% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.1430%	0.5430%
30	0.5840%	0.6590%
40	0.7930%	1.0010%
50	1.1650%	1.8210%
60	1.7820%	2.9010%
70	1.9200%	5.4990%

Judges

There are no assumed rates of disability prior to service retirement (for causes other than death or retirement).

FIGURE 4.5: TERMINATION RATES – PENSION PLANS

Withdrawal rates are based on age and years of service credit. Sample rates for selected ages and years of service are shown below for causes other than death, disability or retirement.

State Employees – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	22.297%	22.297%	22.056%	20.171%	16.921%	13.670%	10.954%	9.132%	8.251%	7.732%	7.214%
35	15.120%	14.553%	13.631%	12.195%	10.694%	9.577%	8.902%	8.387%	7.574%	5.878%	4.183%
45	14.223%	11.470%	9.617%	8.321%	7.345%	6.888%	6.600%	6.412%	5.934%	4.282%	2.630%
55	13.242%	10.032%	8.050%	7.094%	6.491%	6.348%	5.950%	5.391%	4.470%	3.550%	2.630%
65	13.038%	9.477%	7.859%	7.094%	6.491%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	26.747%	26.747%	25.594%	23.170%	20.061%	16.601%	13.663%	11.705%	11.136%	11.136%	11.136%
35	19.257%	17.078%	15.532%	14.101%	12.758%	11.658%	10.633%	9.380%	8.241%	7.177%	6.019%
45	17.029%	13.335%	11.247%	9.984%	8.920%	8.275%	7.531%	6.872%	6.277%	5.214%	3.025%
55	16.695%	11.694%	9.149%	8.236%	7.660%	7.039%	6.175%	5.711%	5.138%	5.088%	3.025%
65	16.695%	11.656%	9.060%	8.236%	7.660%	—%	—%	—%	—%	—%	—%

Teachers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	18.729%	14.293%	12.175%	11.084%	9.453%	8.071%	7.568%	6.716%	5.060%	4.286%	4.286%
35	16.964%	13.888%	12.459%	10.907%	9.347%	7.931%	6.709%	5.881%	5.210%	4.361%	3.314%
45	16.964%	13.888%	11.573%	10.116%	7.864%	6.940%	6.230%	5.733%	5.243%	4.239%	2.407%
55	16.964%	13.888%	11.217%	10.116%	7.038%	5.844%	5.813%	5.733%	5.234%	4.238%	2.407%
65	16.964%	13.888%	11.217%	10.116%	7.038%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	18.037%	12.332%	10.860%	10.637%	9.381%	7.728%	6.567%	6.507%	5.448%	4.933%	4.933%
35	16.500%	14.138%	12.602%	11.307%	10.178%	9.519%	8.653%	7.385%	6.386%	5.292%	3.931%
45	15.055%	12.047%	9.933%	8.544%	7.686%	7.181%	6.623%	5.912%	5.390%	4.417%	2.287%
55	14.909%	11.617%	9.449%	8.038%	7.093%	6.249%	5.450%	5.326%	4.771%	4.357%	2.287%
65	14.909%	11.617%	9.449%	8.038%	7.093%	—%	—%	—%	—%	—%	—%

FIGURE 4.5: TERMINATION RATES – PENSION PLANS, cont.

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	23.300%	20.505%	18.626%	17.319%	16.251%	14.426%	11.711%	9.285%	8.232%	6.883%	6.883%
35	19.131%	16.822%	15.078%	13.689%	12.397%	11.188%	10.157%	9.215%	8.232%	6.883%	5.224%
45	16.933%	14.546%	12.562%	10.920%	9.444%	8.921%	8.524%	8.181%	7.546%	6.301%	3.941%
55	15.609%	12.538%	10.330%	8.976%	8.448%	7.339%	6.690%	5.864%	4.833%	4.320%	3.941%
65	15.343%	9.244%	6.477%	6.477%	6.477%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	22.847%	20.860%	19.802%	19.425%	19.257%	18.886%	17.958%	15.784%	13.041%	13.041%	13.041%
35	21.392%	18.767%	17.208%	16.238%	15.439%	14.424%	13.001%	11.315%	9.792%	8.502%	7.338%
45	19.067%	15.747%	13.540%	12.135%	11.040%	10.262%	9.177%	8.099%	7.250%	6.008%	3.671%
55	17.295%	12.753%	9.920%	8.541%	8.214%	7.159%	6.952%	6.590%	5.564%	5.536%	3.671%
65	17.275%	11.784%	8.108%	6.923%	6.923%	—%	—%	—%	—%	—%	—%

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
All Other Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	25.057%	23.024%	20.925%	18.373%	15.688%	13.361%	11.957%	10.835%	9.992%	9.992%	9.992%
35	20.650%	18.223%	16.214%	14.313%	12.751%	11.426%	10.347%	9.571%	8.813%	7.795%	6.549%
45	18.397%	14.896%	12.718%	11.399%	10.572%	9.878%	9.085%	8.205%	7.363%	6.227%	4.626%
55	16.068%	12.967%	12.001%	10.500%	10.447%	9.747%	8.930%	8.111%	6.486%	6.227%	4.626%
65	15.356%	12.875%	12.001%	10.500%	10.447%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	27.370%	25.711%	23.395%	20.379%	17.488%	15.451%	13.809%	12.034%	10.656%	10.642%	10.642%
35	22.330%	20.208%	18.736%	17.235%	15.849%	14.347%	12.837%	11.557%	10.447%	9.116%	7.607%
45	19.506%	16.555%	14.581%	13.206%	12.281%	11.551%	10.655%	9.714%	8.999%	7.643%	5.323%
55	16.934%	14.490%	12.400%	10.933%	10.007%	9.284%	9.284%	9.284%	8.445%	7.560%	5.323%
65	15.628%	14.008%	12.292%	10.875%	10.007%	—%	—%	—%	—%	—%	—%

FIGURE 4.5: TERMINATION RATES – PENSION PLANS, cont.

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
All Other Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION						
Age	Years of Service – Males			Years of Service – Females		
	0-2	3-9	10+	0-2	3-9	10+
25	23.500%	14.000%	—%	25.500%	16.500%	—%
35	18.500%	10.500%	5.500%	19.000%	11.500%	6.000%
45	15.500%	8.000%	3.000%	15.000%	8.000%	3.500%
55	12.000%	6.500%	1.000%	12.500%	6.500%	—%
65	12.000%	8.000%	—%	13.000%	9.000%	—%

**Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION		
Terminations Per 100 Members		
Years of Service	Males	Females
0	10.000%	15.000%
1	8.500%	9.000%
2	8.000%	9.000%
3	7.500%	9.000%
4	5.500%	9.000%
5	5.000%	9.000%
6	4.750%	9.000%
7	4.500%	6.000%
8	4.000%	3.500%
9	3.000%	2.000%
≥10	1.800%	2.000%

FIGURE 4.5: TERMINATION RATES – PENSION PLANS, cont.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits –
All Other Employers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	16.006%	14.519%	13.807%	13.247%	12.169%	10.519%	8.845%	7.768%	6.899%	6.899%	6.899%
35	15.310%	12.574%	10.924%	9.896%	9.156%	8.897%	8.437%	7.640%	6.609%	5.433%	4.189%
45	15.275%	11.790%	9.478%	8.223%	7.802%	7.022%	6.634%	6.269%	5.626%	4.561%	3.022%
55	14.065%	10.547%	8.414%	7.694%	7.694%	—%	—%	—%	—%	—%	—%
65	11.088%	8.665%	7.763%	7.694%	7.694%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	≥10
25	18.762%	15.474%	13.049%	11.598%	11.001%	10.648%	10.224%	8.766%	6.591%	5.831%	5.831%
35	20.886%	16.395%	13.402%	11.544%	10.335%	9.327%	8.334%	7.404%	6.591%	5.831%	5.043%
45	18.253%	14.688%	12.276%	10.843%	9.904%	8.818%	7.992%	7.253%	6.587%	5.314%	3.443%
55	11.234%	10.212%	9.680%	9.680%	9.599%	—%	—%	—%	—%	—%	—%
65	1.269%	3.040%	3.040%	3.040%	3.040%	—%	—%	—%	—%	—%	—%

State Police Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION	
Service	Rate
0	9.750%
1	4.750%
2	4.750%
3	4.750%
4	4.750%
5	4.750%
6	4.750%
7	3.000%
8	3.000%
9	3.000%
≥10	1.750%

FIGURE 4.5: TERMINATION RATES – PENSION PLANS, cont.

Virginia Law Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION									
Years of Service – Males									
Age	0	1	2	3	4	5	6	7	8
25	30.264%	26.915%	23.838%	20.793%	17.797%	14.758%	12.544%	11.510%	11.510%
35	25.749%	21.974%	18.823%	16.020%	13.400%	11.603%	10.242%	9.350%	8.615%
45	22.182%	17.034%	13.792%	12.032%	11.173%	9.580%	8.484%	7.391%	6.240%
55	21.689%	14.708%	10.525%	9.930%	9.930%	—%	—%	—%	—%
65	21.689%	14.673%	9.796%	9.787%	9.787%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION									
Years of Service – Females									
Age	0	1	2	3	4	5	6	7	8
25	33.633%	30.645%	27.155%	23.161%	19.212%	15.381%	13.567%	10.072%	9.919%
35	32.025%	25.204%	20.727%	17.948%	15.980%	14.868%	13.534%	10.072%	9.909%
45	30.589%	21.487%	15.693%	12.720%	11.803%	10.976%	10.134%	9.113%	7.804%
55	28.000%	17.544%	10.155%	6.516%	6.490%	—%	—%	—%	—%
65	23.879%	12.934%	3.574%	0.004%	0.182%	—%	—%	—%	—%

Judges – All Plans

There are no assumed rates of withdrawal prior to service retirement for causes other than death, disability or retirement.

FIGURE 4.6: SALARY INCREASE RATES – PENSION PLANS

Sample salary increase rates are shown below.

State Employees

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed state employees who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	0.00%	3.50%

FIGURE 4.6: SALARY INCREASE RATES – PENSION PLANS, cont.**Teachers**

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	2.45%	5.95%
3	2.35%	5.85%
6	1.95%	5.45%
9	1.85%	5.35%
11	1.35%	4.85%
15	1.15%	4.65%
19	0.95%	4.45%
20 or more	—%	3.50%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	—%	3.50%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	—%	3.50%

FIGURE 4.6: SALARY INCREASE RATES – PENSION PLANS, cont.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

State Police Officers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed state police officers who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

FIGURE 4.6: SALARY INCREASE RATES – PENSION PLANS, cont.

Virginia Law Officers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed Virginia law officers who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

Judges

Salary increase rates are 4.50%.

ADDITIONAL INFORMATION ABOUT ACTUARIAL ASSUMPTIONS AND METHODS: PENSION PLANS

Percent Electing a Refund or Deferred Annuity (excluding JRS Members). Terminating members are assumed to elect a refund of their member contributions and accrued interest or a deferred annuity based on the option any given member would consider most valuable at the time of termination. The deferred annuity, if elected, is assumed to commence at the age at which the member first becomes eligible for an unreduced benefit.

Provision for Expense. The assumed investment return represents the anticipated net rate of return after payment of all administrative expenses.

Asset Valuation Method. The method of valuing assets is intended to recognize a “smoothed” market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return on market value is recognized over a five-year period. The resulting actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

Actuarial Cost Method. The valuation was prepared using the entry age normal actuarial cost method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contributions that – if applied to the compensation of the average new member during the entire period of his or her anticipated covered service – would be required in addition to the contributions of the member to meet the cost of all benefits payable on the member’s behalf.

The unfunded actuarial accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from VRS. The accrued liability contribution amortizes

the balance of the unfunded accrued liability over a period of years from the valuation date.

Actuarial Gains and Losses. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability and are amortized as part of that balance.

Payroll Growth Rates. For state employees, teachers and members of SPORS, VaLORS and JRS, the payroll growth rate is assumed to be 3.00% based on a zero population growth assumption. For political subdivision employees, the payroll growth rate also is assumed to be 3.00% based on a zero population growth assumption.

Funding Period. The legacy unfunded actuarial accrued liability, less the deferred contribution as of June 30, 2013, is amortized over a closed 30-year period from June 30, 2013. The amortization period of the unfunded, less the deferred contribution, will decrease by one each year until reaching 0 years. The deferred contribution, as defined under the 2011 Appropriations Act, Item 469(I)(6), is to be amortized using a level-dollar, closed 10-year period beginning June 30, 2011. The actuarial gains and losses and other changes in the unfunded liability due to benefits and actuarial assumption and method changes for each valuation subsequent to the June 30, 2013, valuation will be amortized over a closed 20-year period.

Cost-of-Living Adjustment (COLA). For Plan 1 employees receiving benefits or vested as of January 1, 2013, the COLA is assumed to be 2.50% per year compounded annually for the Basic Benefit option. The hazardous duty supplement for Plan 1 SPORS members, VaLORS members and political subdivision employees receiving enhanced hazardous duty benefits is assumed to increase at an inflation rate of 2.50% per year compounded annually. For Plan 1 employees who were not vested as of January 1, 2013, Plan 2 employees and hybrid plan employees, the COLA is assumed to be 2.25% per year compounded annually.

Summary of Pension Plan Provisions

Retirement Plans

ADMINISTRATION

The Virginia Retirement System (the System) pension Plan 1, Plan 2 and Hybrid Retirement Plan are administered by the Board of Trustees of the System. Plan 2 was established during the 2010 session of the General Assembly, and its provisions were effective for members hired between July 1, 2010, and December 31, 2013. In addition, Plan 1 members who were not vested as of January 1, 2013, are also in Plan 2. The hybrid plan was established for all non-hazardous duty employees hired on or after January 1, 2014.

TYPES OF PLANS

1. Virginia Retirement System (VRS), effective March 1, 1952. VRS is a qualified governmental pension system that administers two defined benefit structures, Plan 1 and Plan 2, and a Hybrid Retirement Plan with a benefit structure that combines both defined benefit and defined contribution features. The Governmental Accounting Standards Board (GASB) defines VRS as an agent multiple-employer public employee retirement system. Covered employees include full-time permanent, salaried state employees; faculty members of the state's public colleges and universities who do not elect to participate in an optional retirement plan (ORP); teachers and administrative employees of the state's local public school divisions; and employees of Virginia cities, towns, counties and other political subdivisions that have elected to participate in VRS. Some part-time permanent, salaried state employees also are covered under VRS. VRS has separate cost-sharing pools for state and school employers.

Members are covered under Plan 1, Plan 2 or the Hybrid Retirement Plan according to their membership date:

- **Plan 1:** Membership date is July 1, 2010, with at least five years of service on January 1, 2013, and have not taken a refund. Members are covered under Optional Retirement Plan (ORP) 1 if they have an ORP membership date before July 1, 2010, and maintain an account balance. If the member had a pre-July 1, 2010, ORP account balance and moved to a defined benefit plan, the member must have any combination of VRS service credit and/or ORP participation that totals five years as of January 1, 2013, to be considered a Plan 1 member.
- **Plan 2:** Membership date is from July 1, 2010, to December 31, 2013, and have not taken a refund. Additionally, members are covered under Plan 2 if they have a membership date prior to July 1, 2010, but were not vested before January 1, 2013. Members are covered under ORP 2 if they have an ORP membership date on or after July 1, 2010, and maintain an account balance. If a member of VaLORS, SPORS, VRS with enhanced hazardous duty benefits or the hazardous duty alternate option was hired on or after July 1, 2010, the member is in Plan 2, even if the membership date is after December 31, 2013.
- **Hybrid Retirement Plan:** Membership date is on or after January 1, 2014, or is a Plan 1 or Plan 2 member who elected, during a one-time opt-in period, to be covered under the hybrid plan. Employees in positions with hazardous duty benefits are not eligible to participate in the hybrid plan and become members of Plan 2. If the member was hired on or after January 1, 2014, and was eligible for an ORP, the member must elect the ORP or the hybrid plan. If the member has prior service under Plan 1 or Plan 2, the member is not eligible to elect the hybrid plan and will choose between the ORP or the applicable VRS defined benefit plan.

2. Single-Employer Public Employee Retirement Systems as Defined by GASB. The provisions for the Plan 1 and Plan 2 benefit structures for the following systems are the same as those for VRS:

- State Police Officers' Retirement System (SPORS) established July 1, 1950, for full-time permanent, salaried state police officers.
- Virginia Law Officers' Retirement System (VaLORS) established October 1, 1999, for full-time permanent, salaried Virginia law officers other than state police.
- Judicial Retirement System (JRS) established July 1, 1970, for full-time permanent, salaried state judges and other qualifying employees. Members hired on or after January 1, 2014, are covered under the hybrid plan.

MEMBER CONTRIBUTIONS

Member contributions vary by plan.

Defined Benefit: Active members in Plan 1 and Plan 2 contribute 5% of their creditable compensation per year. Active members in the hybrid plan contribute 4% of their creditable compensation per year. Members' contribution accounts accrue 4% interest each year, calculated on the balance as of the previous June 30. Contributions paid by employers on behalf of employees are governed by Section 414(h) of the Internal Revenue Code.

Defined Contribution: Active members in the hybrid plan are required to contribute 1% of their creditable compensation per year to the defined contribution component of the hybrid plan. Active members can make additional voluntary contributions of up to 4% of their creditable compensation.

CREDITABLE COMPENSATION

Creditable compensation is the member's current annual base salary excluding overtime; extraordinary pay; bonus pay; housing and moving expenses; mobile device and internet costs; vehicle allowances; termination pay for leave; non-permanent shift differentials; payments of a temporary nature including but not limited to acting pay (if not

permanently confirmed for the position); or payments for extra duties, such as pay for teachers who serve as coaches. A member's election to defer salary to a deferred compensation plan, such as a 403(b), a 457(b) or a 125 plan, may only be included in creditable compensation if the member voluntarily elects the deferral, the deferral is not conditional or performance based, and the deferral would otherwise be included in the member's gross income. Other exclusions apply.

AVERAGE FINAL COMPENSATION

Average final compensation is one of the factors used to calculate the member's retirement benefit.

Plan 1. Average of the member's 36 consecutive months of highest creditable compensation as a covered employee.

Plan 2 and Hybrid Retirement Plan. Average of the member's 60 consecutive months of highest creditable compensation as a covered employee.

VESTING

VRS members become vested after accumulating five years of service credit.

SERVICE CREDIT

1. VRS; SPORS and VaLORS Members in Plan 1 and Plan 2; and Hybrid Retirement Plan. These members receive one month of service credit for each month they are employed in a covered position and the employer is contributing to the System.

2. JRS Members in Plan 1. Judges appointed or elected to an original term before January 1, 1995, receive one month of service credit multiplied by a weighting factor of 3.5 for each month they are employed in a JRS-covered position and the employer is contributing to the System. The weighting factor for judges appointed or elected on or after January 1, 1995, but before July 1, 2010, is 2.5. Judges appointed or elected to an original term between July 1, 2010, and December 31, 2013, receive one month of service credit multiplied by a weighting factor of 2.5 if appointed or elected to an original term and were at least 55 years old; 2.0 if

appointed or elected to an original term and were at least 45 years old but less than 55 years old; or 1.5, if appointed or elected to an original term and were less than 45 years old.

3. JRS Members in Plan 2 and Hybrid Retirement Plan.

Judges appointed or elected to an original term between July 1, 2010, and December 31, 2013, receive one month of service credit multiplied by a weighting factor of 2.5 if appointed or elected to an original term and were at least 55 years old; 2.0 if appointed or elected to an original term and were at least 45 years old but less than 55 years old; or 1.5, if appointed or elected to an original term and were less than 45 years old.

PRIOR SERVICE CREDIT

Members may purchase prior service as credit in their plan. Eligible prior service includes active duty military service; full-time salaried federal service; full-time salaried public service with an employer or school system of another state or United States territory, or with a Virginia public employer that does not participate in VRS; non-covered service with a VRS-participating employer; approved leave from a VRS-covered position for the birth, adoption or death of a child; Family and Medical Leave Act (FMLA) leave for a serious health condition (as defined under FMLA) of the member or an immediate family member, also as defined under FMLA; approved educational leave; unused sick leave at retirement, if the member is eligible; and VRS-refunded service. Members also can apply for no-cost military leave, provided they are not dishonorably discharged, return to covered employment within one year of discharge and do not take a refund of their member contributions and interest.

Prior service credit counts toward vesting, eligibility for retirement and eligibility for the health insurance credit, if offered by the employer. Prior service credit for refunded VRS hazardous duty service or for an eligible period of leave while covered under

VRS in a hazardous duty position also counts toward the hazardous duty supplement for eligible members, provided they purchase or, in the case of no-cost military leave, are granted this service. Other types of prior service credit, such as active duty military service or hazardous duty service with a non-VRS participating employer, do not count toward the supplement.

Members may arrange to purchase prior service through a lump-sum payment using a personal check; a trustee-to-trustee transfer of funds or a pretax rollover of funds; an after-tax payroll deduction agreement or a pretax salary reduction agreement (if the employer offers the pretax salary reduction option); or a combination of these methods. Other special rules and limits govern the purchase of prior service.

The cost basis and eligibility periods for members are as follows:

VRS Refunded Service. The purchase cost is based on the refund amount, plus interest compounded annually from the date of the refund to the date the member buys back the service. The interest rate is the assumed rate of return of the VRS fund. The member may purchase all refunded service or a portion at any time while an active VRS member.

Other Types of Eligible Service. The two-year cost window to purchase most types of service at approximate normal cost begins upon employment in a VRS-covered position or following an eligible period of leave. If the member does not purchase prior service within the two-year window and leaves employment or takes a leave of absence without pay, the window temporarily closes until the member returns to active VRS-covered employment. If the member does not purchase the service within the two-year window, the cost shifts to an actuarial equivalent cost.

NORMAL (UNREDUCED) AND REDUCED RETIREMENT ELIGIBILITY AND BENEFIT CALCULATIONS

EARLIEST UNREDUCED RETIREMENT ELIGIBILITY

PLAN 1	PLAN 2 & HYBRID PLAN	BENEFIT CALCULATIONS
<p>VRS: Age 65 with at least five years of service credit, or age 50 with at least 30 years of service credit.</p> <p>NOTE: Some political subdivisions require employees to reach age 55 with at least 30 years of service credit.</p>	<p>Normal Social Security retirement age with at least five years of service credit or when age and service equal 90.</p> <p><i>Example:</i> Age 60 with 30 years of service credit.</p>	<ul style="list-style-type: none"> Plan 1: 1.70% of average final compensation X years of service. Plan 2: 1.65% of average final compensation X years of service. Hybrid Retirement Plan: 1.00% of average final compensation X years of service for the defined benefit component. <p>NOTE: Plan 2 and Hybrid Retirement Plan members could have a bifurcated multiplier. For example, Plan 2 members with a membership date prior to July 1, 2010, have a 1.70% multiplier on any service earned, purchased or granted prior to January 1, 2013, and a 1.65% multiplier on any service earned, purchased or granted on or after January 1, 2013.</p>
<p>SPORS, VaLORS and political subdivision hazardous duty covered employees: Age 60 with at least five years of service credit or age 50 with at least 25 years of service credit.</p>	<p>SPORS, VaLORS and political subdivision hazardous duty covered employees: Age 60 with at least five years of service credit or age 50 with at least 25 years of service credit. (Hybrid plan not applicable.)</p>	<ul style="list-style-type: none"> SPORS, sheriffs and regional jail superintendents: 1.85% of average final compensation for each year of service credit. VaLORS: 1.70% (if membership date in VaLORS was before July 1, 2001, and member has at least 20 years of service credit) or 2.00% of average final compensation for each year of service credit as elected by the member. <i>Note:</i> VaLORS members retiring under the 2.00% multiplier are not eligible for the hazardous duty supplement. All other VaLORS members receive 2.00% of average final service X years of hazardous duty service plus 1.70% of average final compensation X years of non-hazardous service. <i>Note:</i> VaLORS members retiring under the 2.00% multiplier are not eligible for the hazardous duty supplement. Political subdivision hazardous duty employees: 1.70% or 1.85% of average final compensation for each year of service credit, as elected by the employer.

NORMAL (UNREDUCED) AND REDUCED RETIREMENT ELIGIBILITY AND BENEFIT CALCULATIONS, cont.

EARLIEST UNREDUCED RETIREMENT ELIGIBILITY

PLAN 1	PLAN 2 & HYBRID PLAN	BENEFIT CALCULATIONS
JRS: Age 65 with at least five years of weighted service credit or age 60 with at least 30 years of weighted service credit	Same as Plan 1.	<p>Plan 1 and Plan 2:</p> <ul style="list-style-type: none"> If appointed or elected to an original term prior to January 1, 2013: 1.70% of average final compensation for each year of service credit. If appointed or elected to an original term between January 1, 2013, and December 31, 2013: 1.70% on non-JRS service earned, purchased or granted before the date of appointment or election to an original term and 1.65% on JRS service earned, purchased or granted on or after the date of appointment or election to an original term. <p>Hybrid Retirement Plan:</p> <ul style="list-style-type: none"> 1.00% of average final compensation for each year of service credit beginning on the date of appointment or election to an original term.

EARLIEST REDUCED RETIREMENT ELIGIBILITY

PLAN 1	PLAN 2 & HYBRID PLAN	BENEFIT CALCULATIONS
VRS: Age 55 with at least five years of service credit or age 50 with at least 10 years of service credit.	Age 60 with at least five years of service credit.	<ul style="list-style-type: none"> VRS Plan 1, JRS Plan 1, JRS Plan 2 and JRS Hybrid, SPORS, VaLORS and political subdivision hazardous duty covered Plan 1 and Plan 2 members who are at least age 55 (age 50 for SPORS, VaLORS and political subdivision hazardous duty covered members): A reduction is applied of 0.50% per month for the first 60 months and 0.40% for the next 60 months the member is away from meeting unreduced retirement eligibility.
SPORS, VaLORS and political subdivision hazardous duty covered employees: Age 50 with at least five years of service credit.	Same as Plan 1.	<p>For VRS Plan 1 members, an additional reduction of 0.60% is applied for each month the member's age precedes age 55.</p>
JRS: Age 55 with at least five years of weighted service credit.	Same as Plan 1.	<ul style="list-style-type: none"> Plan 2 and Hybrid Retirement Plan: Calculated the same as a normal retirement benefit, using actual service at retirement and multiplied by an actuarially equivalent reduction factor. No reduction applies if the sum of the member's age and service equals 90 or the member is eligible for normal retirement.

BENEFIT PAYOUT OPTIONS

VRS members eligible for retirement must elect one of the following benefit payout options when they apply for retirement. This election is irrevocable, except for the Survivor Option under certain circumstances. These options are available on an actuarially equivalent basis:

1. Basic Benefit. Members may choose the Basic Benefit, which is the unreduced benefit amount. An early retirement reduction factor is applied for the reduced benefit. The Basic Benefit does not provide a continuation of a lifetime monthly benefit to a survivor.

2. Survivor Option. Members may choose a whole percentage of their benefit, between 10% and 100%, to continue as a lifetime benefit to a survivor upon their death. The member's benefit is actuarially reduced accordingly.

3. Basic Benefit With the Partial Lump-Sum Option Payment (PLOP) or Survivor Option With the PLOP.

This option is available with the Basic Benefit and the Survivor Option. Members who are in active service for one or more years beyond the date they become eligible for an unreduced retirement benefit may elect the Basic Benefit with the PLOP or Survivor Option with the PLOP and accrued interest equal to one, two or three times their annual retirement benefit, depending on how long they work beyond their unreduced retirement eligibility date. The monthly benefit is actuarially reduced accordingly.

4. Advance Pension Option. With this option, members elect to receive a temporary higher benefit until an age selected by the member, between age 62 and the normal retirement age under Social Security. At that point, the monthly benefit is permanently reduced on an actuarially equivalent basis. The benefit can never be reduced by more than 50%. The Advance Pension Option does not provide a continuation of a benefit to a survivor.

PAYMENT FORM

The retirement benefit is paid as a lifetime monthly annuity. Upon the member's death in retirement,

the member's beneficiary receives a lump-sum payment of any remaining member contributions and accrued interest in the member's account. If the member has elected the Survivor Option, a lifetime monthly benefit is paid to his or her survivor instead of a lump-sum payment.

HAZARDOUS DUTY SUPPLEMENT

An annual supplement is payable to members of SPORS and VRS political subdivision members eligible for enhanced hazardous duty coverage who retire with at least 20 years of eligible hazardous duty service credit. The supplement begins when they retire and continues until they reach their normal retirement age under Social Security.

VaLORS members retiring under the 1.70% multiplier who have at least 20 years of eligible hazardous duty service credit receive the supplement beginning when they retire and continuing until age 65; VaLORS members retiring under the 2.00% multiplier are not eligible for the supplement. Vested members hired in eligible hazardous duty positions before July 1, 1974, are not required to have 20 years of hazardous duty service credit to qualify for the supplement, provided they take an immediate annuity.

The supplement is a dollar amount added to the member's monthly retirement benefit payment. It is adjusted biennially based on increases in Social Security benefits during interim periods, as determined by the VRS actuary.

COST-OF-LIVING ADJUSTMENT (COLA)

The cost-of-living adjustment (COLA) is an annual increase in your retirement benefit that allows it to keep pace with inflation. If a member retires with an unreduced benefit or with a reduced benefit with at least 20 years of service credit, the COLA will go into effect on July 1 after one full calendar year from the retirement date.

If a member retires with a reduced benefit with fewer than 20 years of service credit, the COLA will go into effect on July 1 after one full calendar year from the date the member would have become

eligible for an unreduced benefit. Exceptions to the COLA effective dates are listed in Figure 2.10 in the Financial Section.

The COLA is effective each July 1 thereafter, when provided. During periods of no inflation or deflation, the COLA is zero (0.00%).

The COLA is calculated based on changes in the Consumer Price Index for all Urban Consumers (CPI-U) as follows:

1. The CPI-U for the most recent calendar year used to determine the VRS COLA is subtracted from the most recent average annual CPI-U to arrive at the index point change.
2. The index point change is divided by the CPI-U for the most recent calendar year in which a COLA was paid.
3. The result is multiplied by 100 to convert it to a percentage. Under Plan 1, automatic cost-of-living increases are calculated as the first 3.00% of the increase of the CPI-U, plus half of each percentage increase from 3.00% to 7.00%.

Under Plan 2 and the Hybrid Retirement Plan, automatic cost-of-living increases are calculated as the first 2.00% of the increase of the CPI-U, plus half of each percentage increase from 2.00% to 4.00%, with a maximum COLA increase of 3.00%.

Refunds and Deferred Membership

1. Refunds. Vested members in Plan 1, Plan 2 and the Hybrid Retirement Plan who leave or are involuntarily separated from employment for causes other than job performance or misconduct are eligible for a full refund of their member contribution account balance, including accrued interest. Non-vested members are eligible for a refund of the balance, excluding any employer-paid member contributions made to their accounts after July 1, 2010, and the accrued interest on these contributions.

Hybrid plan members are also immediately vested to any funds they contribute to the defined contribution component of their plan. They become vested over a four-year period to the funds their employer contributes on their behalf. Members with fewer than two years of service credit forfeit the employer contributions.

Taking a refund cancels membership and eligibility for any future benefits under the retirement plans. Members who take a refund and return to covered employment will be rehired under the currently applicable plan. They are then eligible to purchase their VRS refunded service as credit in their plan.

2. Deferred membership. Members separating from employment have the option to leave their funds with VRS and become deferred members. If they are vested or involuntarily separated from employment, they may be eligible for a future retirement benefit if they meet the age and service requirements for their plan. The benefit is calculated based on the member's service credit and average final compensation at the time of separation. Upon the member's death, the member's beneficiary receives a lump-sum payment of any remaining member contributions and accrued interest. If the member retires and elects the Survivor Option, a lifetime monthly benefit is paid to the survivor upon the member's death.

Deferred members remain eligible to receive a full or partial refund of their member contribution account balance, depending on whether or not they are vested. If a deferred member returns to covered employment, member contributions and the service credit the member earns upon reemployment are added to the member's record.

Death-in-Service Benefit

If a member dies while in active service, his or her named beneficiary or spouse, natural or legally adopted minor child or parent may be eligible for a death-in-service benefit in addition to VRS life insurance benefits, if applicable.

NON-WORK-RELATED CAUSE OF DEATH

If the member dies from a non-work-related cause, the member's named beneficiary will be eligible for a refund of any funds remaining in the member's contribution account. If the member is vested at the time of death and his or her spouse, minor child or parent is one of the member's named beneficiaries or is the beneficiary based on order of precedence, he or she will be eligible for a refund or a monthly benefit to the exclusion of all other primary beneficiaries. Any benefits minor children receive will end when they reach age 18. If the member is vested and his or her spouse, minor child or parent is not one of the member's named beneficiaries, or is not the beneficiary based on order of precedence, that beneficiary will be eligible for a lump-sum payment only. If the member is not vested at the time of death, his or her spouse, minor child or parent will be eligible for a lump-sum payment only, which will be shared with any other primary beneficiaries the member has designated, if applicable.

The monthly non-work-related benefit is a lifetime monthly annuity based on the 100% Survivor Option. Members covered under Plan 1 who die before age 55 are assumed to be age 55 at the time of death for the purpose of calculating the benefit. The calculation for members covered under Plan 2 and the Hybrid Retirement Plan uses age 60. The calculation for Plan 1 and Plan 2 members of SPORS and VaLORS, and for VRS members eligible for enhanced hazardous duty coverage, uses age 50.

WORK-RELATED CAUSE OF DEATH

If the member dies from a work-related cause, the member's named beneficiary will be eligible for a lump-sum payment of any funds remaining in the member's contribution account. In addition, the member's spouse, minor child or parent will be eligible for a monthly benefit, whether or not this individual is a named beneficiary.

The monthly work-related benefit is a lifetime monthly annuity based on 33⅓% of the member's average final compensation if the spouse, minor

child or parent qualifies for Social Security survivor benefits, or 50% of the member's average final compensation if the spouse, minor child or parent does not qualify for Social Security survivor benefits. The benefit is then adjusted by any workers' compensation survivor benefits.

Disability Benefits

DISABILITY RETIREMENT

Plan 1 and Plan 2 members who are not covered under the Virginia Sickness and Disability Program (VSDP) are eligible to apply for disability retirement from the first day of covered employment if they have a physical or cognitive disability that prevents them from performing their job and is likely to be permanent. Members covered under Plan 1 and Plan 2 who retire on disability before age 60 are credited with the lesser of (1) twice their total service credit at disability retirement; or (2) their total service credit plus the number of years remaining between their age at disability retirement and age 60.

The disability benefit for non-vested members is the minimum guaranteed benefit, which is either (1) 50% of the member's average final compensation (66⅔% if the disability is work-related) if the member does not qualify for Social Security disability benefits; or (2) 33⅓% of average final compensation (50% if the disability is work-related) if the member qualifies for Social Security disability benefits.

If a member is vested and has a non-work-related disability, the amount of the disability retirement benefit will be the VRS formula amount, as described below, or the guaranteed benefit, whichever is higher.

For vested members under age 60, the benefit will be equal to 1.70% for Plan 1 members or 1.65% for Plan 2 members of average final compensation multiplied by (a) twice the amount of total service credit or (b) actual service credit plus the number of years remaining between the member's age at disability retirement and age 60, whichever is less.

For vested members age 60 or older, the benefit will be equal to 1.70% for Plan 1 members or 1.65% for Plan 2 members of average final compensation multiplied by total service credit.

The benefit for members retiring on work-related disability is reduced by any workers' compensation benefits. The payout options available to members retiring on disability are the Basic Benefit and Survivor Option.

VIRGINIA SICKNESS AND DISABILITY PROGRAM

The Virginia Sickness and Disability Program (VSDP) was established on January 1, 1999, to provide income protection to state employees covered under VRS, SPORS and VaLORS if they suffer a non-work-related or work-related illness or injury. Enrollment in VSDP is automatic upon employment. State employees hired before January 1, 1999, had the option to elect VSDP or retain their eligibility to be considered for disability retirement. Employees enrolled in VSDP are not eligible to retire on disability. Additional information about VSDP is provided in the "Summary of Other Post-Employment Benefit (OPEB) Plan Provisions" in the next discussion on OPEBs. Additional information also is provided in the Financial Section.

VIRGINIA LOCAL DISABILITY PROGRAM

The Virginia Local Disability Program (VLDP) was implemented January 1, 2014, to provide Hybrid Retirement Plan members short-term and long-term disability benefits for non-work-related and work-related disabilities. Eligible employees are enrolled automatically upon employment, unless their employer has elected to provide comparable coverage.

Eligible employees include:

- Teachers or other professional employees of a local public school division.
- General employees of a VRS-participating political subdivision, such as a city, county, town, authority or commission.
- Local law enforcement officers, firefighters or emergency medical technicians if the employer does not provide enhanced hazardous duty benefits.

Additional information about VLDP is provided in the "Summary of Other Post-Employment Benefit (OPEB) Plan Provisions" in the next discussion on OPEBs. Additional information also is provided in the Financial Section.

Summary of Pension Plan Changes

The following actuarially material changes have occurred to the pension plan provisions in recent years.

2006 VALUATION: No actuarially material changes are made to the plan provisions.

2007 VALUATION: The retirement multiplier for VRS-covered sheriffs and SPORS members changes from 1.70% to 1.85% of average final compensation, effective July 1, 2008.

2008 VALUATION: No actuarially material changes are made to the plan provisions.

2009 VALUATION: No actuarially material changes are made to the plan provisions. There are three changes of note:

1. On April 16, 2009, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2008 experience study.
2. The temporary retirement supplement for SPORS members, VaLORS members and political subdivision employees eligible for enhanced hazardous duty coverage changes from \$11,508 to \$12,456 annually.
3. For the June 30, 2009, valuation, the Board suspends application of the 80% to 120% market value-of-assets corridor on the actuarial value of assets.

2010 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. For the June 30, 2010, valuation, the application of the 80% to 120% market value-of-assets corridor on the actuarial value of assets is reinstated.
2. The Board reduces the investment rate-of-return assumption from 7.50% to 7.00%.

2011 VALUATION: In 2010, VRS adopts a second retirement plan, Plan 2. All employees hired on or after July 1, 2010, are automatically enrolled in this plan. The differences between Plan 1 and Plan 2 are listed below:

1. Under Plan 2, average final compensation is based on the highest 60 consecutive months of service.

2. The Plan 2 cost-of-living adjustment (COLA) is based on the first 2.00% increase in the Consumer Price Index for all Urban Consumers (CPI-U) plus half of each percent from 2.00% to 10.00%, with a maximum COLA of 6.00%.

3. Under Plan 2, normal retirement age is Social Security normal retirement age with at least five years of service credit. A Plan 2 member is eligible for unreduced early retirement when the sum of his or her age plus service credit is 90 (Rule of 90). Eligibility for reduced early retirement is at age 60 with five years of service credit.

4. Weighted service factors for first-term Plan 2 judges are 1.5 for judges less than age 45; 2.0 for judges age 45-54; and 2.5 for judges age 55 or older.

New general state employees, teachers and general political subdivision employees under VRS are subject to changes 1, 2 and 3 above. New state police officers (SPORS), Virginia law officers (VaLORS) and political subdivision employees eligible for enhanced hazardous duty coverage (VRS) are subject to changes 1 and 2 above. New employees covered under JRS are subject to changes 1, 2 and 4 above.

2012 VALUATION: In 2012 House Bill 1130/Senate Bill 498 was enacted and was effective on January 1, 2013. The changes resulting from this legislation are as listed below:

1. Active non-vested members of Plan 1 have their Average Final Compensation based on the highest 60 consecutive months of service instead of the highest 36 consecutive months of service. This provision applies to all plans.
2. Active non-vested members of Plan 1 and all Plan 2 members accrue benefits at 1.65% as of the effective date.

This provision applies to the state and teacher plans and to members in political subdivision plans who are not covered by hazardous duty benefits.

3. Active members in the judicial plan hired after January 1, 2013, accrue benefits at 1.65%. *(continued)*

2012 VALUATION (continued):

4. Active non-vested members of Plan 1 have to satisfy the Rule of 90 (sum of age and service is at least 90) or reach their Social Security normal retirement age to be eligible for unreduced retirement. These same members must attain age 60 with five years of service to be eligible for early retirement. This provision applies to the state and teacher plans and to members of political subdivision plans who are not covered by hazardous duty benefits.

5. Non-vested members of Plan 1 and all members of Plan 2 have a maximum cost-of-living adjustment (COLA) of 3.00%. This provision applies to all plans.

6. All active employees not within five years of eligibility for an unreduced retirement as of January 1, 2013, and retiring with fewer than 20 years of service have their cost-of-living adjustment (COLA) deferred to one year following their unreduced retirement date after beginning to receive benefits. All active employees within five years of eligibility for unreduced retirement as of January 1, 2013, are grandfathered into the old provisions with no deferral of the COLA.

2013 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. On June 20, 2013, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2012 experience study.
2. Changes noted in the 2012 valuation information, with effective dates in fiscal year 2013, were implemented.

2014 VALUATION: No actuarially material changes are made to the plan provisions. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan covers eligible employees hired on or after January 1, 2014, in the state, teacher and judicial plans or Plan 1 and Plan 2 members who elected, during a one-time opt-in period, to be covered under the hybrid plan. The hybrid plan does not apply to members in the SPORS and VaLORS plans. The hybrid plan consists of defined benefit plan and defined contribution plan components.

2015 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. An administrative expense charge was added to the employer contribution rates to cover administrative expenses.
2. The retirement rates for the judicial plan were extended to age 73 to reflect the change in the mandatory retirement age to 73.

2016 VALUATION: No actuarially material changes are made to the plan provisions.

2017 VALUATION: No actuarially material changes are made to the plan provisions. There is one change of note: On April 26, 2017, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2016 experience study.

2018 VALUATION: No actuarially material changes are made to the plan provisions.

2019 VALUATION: The investment rate was decreased from 7.00% per annum to 6.75% per annum.

2020 VALUATION: No actuarially material changes are made to the plan provisions.

2021 VALUATION: No actuarially material changes are made to the plan provisions. There is one change of note: On April 20, 2021, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2020 experience study.

Actuary's Certification Letter: Other Post-Employment Benefit (OPEB) Plans



Cavanaugh Macdonald
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The experience and dedication you deserve

January 29, 2021

Board of Trustees
Virginia Retirement System
1200 E. Main Street
Richmond, VA 23219

Dear Trustees:

We are pleased to submit the results of the annual actuarial valuation for the following other postemployment benefits plans (OPEB Plans) of the Virginia Retirement System (VRS), prepared as of June 30, 2020:

- Group Life Insurance Program (GLI)
- Health Insurance Credit Program (HIC)
 - State Employees (HIC – State Employees)
 - Teachers (HIC – Teachers)
 - Participating Political Subdivisions in Aggregate (HIC – Political Subdivisions)
 - Special Coverage Groups (HIC – Special Coverage Groups)
 - Constitutional Officers (HIC – Constitutional Officers)
 - Social Service Employees (HIC – Social Service Employees)
 - Registrars (HIC – Registrars)
- Virginia Sickness and Disability Program (VSDP)
- Virginia Local Disability Program (VLDP)
 - Teachers (VLDP – Teachers)
 - Political Subdivisions (VLDP – Political Subdivisions)

This report includes information, in aggregate, on the actuarial valuations of the Health Insurance Credit Program for participating Political Subdivisions as of June 30, 2020. We have prepared, and provided separately, actuarial valuation reports for each of the participating Political Subdivisions. Please refer to the individual reports for the valuation results, summary of actuarial assumptions and methods, and plan provisions for each of the participating Political Subdivision plans. In addition, we prepared the underlying schedules from which the selected information in the annual report was extracted.

The purpose of this report is to provide a summary of the funded status of VRS as of June 30, 2020, and to recommend rates of contribution. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The funded status of the Plan is the ratio of the assets to the actuarial accrued liability. While the market value of assets gives an indication of the funded status of a plan at a particular point in time and is used for financial

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reporting, for GLI, HIC – State Employees, HIC – Teachers, VSDP, and VLDP, it is not used directly in the calculation of the employer contribution rates. A less volatile actuarial value of assets, which smooths the effect of market fluctuations over a five-year period, is applied to determine the funded status for rate setting purposes. For informational purposes, we exhibit the funded status based on this smoothed actuarial value of assets basis as well as the market value in this report. The current funded status does not necessarily indicate anything about future contributions. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

The calculations in this report have been made on a basis consistent with our understanding of VRS's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. For example, actuarial computations for purposes of fulfilling financial accounting requirements under Governmental Accounting Standards No. 74 and No. 75 are provided in separate reports.

The valuation results indicate that the full employer contribution rates shown in the table below are sufficient to fund the normal cost for all members and finance the unfunded accrued liability of the indicated OPEB Plans. For comparison, in the table below we present the employer contribution rates for fiscal years ending 2021 and 2022 based on the June 30, 2019, actuarial valuation and the rates for fiscal years 2019 and 2020 based on the June 30, 2017, actuarial valuation. Contribution rates for VRS employers are established every two years. The actuarially calculated employer contribution rates based on the June 30, 2020 valuation presented in this report are for informational purposes only.

OPEB Plan	Fiscal Years 2019/2020	Fiscal Years 2021/2022	Informational Only
	Board & General Assembly Approved	Board & General Assembly Approved	
	2017 Valuation	2019 Valuation	2020 Valuation
GLI*	1.31%	1.34%	1.36%
HIC State Employees	1.17%	1.12%	1.08%
HIC Teachers	1.20%	1.21%	1.18%
HIC Participating Political Subdivisions**	0.32%	0.59%	0.61%
HIC Constitutional Officers	0.38%	0.36%	0.35%
HIC Social Service Employees	0.43%	0.38%	0.39%
HIC Registrars	0.39%	0.39%	0.37%
VSDP	0.62%	0.61%	0.56%
VLDP Teachers	0.41%	0.47%	0.45%
VLDP Political Subdivisions	0.72%	0.83%	0.82%

* The contribution rate for GLI includes an adjustment of 0.34% for active group life insurance, see Section I for additional detail.

** Average of individual employer rates, initial. For fiscal years 2021 & 2022, the contribution rate includes the impact of HB 1513.

The promised post-employment benefits of the OPEB Plans are included in the actuarially calculated contribution rates which are developed using the entry age normal actuarial cost method with projected benefits. The valuation takes into account the differentiation between Plan 1 vested members, Plan 1 non-vested members as of January 1, 2013, resulting from HB 1130 and SB 498, Plan 2 members and Hybrid members. Five-year smoothed market value of assets is used for actuarial valuation purposes (with the exception of HIC – Participating Political Subdivisions and HIC – Special Coverage Groups). Gains and losses are reflected in the unfunded accrued liability. The discount rate used to value a plan should be based on the likely return of the assets used to pay benefits. As of June 30, 2020, the plan has assets in trust solely to provide benefits to eligible recipients. In accordance with the funding policy adopted by the Board of



Trustees, the unfunded liability is being amortized by regular annual contributions as a level percentage of payroll within a closed 30-year period for the unfunded liability as of July 1, 2013, and gains and losses in subsequent years are amortized within a closed 20-year period, on the assumption that payroll will increase by 3% annually and the amortization period will decrease by one each year until reaching 0 years. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the OPEB Plans and to reasonable expectations of anticipated experience under the OPEB Plans.

Our organization has only a contractual relationship with the Virginia Retirement System to provide actuarial consulting services and we do not provide other services to nor have a financial interest in the Virginia Retirement System. There are no known interests or relationships that our firm has with the Virginia Retirement System that may impair or appear to impair the objectivity of our work.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared for funding purposes with assumptions and methods that meet the parameters of the Actuarial Standards of Practice, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

We note that as we are preparing this report, the world is in the midst of a pandemic. We have considered available information but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in the future of any adjustments that we believe would be appropriate.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Table of Contents, which immediately follows {in the valuation report}, outlines the material contained in the report.

Respectfully submitted,

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Alisa Bennett, FSA, EA, FCA, MAAA
President

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Principal and Consulting Actuary

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Bradley R. Wild, ASA, EA, FCA, MAAA
Senior Actuary

Actuary's Certification Letter: OPEB Plans – Line of Duty Act (LODA) Fund



Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

February 1, 2021

Board of Trustees
Virginia Retirement System
1200 E. Main Street
Richmond, VA 23219

Dear Trustees:

We are pleased to submit the results of the annual actuarial valuation of the Virginia Retirement System (VRS) Line of Duty Act Fund (Plan) prepared as of June 30, 2020.

The purpose of this report is to show an informational Pay-As-You-Go rate based on the June 30, 2020, valuation data along with the adjusted Board approved Pay-As-You-Go rate of contribution based on the June 30, 2019, valuation, and also to calculate an Actuarially Determined Employer Contribution Rate (ADEC). The ADEC calculated in the June 30, 2019, valuation will be used for GASB 74 purposes while the ADEC calculated in the June 30, 2020, valuation is informational only. In addition, we prepared the underlying schedules from which the selected information in the annual report was extracted.

Cavanaugh Macdonald Consulting, LLC (CMC) has relied on the plan provisions and eligibility provisions of the Commonwealth of Virginia's Line of Duty Program (LODA Program) provided by § 9.1-400 et seq. of the *Virginia Code* (Code), including changes resulting from the passage of House Bill 1345 (HB 1345) from the 2016 legislative session, Item 269 of the 2016 Appropriations Act (the Act) and House Bill 2243 (HB 2243) from the 2017 legislative session. Additionally, CMC has received participant data from the Virginia Retirement System (VRS). CMC has reviewed the data for reasonableness only and has not performed a formal audit of the data used for this valuation. While the inactive census data is complete, because the active census data was collected from a wide range of sources with varying and, at times, limited content, the data is incomplete. Adjustments have been made to account for this incompleteness by filling in missing information using averages from other active groups where the information is known. Along with the valuation results, commentary is provided regarding the various aspects of developing the cost structure for LODA Program benefits to be financed through the Plan.

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The valuation results are provided on a blended, single group cost basis. Health care benefits are uniform amongst Plan beneficiaries due to the passage of HB 1345 (2016) and HB 2243 (2017). The legislation revised the Line of Duty Act by transferring overall administration of eligibility determinations to VRS and administration of health insurance benefits to the Department of Human Resource Management (DHRM) and creates state-wide health insurance plans for all LODA beneficiaries, with separate plans based on Medicare eligibility. The legislation became effective July 1, 2017 and is included in this valuation. The assumed health care costs are based upon the premium amounts provided by the DHRM actuaries which used experience of those LODA members currently receiving health care benefits from the Plan.

Contribution rates for participating employer groups are established every two years. Based upon the June 30, 2017, valuation results, the Board approved rate for fiscal years 2019 and 2020 is \$705.77. Based upon the June 30, 2019, valuation results, the initial Board approved rate for fiscal years 2021 and 2022 was \$695.18 which was later adjusted to \$717.31. More detail regarding the adjustment can be found on page one of this report. The contribution rates calculated in the June 30, 2020 valuation are for informational purposes only. The June 30, 2020, contribution rates assume Plan participation of 12,213.30 State Employee FTEs and 7,775.75 Political Subdivision Employee FTEs, for a total of 19,989.05 FTEs.

The results provided do not account for the potential long-term incurred but not reported claims resulting from a lack of employer or beneficiary education about the Plan's benefits. The potential cost and liability for these claims may be considerable. A margin for these costs may need to be considered as experience develops. The promised death benefits and post-employment health care benefits provided through the Plan are included in all of the actuarially estimated contribution rates. The Plan is a cost-sharing, multiple-employer plan. The actuarially determined employer contribution rates were developed using the entry age normal cost method with projected benefits. As the Act requires contributions to be determined on a current disbursement basis, the Plan has minimal assets in trust solely to provide benefits. Therefore, the valuation results provided in this report reflect a discount rate of 4.75%. The assumed annual rate of return of 4.75% represents a blend between the long term rate of 6.75% to the extent the fund has assets and a short term bond rate once the assets have been depleted. As the discount rate used for determining liabilities is based on the expected return on assets, the liability amounts in this report cannot be used to assess a settlement of the obligation. The unfunded accrued liability is being amortized by regular annual contributions as a level percentage of payroll within a 30-year period, on the assumption that payroll will increase by 3.00% annually. The assumptions recommended by the actuary are reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan.

Since the prior valuation, this valuation reflects revisions to the assumed per capita health care costs. The impact of the COVID-19 pandemic was considered in this valuation; however, no changes were incorporated at this time due to the level of uncertainty regarding the impact on both plan costs and contribution levels going forward. Given the uncertainty regarding COVID-19 (e.g., the impact of routine care being deferred, direct COVID-19 treatment and prevention costs, changes in contribution and budget projections), continued monitoring of the impact on the Plan's liability will be required.

Our organization has only a contractual relationship with the Virginia Retirement System to provide actuarial consulting services, and we do not provide other services to nor have a financial interest in the Virginia Retirement System. There are no known interests or relationships that our firm has with the Virginia Retirement System that may impair or appear to impair the objectivity of our work.



This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared for funding purposes with assumptions and methods that meet the parameters of the Actuarial Standards of Practice, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: potential variance in the number and/or type of covered lives; Plan experience differing from that anticipated by the economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Table of Contents, which immediately follows {in the valuation report}, outlines the material contained in the report.

Respectfully submitted,

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Bradley R. Wild, ASA, EA, FCA, MAAA
Senior Actuary

The Actuarial Section for VRS-administered Other Post-Employment Benefit (OPEB) Plans presents information about the assumptions adopted by the Board of Trustees and used by the VRS actuaries to evaluate the funded status of these plans. This information includes assumptions about retirements, disabilities, terminations and salary increase rates. The section also provides a summary of OPEB plan provisions and changes.

Summary of Actuarial Assumptions and Methods

On April 26, 2017, the VRS Board of Trustees adopted most of the actuarial assumptions and methods on the recommendation of its actuary. The following assumptions include the Group Life Insurance Program, the Retiree Health Insurance Credit Program, the Virginia Sickness and Disability

Program, the Virginia Local Disability Program and the Line of Duty Act Program. They were based on an analysis of plan experience for the four-year period July 1, 2012, through June 30, 2016, and were used for the June 30, 2020, valuation.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS: OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS

FOR THE JUNE 30, 2020, ACTUARIAL VALUATION

Actuarial Assumptions and Methods	Group Life Insurance Program	Retiree Health Insurance Credit Program	Virginia Sickness and Disability Program	Line of Duty Act Program	Virginia Local Disability Program
Valuation Interest Rate	6.75%	6.75%	6.75%	4.75%	6.75%
Salary Scale Inflation Factor	2.5%	2.5%	2.5%	2.5%	2.5%
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Amortization Method	Level Percent of Pay Closed	Level Percent of Pay Closed	Level Percent of Pay Closed	Level Percent of Pay Open	Level Percent of Pay Closed
Payroll Growth Rate	3%	3%	3%	3%	3%
Assets Valuation Method – State and Teacher	5-Year Smoothed Market	5-Year Smoothed Market	5-Year Smoothed Market	Market Value	5-Year Smoothed Market
Assets Valuation Method – Political Subdivisions	5-Year Smoothed Market	Market Value*	N/A	Market Value	5-Year Smoothed Market

* Includes state-funded retiree health insurance for certain local government employees.

SOLVENCY TEST: OPEB PLANS

(EXPRESSED IN THOUSANDS)

Valuation Date (June 30)	Aggregate Accrued Liabilities for				Valuation Assets	Portion of Accrued Liabilities Covered by Assets			
	(1) Active Member	(2) Retirees and	(3) Active Members*						
	Contributions	Beneficiaries		(1)		(2)	(3)		
GROUP LIFE INSURANCE									
2020	N/A	\$ 2,265,657	\$ 1,317,474	\$ 1,905,233	N/A	84.09%	—%		
2019	N/A	2,071,215	1,343,107	1,741,406	N/A	84.08%	—%		
2018	N/A	1,901,090	1,265,443	1,574,017	N/A	82.80%	—%		
2017	N/A	1,786,401	1,238,317	1,410,087	N/A	78.93%	—%		
2016	N/A	1,749,825	1,224,643	1,247,564	N/A	71.30%	—%		
2015	N/A	1,633,937	1,195,167	1,128,876	N/A	69.09%	—%		
2014	N/A	1,522,758	1,178,751	992,221	N/A	65.16%	—%		
2013	N/A	1,422,423	1,149,268	836,547	N/A	58.81%	—%		
2012	N/A	1,308,096	1,150,214	755,889	N/A	57.79%	—%		
2011	N/A	1,228,335	1,130,642	852,424	N/A	69.40%	—%		
RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES**									
2020	N/A	\$ 690,846	\$ 333,597	\$ 129,901	N/A	18.80%	—%		
2019	N/A	683,387	343,365	109,417	N/A	16.01%	—%		
2018	N/A	651,476	344,183	96,294	N/A	14.78%	—%		
2017	N/A	638,266	352,458	79,451	N/A	12.45%	—%		
2016	N/A	610,570	377,071	70,798	N/A	11.60%	—%		
2015	N/A	594,098	382,428	67,164	N/A	11.31%	—%		
2014	N/A	577,291	384,851	60,645	N/A	10.51%	—%		
2013	N/A	562,448	382,134	54,773	N/A	9.74%	—%		
2012	N/A	542,874	374,294	55,510	N/A	10.23%	—%		
2011	N/A	530,461	366,099	110,791	N/A	20.89%	—%		
RETIREE HEALTH INSURANCE CREDIT – TEACHERS									
2020	N/A	\$ 905,279	\$ 525,259	\$ 149,949	N/A	16.56%	—%		
2019	N/A	896,306	529,577	130,043	N/A	14.51%	—%		
2018	N/A	851,963	527,110	113,136	N/A	13.28%	—%		
2017	N/A	832,771	525,150	96,987	N/A	11.65%	—%		
2016	N/A	811,164	540,039	86,701	N/A	10.69%	—%		
2015	N/A	786,781	538,634	85,379	N/A	10.85%	—%		
2014	N/A	761,301	536,420	79,177	N/A	10.40%	—%		
2013	N/A	728,612	529,180	67,012	N/A	9.20%	—%		
2012	N/A	732,146	536,924	58,286	N/A	7.96%	—%		
2011	N/A	707,436	522,769	85,933	N/A	12.15%	—%		
RETIREE HEALTH INSURANCE CREDIT – STATE-FUNDED LOCALITY BENEFITS									
2020	N/A	\$ 29,727	\$ 17,612	\$ 7,174	N/A	24.13%	—%		
2019	N/A	28,937	17,811	6,840	N/A	23.64%	—%		
2018	N/A	27,195	17,259	4,655	N/A	17.12%	—%		
2017	N/A	25,791	17,444	3,552	N/A	13.77%	—%		
2016	N/A	24,167	17,836	2,351	N/A	9.73%	—%		
2015	N/A	22,440	18,172	2,042	N/A	9.10%	—%		
2014	N/A	21,179	18,120	4,145	N/A	19.57%	—%		
2013	N/A	20,001	17,794	1,510	N/A	7.55%	—%		
2012	N/A	19,817	18,456	1,807	N/A	9.12%	—%		
2011	N/A	18,271	18,406	2,338	N/A	12.80%	—%		

SOLVENCY TEST: OPEB PLANS, cont.

(EXPRESSED IN THOUSANDS)

RETIREE HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS									
2020	N/A	\$	44,880	\$	31,792	\$	24,468	N/A	54.52%
2019	N/A		41,097		31,758		24,468	N/A	59.54%
2018	N/A		22,409		18,534		23,161	N/A	100.00%
2017	N/A		21,326		17,974		22,167	N/A	100.00%
2016	N/A		20,216		18,026		19,337	N/A	95.65%
2015	N/A		19,286		17,626		19,348	N/A	100.00%
2014	N/A		17,371		17,826		18,605	N/A	100.00%
2013	N/A		16,268		17,036		16,137	N/A	99.19%
2012	N/A		15,054		16,369		14,275	N/A	94.83%
2011	N/A		14,503		15,688		13,918	N/A	95.97%
VIRGINIA SICKNESS AND DISABILITY PROGRAM – LONG-TERM DISABILITY (LTD) BENEFITS									
2020****	N/A	\$	171,585	\$	77,284	\$	505,236	N/A	100.00%
2019****	N/A		170,146		78,366		484,986	N/A	100.00%
2018****	N/A		187,514		77,778		460,466	N/A	100.00%
2017****	N/A		160,283		66,229		437,372	N/A	100.00%
2016****	N/A		156,449		84,437		416,248	N/A	100.00%
2015****	N/A		156,796		78,451		398,609	N/A	100.00%
2014	N/A		138,511		50,027		325,354	N/A	100.00%
2013	N/A		132,842		50,104		313,480	N/A	100.00%
2012	N/A		125,578		136,151		305,170	N/A	100.00%
2011	N/A		123,339		139,505		330,079	N/A	100.00%
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS									
2020****	N/A	\$	639	\$	2,694	\$	2,973	N/A	100.00%
2019****	N/A		806		1,816		1,662	N/A	100.00%
2018****	N/A		271		1,112		674	N/A	100.00%
2017****	N/A		103		709		324	N/A	100.00%
2016****	N/A		132		307		57	N/A	43.18%
2015****	N/A		15		162		48	N/A	100.00%
2014***	N/A		N/A		N/A		N/A	N/A	—%
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS									
2020****	N/A	\$	1,841	\$	1,911	\$	3,425	N/A	100.00%
2019****	N/A		1,511		1,306		2,817	N/A	100.00%
2018****	N/A		1,571		1,161		853	N/A	54.30%
2017****	N/A		361		464		413	N/A	100.00%
2016****	N/A		135		243		52	N/A	38.52%
2015****	N/A		30		106		30	N/A	100.00%
2014***	N/A		N/A		N/A		N/A	N/A	—%
LINE OF DUTY ACT PROGRAM									
2020	N/A	\$	256,627	\$	38,828	\$	4,333	N/A	1.69%
2019	N/A		248,195		36,990		2,839	N/A	1.14%
2018	N/A		257,076		36,766		1,889	N/A	0.73%
2017	N/A		233,193		37,186		3,461	N/A	1.48%
2016	N/A		192,578		32,105		2,708	N/A	1.41%
2015	N/A		169,288		76,520		728	N/A	0.43%
2014	N/A		152,120		73,696		—	N/A	—%
2013	N/A		139,835		64,249		—	N/A	—%
2012	N/A		131,501		94,673		—	N/A	—%
2011	N/A		207,186		191,770		—	N/A	—%

* Employer-financed portion.

** State employees includes state, SPORS, JRS, VaLORS, ORP and University of Virginia (UVA).

*** Data for prior fiscal years is unavailable.

**** Includes Long-Term Care. Values prior to 6/30/2015 reflect Long-Term Disability only.

The progress of a plan in accumulating assets to pay benefits when due can be measured by examining the extent to which assets accumulated for benefits cover 1) any active member contributions to the plan; 2) liabilities for future benefits to retirees and beneficiaries; and 3) liabilities for the employer-financed portion of service already rendered by active members. In a plan receiving actuarially determined employer contributions, the liabilities for future benefits to retirees and beneficiaries will generally be fully covered by accumulated assets. In addition, the liabilities for service already rendered will be partially covered by the remainder of the accumulated assets and will increase over time.

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: OPEB PLANS

Valuation Date (June 30)	Active Members			
	Number	Annual Payroll (000s)	Average Annual Pay	Annualized % Change in Average Pay
GROUP LIFE INSURANCE				
2020	361,306	\$ 20,456,977	\$ 56,620	1.55%
2019	367,627	20,498,084	55,758	3.69%
2018	367,903	19,783,323	53,773	2.14%
2017	365,149	19,222,759	52,644	4.21%
2016	362,678	18,321,880	50,518	2.34%
2015	360,873	17,813,570	49,362	1.44%
2014	360,855	17,559,285	48,660	2.56%
2013	361,080	17,132,176	47,447	2.47%
2012	360,602	16,696,961	46,303	0.35%
2011	358,536	16,542,753	46,140	0.97%
RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES*				
2020	110,834	\$ 7,221,134	\$ 65,153	0.87%
2019	106,948	6,907,506	64,588	4.37%
2018	107,234	6,635,983	61,883	3.15%
2017	108,027	6,480,712	59,992	2.37%
2016	107,840	6,319,509	58,601	3.74%
2015	107,200	6,055,429	56,487	1.73%
2014	106,815	5,930,862	55,525	3.57%
2013	106,780	5,724,611	53,611	1.22%
2012	106,517	5,641,862	52,967	(0.91)%
2011	105,186	5,622,425	53,452	5.21%
RETIREE HEALTH INSURANCE CREDIT – TEACHERS				
2020	150,681	\$ 8,911,307	\$ 59,140	2.63%
2019	149,396	8,608,489	57,622	3.01%
2018	151,585	8,479,023	55,936	1.33%
2017	150,416	8,303,502	55,204	7.30%
2016	149,018	7,666,824	51,449	1.44%
2015	147,645	7,488,507	50,720	1.25%
2014	146,977	7,362,793	50,095	2.61%
2013	147,257	7,188,884	48,819	2.60%
2012	147,216	7,004,577	47,580	0.46%
2011	146,152	6,922,130	47,363	(1.24)%

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: OPEB PLANS, cont.

RETIREE HEALTH INSURANCE CREDIT – STATE-FUNDED LOCALITY BENEFITS					
2020	20,169	\$ 1,050,666	\$ 52,093		2.42%
2019	19,582	995,936	50,860		3.59%
2018	18,836	924,785	49,097		1.85%
2017	18,532	893,334	48,205		1.30%
2016	18,006	856,824	47,585		1.37%
2015	17,535	823,153	46,943		0.79%
2014	16,894	786,875	46,577		1.00%
2013	16,093	742,121	46,115		4.07%
2012	16,175	716,748	44,312		1.13%
2011	16,894	740,253	43,818		(0.02)%
RETIREE HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS					
2020	37,398	\$ 1,488,073	\$ 39,790		2.87%
2019	37,248	1,440,731	38,679		(14.99)%
2018	23,034	1,048,068	45,501		3.52%
2017	22,478	987,951	43,952		1.80%
2016	21,846	943,186	43,174		2.32%
2015	21,339	900,390	42,195		0.83%
2014	20,921	875,485	41,847		1.51%
2013	20,534	846,523	41,225		3.92%
2012	20,416	809,905	39,670		0.43%
2011	19,861	784,481	39,499		0.0244
VIRGINIA SICKNESS AND DISABILITY PROGRAM					
2020	77,848	\$ 4,382,943	\$ 56,301		(0.07)%
2019	79,105	4,456,996	56,343		6.06%
2018	75,164	3,993,073	53,125		3.82%
2017	73,620	3,767,055	51,169		1.13%
2016	75,410	3,815,678	50,599		3.74%
2015	74,367	3,627,297	48,776		1.21%
2014	74,399	3,585,486	48,193		2.94%
2013	74,178	3,472,669	46,815		0.50%
2012	73,707	3,433,322	46,581		0.08%
2011	72,440	3,371,773	46,546		5.10%
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS					
2020	13,027	\$ 571,356	\$ 43,859		4.61%
2019	11,047	463,174	41,928		3.57%
2018	9,332	377,798	40,484		(4.05)%
2017	7,239	305,446	42,195		9.31%
2016	5,001	193,042	38,601		3.69%
2015	2,796	104,087	37,227		13.53%
2014**	282	9,247	32,791		N/A
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS					
2020	10,672	\$ 392,684	\$ 36,796		3.04%
2019	9,447	337,363	35,711		5.42%
2018	7,915	268,121	33,875		3.66%
2017	6,331	206,895	32,680		3.42%
2016	4,675	147,729	31,600		4.33%
2015	2,917	88,350	30,288		3.67%
2014**	845	24,688	29,217		N/A

* State employees includes state, SPORS, JRS, VaLORS, ORP and UVA.

** Data for prior fiscal years is unavailable.

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: OPEB PLANS

GROUP LIFE INSURANCE								
Valuation Date (June 30)	Retirees					Insurance Amount	Annualized % Increase in Life Insurance Amount	Average Life Insurance Amount
	Added to Rolls		Removed from Rolls		Total			
	Number	Amount	Number	Amount				
2020	23,194	\$ 1,799,018,000	6,571	\$ 1,136,382,000	208,644	\$ 8,423,934,000	8.54%	\$ 40,375
2019	12,091	1,480,985,000	5,675	1,074,045,000	192,021	7,761,298,000	5.53%	40,419
2018	11,464	1,357,284,000	5,269	1,071,515,000	185,605	7,354,358,000	4.04%	39,624
2017	11,212	1,281,014,000	4,936	2,445,277,000	179,410	7,068,589,000	(14.14)%	39,399
2016	11,550	1,324,900,000	4,564	895,728,000	173,134	8,232,852,000	5.50%	47,552
2015	11,429	1,275,150,000	4,519	840,576,000	166,148	7,803,680,000	5.90%	46,968
2014	10,922	1,206,647,000	4,306	843,669,000	159,238	7,369,106,000	5.18%	46,277
2013	10,511	1,148,100,000	4,203	800,829,000	152,622	7,006,128,000	5.22%	45,905
2012	9,828	1,064,957,000	3,905	773,058,000	146,314	6,658,865,000	4.58%	45,511
2011	11,216	1,205,369,000	4,325	714,803,000	140,391	6,366,958,000	8.35%	45,352

RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES*

Valuation Date (June 30)	Retirees					Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
	Added to Rolls		Removed from Rolls		Total			
	Number	Amount	Number	Amount				
2020	2,865	\$ 4,452,000	2,070	\$ 3,026,000	51,873	\$ 77,538,000	1.87%	\$ 1,495
2019	7,854	11,734,000	1,517	2,176,000	51,078	76,112,000	14.36%	1,490
2018	2,558	3,779,000	4,105	5,981,000	44,741	66,554,000	(3.20)%	1,488
2017	3,364	4,928,000	1,734	2,671,000	46,288	68,756,000	3.39%	1,485
2016	2,881	4,332,000	1,663	2,369,000	44,658	66,499,000	3.06%	1,489
2015	2,869	4,226,000	1,618	2,357,000	43,440	64,524,000	2.98%	1,485
2014	2,652	4,044,000	1,548	2,212,000	42,189	62,655,000	3.01%	1,485
2013	2,542	3,765,000	1,503	2,112,000	41,085	60,823,000	2.79%	1,480
2012	2,539	3,784,000	1,453	2,065,000	40,046	59,170,000	2.99%	1,478
2011	2,684	4,009,000	1,986	2,841,000	38,960	57,451,000	2.08%	1,475

RETIREE HEALTH INSURANCE CREDIT – TEACHERS

Valuation Date (June 30)	Retirees					Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
	Added to Rolls		Removed from Rolls		Total			
	Number	Amount	Number	Amount				
2020	3,180	\$ 4,275,000	2,283	\$ 3,054,000	69,698	\$ 95,647,000	1.29%	\$ 1,372
2019	4,054	5,283,000	1,585	2,163,000	68,801	94,426,000	3.42%	1,372
2018	3,511	4,719,000	1,534	2,067,000	66,332	91,306,000	2.99%	1,377
2017	3,412	4,565,000	1,470	1,984,000	64,355	88,654,000	3.00%	1,378
2016	3,649	4,913,000	1,329	1,795,000	62,413	86,073,000	3.76%	1,379
2015	3,465	4,714,000	1,493	2,016,000	60,093	82,955,000	3.36%	1,380
2014	3,729	5,075,000	1,291	1,752,000	58,121	80,257,000	4.32%	1,381
2013	3,557	5,016,000	1,389	1,918,000	55,683	76,934,000	4.20%	1,382
2012	3,240	4,426,000	1,214	1,649,000	53,515	73,836,000	3.91%	1,380
2011	4,073	5,776,000	1,163	1,568,000	51,489	71,059,000	6.29%	1,380

* State employees include state, SPORS, JRS, VaLORS, ORP and UVA.

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: OPEB PLANS, cont.

RETIREE HEALTH INSURANCE CREDIT – STATE-FUNDED LOCALITY BENEFITS									
Valuation Date (June 30)	Retirees					Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit	
	Added to Rolls		Removed from Rolls		Total				
	Number	Amount	Number	Amount					
2020	366	\$ 194,000	189	\$ 112,000	6,252	\$ 3,183,000	2.64%	\$ 509	
2019	432	237,000	189	94,000	6,075	3,101,000	4.83%	\$ 510	
2018	439	218,000	115	58,000	5,832	2,958,000	5.72%	507	
2017	440	217,000	133	63,000	5,508	2,798,000	5.82%	508	
2016	518	270,000	152	78,000	5,201	2,644,000	7.83%	508	
2015	410	206,000	123	60,000	4,835	2,452,000	6.33%	507	
2014**	N/A	N/A	N/A	N/A	4,548	2,306,000	N/A	507	
RETIREE HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS									
Valuation Date (June 30)	Retirees					Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit	
	Added to Rolls		Removed from Rolls		Total				
	Number	Amount	Number	Amount					
2020	780	\$ 420,000	414	\$ 203,000	11,265	\$ 5,206,000	4.35%	\$ 462	
2019	5,937	2,665,000	151	191,000	10,899	4,989,000	98.37%	458	
2018	439	216,000	156	84,000	5,113	203,000	5.54%	492	
2017	394	188,000	166	80,000	4,830	2,383,000	4.75%	493	
2016	400	198,000	140	70,000	4,602	2,275,000	5.96%	494	
2015	448	219,000	130	63,000	4,342	2,147,000	7.84%	494	
2014**	N/A	N/A	N/A	N/A	4,024	1,991,000	N/A	495	
VIRGINIA SICKNESS AND DISABILITY PROGRAM									
Valuation Date (June 30)	Retirees					Current Total Annual LTD Payments	Annualized % Increase in LTD Payments	Average Annual LTD Payment	
	Added to Rolls		Removed from Rolls		Total				
	Number	Amount	Number	Amount					
2020	299	\$ 6,044,000	391	\$ 6,237,000	2,448	\$ 30,530,000	(0.63%)	\$ 12,471	
2019	305	5,978,000	418	7,456,000	2,540	30,723,000	(4.59%)	12,096	
2018	339	5,994,000	407	4,424,000	2,653	32,201,000	5.13%	12,138	
2017	366	6,428,000	441	6,696,000	2,721	30,631,000	(0.87%)	11,257	
2016	377	6,507,000	423	6,734,000	2,796	30,899,000	(0.73%)	11,051	
2015	466	7,293,000	325	4,112,000	2,842	31,126,000	13.95%	10,952	
2014	369	6,103,000	305	4,567,000	2,701	27,315,000	5.96%	10,113	
2013	401	6,256,000	434	4,707,000	2,637	25,779,000	6.39%	9,776	
2012	424	6,438,000	374	5,635,000	2,670	24,230,000	3.43%	9,075	
2011	411	6,262,000	365	6,252,000	2,620	23,427,000	0.04%	8,942	
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS									
Valuation Date (June 30)	Retirees					Current Total Annual LTD Payments	Annualized % Increase in LTD Payments	Average Annual LTD Payment	
	Added to Rolls		Removed from Rolls		Total				
	Number	Amount	Number	Amount					
2020	6	\$ 61,000	4	61,000	9	\$ 72,000	— %	\$ 8,000	
2019	4	\$ 33,000	3	36,000	7	\$ 72,000	(4.00)%	\$ 10,286	
2018	6	75,000	—	—	6	75,000	N/A	12,500	
2017	—	—	1	11,000	—	—	N/A	N/A	
2016	1	11,000	—	—	1	11,000	N/A	11,000	
2015	—	—	—	—	—	—	N/A	N/A	
2014**	—	—	—	—	—	—	N/A	N/A	

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: OPEB PLANS, cont.

VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS									
Valuation Date (June 30)	Retirees					Current Total Annual LTD Payments	Annualized % Increase in LTD Payments	Average Annual LTD Payment	
	Added to Rolls		Removed from Rolls		Total				
	Number	Amount	Number	Amount					
2020	13	\$ 116,000	5	161,000	36	\$ 262,000	(14.66)%	\$ 7,278	
2019	11	\$ 178,000	8	184,000	28	\$ 307,000	(1.92)%	\$ 10,964	
2018	20	244,000	—	—	25	313,000	353.62 %	12,520	
2017	5	69,000	—	—	5	69,000	N/A	13,800	
2016	—	—	—	—	—	—	N/A	N/A	
2015	—	—	—	—	—	—	N/A	N/A	
2014**	—	—	—	—	—	—	N/A	N/A	

** Data for prior fiscal years is unavailable.

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS

Sample retirement rates for eligible members are shown below. For the Retiree Health Insurance Credit, 95% of the state employees, teachers, state police officers, Virginia law officers and judges who retire with 15 or more years of service will utilize the benefit. For all political subdivision employees, 85% of the employees with 15 or more years of service will utilize the benefit.

State Employees

Age	Plan 1 – Male Years of Service					
	5	6-9	10	11-29	30	>31
50	—%	—%	3.30%	3.30%	12.50%	12.50%
55	4.50%	4.50%	4.50%	3.50%	5.00%	9.00%
59	4.50%	4.00%	4.00%	4.00%	10.00%	9.00%
60	4.50%	5.00%	5.00%	5.00%	11.50%	9.00%
61	15.00%	7.50%	7.50%	7.50%	16.50%	15.00%
62	15.00%	10.00%	10.00%	10.00%	20.00%	20.00%
64	15.00%	13.50%	13.50%	13.50%	20.00%	17.50%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	27.50%	22.00%	22.00%	22.00%	22.00%	22.00%
70	20.00%	22.00%	22.00%	22.00%	22.00%	22.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Plan 1 – Female						
Years of Service						
Age	5	6-9	10	11-29	30	>31
50	—%	—%	3.00%	3.00%	7.50%	7.50%
55	5.00%	5.00%	5.00%	4.00%	10.00%	9.00%
59	5.00%	5.00%	5.00%	5.00%	10.00%	9.00%
60	5.00%	5.00%	5.00%	5.00%	12.00%	12.50%
61	7.50%	8.00%	8.00%	8.00%	16.50%	17.50%
62	10.00%	12.00%	12.00%	12.00%	22.50%	25.00%
64	17.50%	15.00%	15.00%	15.00%	22.50%	17.50%
65	27.50%	27.50%	27.50%	27.50%	27.50%	30.00%
67	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

State Employees

Plan 2 and Hybrid – Male							
Years of Service							
Age	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	12.50%
55	—%	—%	—%	5.00%	9.00%	9.00%	9.00%
59	—%	10.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	11.50%	11.50%	9.00%	9.00%	9.00%	9.00%	9.00%
61	16.50%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
62	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
64	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
70	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 11.50% when age plus service equals 90.

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Plan 2 and Hybrid – Female							
Years of Service							
Age	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	7.50%
55	—%	—%	—%	10.00%	9.00%	9.00%	9.00%
59	—%	10.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	12.00%	12.00%	12.50%	12.50%	12.50%	12.50%	12.50%
61	16.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
62	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
64	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
65	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
67	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 12.00% when age plus service equals 90.

Teachers

Plan 1 – Male						
Years of Service						
Age	5	6-9	10	11-29	30	>31
50	—%	—%	2.00%	2.00%	17.50%	17.50%
55	7.00%	7.00%	7.00%	4.50%	22.50%	15.00%
59	10.00%	6.00%	6.00%	6.00%	22.50%	15.00%
60	10.00%	7.00%	7.00%	7.00%	22.50%	15.00%
61	11.00%	8.50%	8.50%	8.50%	30.00%	25.00%
62	17.00%	15.00%	15.00%	15.00%	35.00%	35.00%
64	18.00%	15.00%	15.00%	15.00%	35.00%	25.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	35.00%
67	30.00%	35.00%	35.00%	35.00%	35.00%	35.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Plan 1 – Female						
Years of Service						
Age	5	6-9	10	11-29	30	>31
50	—%	—%	2.40%	2.40%	15.00%	15.00%
55	6.00%	6.00%	6.00%	5.00%	22.50%	16.00%
59	8.00%	6.00%	6.00%	6.00%	22.50%	20.00%
60	9.00%	8.00%	8.00%	8.00%	22.50%	20.00%
61	15.00%	10.00%	10.00%	10.00%	30.00%	25.00%
62	15.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	25.00%	15.00%	15.00%	15.00%	35.00%	30.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	35.00%
67	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Teachers

Plan 2 and Hybrid – Male							
Years of Service							
Age	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	17.50%
55	—%	—%	—%	22.50%	15.00%	15.00%	15.00%
59	—%	22.50%	15.00%	15.00%	15.00%	15.00%	15.00%
60	22.50%	22.50%	15.00%	15.00%	15.00%	15.00%	15.00%
61	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
62	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
64	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 22.50% when age plus service equals 90.

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Plan 2 and Hybrid – Female							
Years of Service							
Age	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	15.00%
55	—%	—%	—%	22.50%	16.00%	16.00%	16.00%
59	—%	22.50%	20.00%	20.00%	20.00%	20.00%	20.00%
60	22.50%	22.50%	20.00%	20.00%	20.00%	20.00%	20.00%
61	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
62	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Rate is 22.50% when age plus service equals 90.

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – Plan 1**

Male						Female				
Years of Service						Years of Service				
Age	5	10	11-29	30	>31	5	10	11-29	30	>31
50	—%	2.80%	2.80%	10.00%	10.00%	—%	3.50%	3.50%	16.00%	16.00%
55	6.00%	6.00%	5.00%	10.00%	10.00%	4.50%	4.50%	5.00%	22.00%	16.00%
59	10.00%	4.50%	4.50%	10.00%	14.00%	10.50%	6.00%	6.00%	20.00%	16.00%
60	10.00%	6.00%	6.00%	10.00%	14.00%	10.50%	7.50%	7.50%	14.00%	16.00%
61	10.00%	10.00%	10.00%	10.00%	14.00%	10.50%	10.00%	10.00%	14.00%	16.00%
62	10.00%	14.00%	14.00%	25.00%	30.00%	10.50%	14.00%	14.00%	34.50%	27.50%
64	10.00%	15.00%	15.00%	25.00%	25.00%	10.50%	17.00%	17.00%	10.00%	18.00%
65	25.00%	25.00%	25.00%	25.00%	37.00%	25.00%	25.00%	25.00%	25.00%	27.50%
67	15.00%	25.00%	25.00%	25.00%	25.00%	15.00%	27.50%	27.50%	27.50%	27.50%
70	27.50%	25.00%	25.00%	25.00%	25.00%	15.00%	27.50%	27.50%	27.50%	27.50%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – Plan 2 and Hybrid

Age	Male								
	Years of Service								
	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	—%	10.00%
55	—%	—%	—%	—%	—%	10.00%	10.00%	10.00%	10.00%
59	—%	—%	—%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%
60	10.00%	10.00%	10.00%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%
61	10.00%	10.00%	10.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
62	10.00%	14.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	10.00%	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	25.00%	25.00%	37.00%	37.00%	37.00%	37.00%	37.00%	37.00%	37.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	27.50%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – Plan 2 and Hybrid, cont.

Age	Female								
	Years of Service								
	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	—%	16.00%
55	—%	—%	—%	—%	—%	22.00%	16.00%	16.00%	16.00%
59	—%	—%	—%	20.00%	16.00%	16.00%	16.00%	16.00%	16.00%
60	10.50%	10.50%	14.00%	14.00%	16.00%	16.00%	16.00%	16.00%	16.00%
61	10.50%	10.00%	14.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%
62	10.50%	14.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
64	10.50%	17.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
65	25.00%	25.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
67	15.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
70	15.00%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%	27.50%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers – Plan 1

Age	Male Years of Service					Female Years of Service				
	5	10	11-29	30	>31	5	10	11-29	30	>31
50	—%	5.00%	5.00%	10.00%	10.00%	—%	5.50%	5.50%	6.00%	6.00%
55	5.50%	5.50%	5.00%	14.00%	10.00%	7.00%	7.00%	5.50%	12.00%	10.00%
59	10.00%	5.50%	5.50%	12.00%	10.00%	6.00%	5.50%	5.50%	15.00%	10.00%
60	10.00%	6.00%	6.00%	12.00%	10.00%	8.50%	7.50%	7.50%	15.00%	10.00%
61	15.00%	10.00%	10.00%	25.00%	22.00%	8.50%	7.50%	7.50%	20.00%	17.50%
62	13.00%	17.00%	17.00%	35.00%	30.00%	19.00%	17.00%	17.00%	20.00%	25.00%
64	20.00%	15.00%	15.00%	27.00%	25.00%	11.00%	15.00%	15.00%	25.00%	15.00%
65	27.00%	27.00%	27.00%	27.00%	30.00%	28.00%	28.00%	28.00%	28.00%	35.00%
67	27.00%	25.00%	25.00%	25.00%	25.00%	17.50%	22.00%	22.00%	22.00%	22.00%
70	27.00%	25.00%	25.00%	25.00%	25.00%	30.00%	22.00%	22.00%	22.00%	22.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers – Plan 2 and Hybrid

Age	Male Years of Service								
	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	—%	10.00%
55	—%	—%	—%	—%	—%	14.00%	10.00%	10.00%	10.00%
59	—%	—%	—%	12.00%	10.00%	10.00%	10.00%	10.00%	10.00%
60	10.00%	10.00%	12.00%	12.00%	10.00%	10.00%	10.00%	10.00%	10.00%
61	15.00%	10.00%	25.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
62	13.00%	17.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
64	20.00%	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
65	27.00%	27.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
67	27.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	27.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers – Plan 2 and Hybrid

Age	Female Years of Service								
	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	—%	6.00%
55	—%	—%	—%	—%	—%	12.00%	10.00%	10.00%	10.00%
59	—%	—%	—%	15.00%	10.00%	10.00%	10.00%	10.00%	10.00%
60	8.50%	8.50%	15.00%	15.00%	10.00%	10.00%	10.00%	10.00%	10.00%
61	8.50%	7.50%	20.00%	17.50%	17.50%	17.50%	17.50%	17.50%	17.50%
62	19.00%	17.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
64	11.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
65	28.00%	28.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
67	17.50%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
70	30.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%
>75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers – All Plans

Age	Male Years of Service				Female Years of Service			
	5	6-24	25	>26	5	6-24	25	>26
50	7.00%	7.00%	26.00%	26.00%	5.00%	5.00%	32.00%	32.00%
55	7.00%	6.00%	15.00%	20.50%	5.00%	7.50%	25.00%	21.00%
59	7.00%	12.50%	32.00%	27.50%	5.00%	14.00%	25.00%	40.00%
60	21.00%	21.00%	21.00%	27.50%	20.00%	20.00%	20.00%	40.00%
61	37.50%	27.50%	27.50%	27.50%	20.00%	20.00%	20.00%	20.00%
62	50.00%	32.00%	32.00%	32.00%	20.00%	35.00%	35.00%	35.00%
63	50.00%	32.00%	32.00%	32.00%	20.00%	30.00%	30.00%	30.00%
64	50.00%	40.00%	40.00%	40.00%	20.00%	30.00%	30.00%	30.00%
>65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers – All Plans

Age	Male Years of Service				Female Years of Service			
	5	6-24	25	>26	5	6-24	25	>26
50	9.00%	9.00%	27.50%	27.50%	9.30%	9.30%	50.00%	50.00%
55	9.00%	7.50%	20.00%	18.00%	12.50%	9.00%	20.00%	18.00%
59	9.00%	12.00%	20.00%	24.00%	12.50%	9.00%	20.00%	24.00%
60	15.00%	15.00%	15.00%	27.50%	20.00%	20.00%	20.00%	27.50%
61	15.00%	27.50%	27.50%	27.50%	20.00%	27.50%	27.50%	27.50%
62	15.00%	27.50%	27.50%	27.50%	20.00%	27.50%	27.50%	27.50%
63	25.00%	30.00%	30.00%	30.00%	20.00%	30.00%	30.00%	30.00%
64	20.00%	30.00%	30.00%	30.00%	20.00%	30.00%	30.00%	30.00%
>65	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

State Police Officers – All Plans

Age	Years of Service	
	5-24	>25
50	10.00%	10.00%
55	6.00%	10.00%
59	10.00%	10.00%
60	10.00%	10.00%
>65	100.00%	100.00%

Virginia Law Officers – All Plans

Age	Years of Service – Male			
	5	6-24	25	>26
50	11.00%	11.00%	35.00%	35.00%
55	10.00%	8.00%	18.00%	25.00%
59	10.00%	12.00%	18.00%	20.00%
60	18.00%	18.00%	18.00%	20.00%
>65	100.00%	100.00%	100.00%	100.00%

Age	Years of Service – Female			
	5	6-24	25	> 26
50	10.00%	10.00%	37.50%	37.50%
55	10.00%	8.00%	25.00%	27.50%
59	10.00%	13.00%	30.00%	22.50%
60	20.00%	20.00%	20.00%	22.50%
>65	100.00%	100.00%	100.00%	100.00%

Judges – All Plans

Age	Rate
60	15.00%
65	15.00%
70	50.00%
>73	100.00%

FIGURE 4.8: DISABILITY RATES – OPEB PLANS

As shown below for selected ages.

State Employees

25% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0390%	0.0330%
30	0.0910%	0.2110%
40	0.2120%	0.3540%
50	0.4970%	0.6290%
60	0.6900%	0.7350%

Teachers

5% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0005%	0.0003%
30	0.0064%	0.0081%
40	0.0325%	0.0481%
50	0.1444%	0.1609%
60	0.3395%	0.3321%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

25% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0050%	0.0010%
30	0.0070%	0.0230%
40	0.1390%	0.1340%
50	0.3840%	0.3300%
60	0.8080%	0.5300%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers

25% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0050%	0.0010%
30	0.0220%	0.0010%
40	0.1300%	0.0580%
50	0.4290%	0.2740%
60	0.6560%	0.6400%

FIGURE 4.8: DISABILITY RATES – OPEB PLANS, cont.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

50% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0190%	0.0120%
30	0.0520%	0.5580%
40	0.2670%	0.7940%
50	0.5000%	1.0900%
60	1.0550%	1.7880%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers

50% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.0010%	0.0050%
30	0.0580%	0.1570%
40	0.2180%	0.2010%
50	0.4160%	0.4130%
60	0.5750%	1.6050%

State Police Officers

60% of disability cases are assumed to be service-related.

Age	Rate
≤44	0.1940%
50	0.4810%
55	0.7700%
60	0.8970%
70	1.3680%

Virginia Law Officers

50% of disability cases are assumed to be service-related.

Age	Male	Female
20	0.1430%	0.5430%
30	0.5840%	0.6590%
40	0.7930%	1.0010%
50	1.1650%	1.8210%
60	1.7820%	2.9010%
70	1.9200%	5.4990%

Judges

There are no assumed rates of disability prior to service retirement (for causes other than death or retirement).

FIGURE 4.9: TERMINATION RATES – OPEB PLANS

Withdrawal rates are based on age and years of service credit. Sample rates for selected ages and years of service are shown below for causes other than death, disability or retirement.

State Employees – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	22.300%	22.300%	22.060%	20.170%	16.920%	13.670%	10.950%	9.130%	8.250%	7.730%	7.210%
35	15.120%	14.550%	13.630%	12.200%	10.690%	9.580%	8.900%	8.390%	7.570%	5.880%	4.180%
45	14.220%	11.470%	9.620%	8.320%	7.350%	6.890%	6.600%	6.410%	5.930%	4.280%	2.630%
55	13.240%	10.030%	8.050%	7.090%	6.490%	6.350%	5.950%	5.390%	4.470%	3.550%	2.630%
65	13.040%	9.480%	7.860%	7.090%	6.490%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	26.750%	26.750%	25.590%	23.170%	20.060%	16.600%	13.660%	11.710%	11.140%	11.140%	11.140%
35	19.260%	17.080%	15.530%	14.100%	12.760%	11.660%	10.630%	9.380%	8.240%	7.180%	6.020%
45	17.030%	13.340%	11.250%	9.980%	8.920%	8.280%	7.530%	6.870%	6.280%	5.210%	3.030%
55	16.700%	11.690%	9.150%	8.240%	7.660%	7.040%	6.180%	5.710%	5.140%	5.090%	3.030%
65	16.700%	11.660%	9.060%	8.240%	7.660%	—%	—%	—%	—%	—%	—%

Teachers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	18.730%	14.290%	12.180%	11.080%	9.450%	8.070%	7.570%	6.720%	5.060%	4.290%	4.290%
35	16.960%	13.890%	12.460%	10.910%	9.350%	7.930%	6.710%	5.880%	5.210%	4.360%	3.310%
45	16.960%	13.890%	11.570%	10.120%	7.860%	6.940%	6.230%	5.730%	5.240%	4.240%	2.410%
55	16.960%	13.890%	11.220%	10.120%	7.040%	5.840%	5.810%	5.730%	5.230%	4.240%	2.410%
65	16.960%	13.890%	11.220%	10.120%	7.040%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	18.040%	12.330%	10.860%	10.640%	9.380%	7.730%	6.570%	6.510%	5.450%	4.930%	4.930%
35	16.500%	14.140%	12.600%	11.310%	10.180%	9.520%	8.650%	7.390%	6.390%	5.290%	3.930%
45	15.060%	12.050%	9.930%	8.540%	7.690%	7.180%	6.620%	5.910%	5.390%	4.420%	2.290%
55	14.910%	11.620%	9.450%	8.040%	7.090%	6.250%	5.450%	5.330%	4.770%	4.360%	2.290%
65	14.910%	11.620%	9.450%	8.040%	7.090%	—%	—%	—%	—%	—%	—%

FIGURE 4.9: TERMINATION RATES – OPEB PLANS, cont.

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	23.300%	20.510%	18.630%	17.320%	16.250%	14.430%	11.710%	9.290%	8.230%	6.880%	6.880%
35	19.130%	16.820%	15.080%	13.690%	12.400%	11.190%	10.160%	9.220%	8.230%	6.880%	5.220%
45	16.930%	14.550%	12.560%	10.920%	9.440%	8.920%	8.520%	8.180%	7.550%	6.300%	3.940%
55	15.610%	12.540%	10.330%	8.980%	8.450%	7.340%	6.690%	5.860%	4.830%	4.320%	3.940%
65	15.340%	9.240%	6.480%	6.480%	6.480%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	22.850%	20.860%	19.800%	19.430%	19.260%	18.890%	17.960%	15.780%	13.040%	13.040%	13.040%
35	21.390%	18.770%	17.210%	16.240%	15.440%	14.420%	13.000%	11.320%	9.790%	8.500%	7.340%
45	19.070%	15.750%	13.540%	12.140%	11.040%	10.260%	9.180%	8.100%	7.250%	6.010%	3.670%
55	17.300%	12.750%	9.920%	8.540%	8.210%	7.160%	6.950%	6.590%	5.560%	5.540%	3.670%
65	17.280%	11.780%	8.110%	6.920%	6.920%	—%	—%	—%	—%	—%	—%

**Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits –
All Other Employers – All Plans**

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	25.060%	23.020%	20.930%	18.370%	15.690%	13.360%	11.960%	10.840%	9.990%	9.990%	9.990%
35	20.650%	18.220%	16.210%	14.310%	12.750%	11.430%	10.350%	9.570%	8.810%	7.800%	6.550%
45	18.400%	14.900%	12.720%	11.400%	10.570%	9.880%	9.090%	8.210%	7.360%	6.230%	4.630%
55	16.070%	12.970%	12.000%	10.500%	10.450%	9.750%	8.930%	8.110%	6.490%	6.230%	4.630%
65	15.360%	12.880%	12.000%	10.500%	10.450%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION											
Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	27.370%	25.710%	23.400%	20.380%	17.490%	15.450%	13.810%	12.030%	10.660%	10.640%	10.640%
35	22.330%	20.210%	18.740%	17.240%	15.850%	14.350%	12.840%	11.560%	10.450%	9.120%	7.610%
45	19.510%	16.560%	14.580%	13.210%	12.280%	11.550%	10.660%	9.710%	9.000%	7.640%	5.320%
55	16.930%	14.490%	12.400%	10.930%	10.010%	9.280%	9.280%	9.280%	8.450%	7.560%	5.320%
65	15.630%	14.010%	12.290%	10.880%	10.010%	—%	—%	—%	—%	—%	—%

FIGURE 4.9: TERMINATION RATES – OPEB PLANS, cont.

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits –
Ten Largest Employers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Terminations Per 100 Members		
Years of Service	Males	Females
0	10.000%	15.000%
1	8.500%	9.000%
2	8.000%	9.000%
3	7.500%	9.000%
4	5.500%	9.000%
5	5.000%	9.000%
6	4.750%	9.000%
7	4.500%	6.000%
8	4.000%	3.500%
9	3.000%	2.000%
10 or more	1.800%	2.000%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits –
All Other Employers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	16.010%	14.520%	13.810%	13.250%	12.170%	10.520%	8.850%	7.770%	6.900%	6.900%	6.900%
35	15.310%	12.570%	10.920%	9.900%	9.160%	8.900%	8.440%	7.640%	6.610%	5.430%	4.190%
45	15.280%	11.790%	9.480%	8.220%	7.800%	7.020%	6.630%	6.270%	5.630%	4.560%	3.020%
55	14.070%	10.550%	8.410%	7.690%	7.690%	—%	—%	—%	—%	—%	—%
65	11.090%	8.670%	7.760%	7.690%	7.690%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	18.760%	15.470%	13.050%	11.600%	11.000%	10.650%	10.220%	8.770%	6.590%	5.830%	5.830%
35	20.890%	16.400%	13.400%	11.540%	10.340%	9.330%	8.330%	7.400%	6.590%	5.830%	5.040%
45	18.250%	14.690%	12.280%	10.840%	9.900%	8.820%	7.990%	7.250%	6.590%	5.310%	3.440%
55	11.230%	10.210%	9.680%	9.680%	9.600%	—%	—%	—%	—%	—%	—%
65	1.270%	3.040%	3.040%	3.040%	3.040%	—%	—%	—%	—%	—%	—%

FIGURE 4.9: TERMINATION RATES – OPEB PLANS, cont.

State Police Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Service	Rate
0	9.750%
1	4.750%
2	4.750%
3	4.750%
4	4.750%
5	4.750%
6	4.750%
7	3.000%
8	3.000%
9	3.000%
>10	1.750%

Virginia Law Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Males											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	30.260%	26.920%	23.840%	20.790%	17.800%	14.760%	12.540%	11.510%	11.510%	11.510%	11.510%
35	25.750%	21.970%	18.820%	16.020%	13.400%	11.600%	10.240%	9.350%	8.620%	7.590%	6.050%
45	22.180%	17.030%	13.790%	12.030%	11.170%	9.580%	8.480%	7.390%	6.240%	5.160%	4.280%
55	21.690%	14.710%	10.530%	9.930%	9.930%	—%	—%	—%	—%	—%	—%
65	21.690%	14.670%	9.800%	9.790%	9.790%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females											
Age	0	1	2	3	4	5	6	7	8	9	>10
25	33.630%	30.650%	27.160%	23.160%	19.210%	15.380%	13.570%	10.070%	9.920%	9.920%	9.920%
35	32.030%	25.200%	20.730%	17.950%	15.980%	14.870%	13.530%	10.070%	9.910%	8.070%	6.060%
45	30.590%	21.490%	15.690%	12.720%	11.800%	10.980%	10.130%	9.110%	7.800%	6.040%	3.690%
55	28.000%	17.540%	10.160%	6.520%	6.490%	—%	—%	—%	—%	—%	—%
65	23.880%	12.930%	3.570%	—%	0.180%	—%	—%	—%	—%	—%	—%

Judges

There are no assumed rates of withdrawal prior to service retirement (for causes other than death or retirement).

FIGURE 4.10: SALARY INCREASE RATES – OPEB PLANS

The sample salary increase rates are shown below. These factors are not applicable to the Line of Duty Act Program because neither the benefit nor the cost are salary-based.

State Employees

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed state employees who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	—%	3.50%

Teachers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	2.45%	5.95%
3	2.35%	5.85%
6	1.95%	5.45%
9	1.85%	5.35%
11	1.35%	4.85%
15	1.15%	4.65%
19	0.95%	4.45%
20 or more	—%	3.50%

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	—%	3.50%

FIGURE 4.10: SALARY INCREASE RATES – OPEB PLANS, cont.

Political Subdivision Employees Not Receiving Enhanced Hazardous Duty Benefits – All Other Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.85%	5.35%
3	1.25%	4.75%
6	0.95%	4.45%
9	0.50%	4.00%
11-19	0.15%	3.65%
20 or more	—%	3.50%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – Ten Largest Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

State Police Officers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed state police officers who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

FIGURE 4.10: SALARY INCREASE RATES – OPEB PLANS, cont.

Virginia Law Officers

Inflation of 2.50% plus a productivity component of 1.00% and a step-rate/promotional component as shown. It is assumed Virginia law officers who are covered under the Virginia Sickness and Disability Program (VSDP) receive a 3.50% annual increase in pay while disabled. This adjusted pay is used to determine deferred retirement benefits payable from the System.

Years of Service	Annual Step-Rate/ Promotional Rates of Increase	Total Annual Rate of Increase
1	1.25%	4.75%
3	1.25%	4.75%
6	0.90%	4.40%
9	0.90%	4.40%
11-19	0.50%	4.00%
20 or more	—%	3.50%

Judges

Salary increase rates are 4.50%.

FIGURE 4.11: PORTING RATES – LONG-TERM CARE

Porting rates represent the probability that an individual will choose to port the coverage upon employment termination. Porting rates are assumed to increase with longevity because the contributions for terminated employees are based on the age at which they started the program (either their age in 2002 or age at hire, if later).

Current Selected Policy Porting Rate Assumptions by Policy Issue Age and Policy Duration

Issue Age	Policy Duration (in years)					
	0	10	20	30	40	50+
30	0.1000	0.1234	0.2185	0.4537	0.7574	1.0000
40	0.1000	0.1608	0.3423	0.5526	0.9230	1.0000
50	0.1027	0.2244	0.4116	0.6790	1.0000	1.0000
60	0.1162	0.2667	0.4986	0.8407	1.0000	1.0000
70	0.1485	0.3308	0.6099	0.9985	1.0000	1.0000
80	0.1875	0.4043	0.7524	1.0000	1.0000	1.0000
90	0.2012	0.4601	0.9347	1.0000	1.0000	1.0000
100	0.2171	0.5261	1.0000	1.0000	1.0000	1.0000
110	0.2354	0.6042	1.0000	1.0000	1.0000	1.0000

ADDITIONAL INFORMATION ABOUT ACTUARIAL ASSUMPTIONS AND METHODS: OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS

Mortality Rates:

Pre-Retirement: RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older Projected BB to 2020

- State – Males set back 1 year, 85% of rates, and females set back 1 year
- State Police – Males 90% of rates, females set forward 1 year
- VaLORS – Males 90% of rates, females set forward 1 year
- Judicial – Males set back 1 year, 85% of rates, females set back 1 year
- Political subdivisions, non-hazardous duty – Males 95% of rates, females 105% of rates
- Political subdivisions, hazardous duty – Males 90% of rates, females set forward 1 year

Post-Retirement: RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older Projected BB to 2020

- State – Males set back 1 year, females set back 1 year, 1.5% compounding increase from ages 70 to 85
- Teachers – Males 1% increase compounded from 70 to 90, females set back 3 years, 1.5% increase compounded from ages 65 to 70, and 2.0% increase compounded from ages 75 to 90
- State Police – Males set forward 1 year, 1% increase compounded from ages 70 to 90, females set forward 3 years
- VaLORS – Males set forward 1 year with 1% increase compounded from ages 70 to 90, females set forward 3 years
- Judicial – Males set forward 1 year, females set back 1 year with 1.5% compounding increase from age 70 to 85
- Political subdivisions, non-hazardous duty – Males set forward 3 years, 1% increase compounded from ages 70 to 90
- Political subdivisions, hazardous duty – Males set forward 1 year, 1% increase compounded from ages 70 to 90, females set forward 3 years

Post-Disablement: RP-2014 Disabled Mortality Rates Projected BB to 2020

- State – Males 115% of rates, females 130% of rates
- Teachers – Males and females 115% of rates
- State Police – Males set forward 2 years, unisex using 100% male
- VaLORS – Males set forward 2 years, unisex using 100% male
- Judicial – Males 115% of rates, females 130% of rates
- Political subdivisions, non-hazardous duty – Males set forward 2 years, 110% of rates, females 125% of rates
- Political subdivisions, hazardous duty – Males set forward 2 years, unisex using 100% males

Provision for Expense. The assumed investment return represents the anticipated net rate of return after payment of all administrative expenses.

Asset Valuation Method. For the Group Life Insurance Program, the state and teacher employer groups for the Retiree Health Insurance Credit Program, VSDP and VLDP, the method of valuing assets is intended to recognize a “smoothed” market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return

on market value is recognized over a five-year period.

The resulting actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets. For the Line of Duty Act Program and the political subdivision employer groups in the Retiree Health Insurance Credit Program or employees who are eligible for the state-funded benefit for constitutional officers and their employees, general registrars and their employees and local social services employees, the actuarial value of assets is equal to the market value of assets.

Actuarial Cost Method. For the Group Life Insurance, Retiree Health Insurance Credit Programs, VSDP, VLDP and the Line of Duty Act Program, the normal contribution is determined using the entry age normal method. Under this method, a calculation is made for the cost of benefits to determine the uniform and constant percentage rate of the employer contribution which, if applied to the compensation of the average new member during the entire period of the member's anticipated covered service, would meet the cost of all benefits payable on the member's behalf. The unfunded accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions from the present value of the expected benefits to be paid. The accrued liability contribution amortizes the balance of the unfunded accrued actuarial liability (UAAL) over a period of years from the valuation date.

Actuarial Gains and Losses. Actuarial gains and losses are reflected in the UAAL and are amortized as part of that balance.

Payroll Growth Rates. The payroll growth rate is assumed to be 3.00% based on a zero population growth assumption.

Funding Period. For all programs, the amortization of the legacy UAAL began at 30 years on June 30, 2013, and this amortization period is to decrease by one year on each subsequent valuation date until the legacy UAAL is fully amortized (amortization period is 0 years). With each subsequent valuation, a new amortization base will be used to amortize that portion of the UAAL not covered by the current balances of the previously established amortization bases. Here, each valuation's newly allocated share of the UAAL will be amortized over a closed 20-year period. In the event this funding policy produces an effective amortization period of greater than 30 years, a 30-year amortization period for the aggregate UAAL is used in accordance with GASB 43 and 45.

Summary of Other Post-Employment Benefit Plan Provisions

Group Life Insurance Program

ADMINISTRATION

The plan is administered by the Board of Trustees of the Virginia Retirement System (the System). Contributions received are held in trust. Payments are made to Securian Financial as reimbursement for the payment of life insurance proceeds to the beneficiaries.

An addition to the contribution requirement for the active member benefit provides for the retiree death benefit. The active portion of the contribution is used to purchase group term life insurance from an insurance company; the retired member portion is held in a trust until required for benefit payments.

When a covered retiree dies, Securian Financial pays the insurance claim and then collects a premium equal to the cost of the claim.

The retired member contribution is determined actuarially. The Board sets administrative policy and determines the allocation of the assets held for investment.

ELIGIBILITY

The following employees are covered under the Group Life Insurance Program upon employment:

- Full-time permanent, salaried employees of the Commonwealth of Virginia, including state employees, faculty members of the state's public colleges and universities, state police officers (SPORS), Virginia law officers (VaLORS) and judicial employees (JRS).
- Full-time permanent, salaried teachers and other administrative employees of local public school divisions.
- Full-time permanent, salaried sheriffs, deputy sheriffs and other eligible non-hazardous duty and hazardous duty employees of political subdivisions that have elected to participate in the Group Life Insurance Program.
- Employees of five localities that do not participate in VRS for retirement: City of Richmond, City of Portsmouth, City of

Roanoke, City of Norfolk and Roanoke City School Board.

- Certain members who were employed at the time of initial coverage under the Group Life Insurance Program had the option to decline coverage.

ACTIVE MEMBER BENEFIT

Active members are covered for the following benefits:

- Natural death benefit equal to the member's compensation rounded to the next highest thousand and then doubled.
- Accidental death benefit, which is double the natural death benefit.
- Accidental dismemberment benefit, seatbelt benefit, repatriation benefit, felonious assault benefit and an accelerated death benefit option.

Covered employees may elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program. Optional group life benefits are not included in the valuations of the OPEB plans.

RETIREE BENEFIT

1. Service Retirement. A death benefit equal to the active member's natural death benefit and the accelerated death benefit option continue for retirees and for deferred members who have met the eligibility requirements for retirement upon leaving employment. Coverage begins to reduce by 25% on the January 1 following one calendar year after the member's employment ends and by 25% each January 1 thereafter, until it reaches 25% of its original value. For covered members with at least 30 years of service credit, there is a minimum benefit payable under the Group Life Insurance Program, set at \$8,000 by statute in 2015. This will be increased annually based on the VRS Plan 2 cost-of-living adjustment calculation. The minimum benefit adjusted for the COLA was \$8,616 as of June 30, 2021. A member may end employment and defer retirement until a later date; however, the group life insurance will begin reducing based on the last month of employment.

2. Disability Retirement. The benefits available to disability retirees are the same as those for service retirees, except that the first 25% annual reduction begins on the January 1 following the first full calendar year from the month the retiree reaches normal retirement age.

Retiree Health Insurance Credit Program

ADMINISTRATION

The plan is administered by the System’s Board of Trustees. Contributions received are held in trust. The Board sets administrative policy and determines the allocation of the assets held for investment.

ELIGIBILITY

The health insurance credit is a tax-free reimbursement in an amount set by the General Assembly for each year of service credit against the portion of qualified health insurance premiums retirees pay for single coverage. The credit cannot exceed the amount of the premium and ends upon the retiree’s death.

If a member has worked for more than one employer under VRS, SPORS, VaLORS or JRS, for the purpose of this valuation, the most current (or last) employer assumes the full liability for that employee.

CREDIT AMOUNTS

The dollar amounts vary depending on the employee type, as shown in the following table:

Health Insurance Credit Dollar Amounts at Retirement

ELIGIBLE EMPLOYEES	AMOUNT PER YEAR OF SERVICE	MAXIMUM CREDIT PER MONTH
State employees	\$4.00	No Cap
Teachers and school administrators	\$4.00	No Cap
General registrars and their employees, constitutional officers and their employees and local social service employees	\$1.50	\$45.00
General registrars and their employees, constitutional officers and their employees and local social service employees, if the political subdivision elects the \$1.00 enhancement	\$2.50	\$75.00
Other political subdivision employees as elected by the employer	\$1.50	\$45.00

Virginia Sickness and Disability Program (VSDP)

ADMINISTRATION

The plan is administered by the System’s Board of Trustees. Contributions received are held in trust. The Board sets administrative policy and determines the allocation of the assets held for investment.

ELIGIBILITY

The following state employees are covered automatically under the Virginia Sickness and Disability Program (VSDP) upon employment:

- Full-time permanent, salaried employees of the Commonwealth of Virginia (VRS) and part-time

permanent, salaried state employees who work at least 20 hours a week;

- Public college and university faculty members who elect to participate in VRS instead of an optional retirement plan. These faculty members can elect VSDP or a disability plan offered by their institution;
- Full-time permanent, salaried state police officers (SPORS); and
- Full-time permanent, salaried Virginia law officers other than state police (VaLORS).

State employees hired before January 1, 1999, had the option to elect VSDP or retain their eligibility to be considered for disability retirement.

SHORT-TERM AND LONG-TERM DISABILITY BENEFITS

VSDP coverage provides short-term and long-term disability benefits for non-work-related and work-related illnesses and injuries. Eligible members who become disabled receive short-term disability benefits for up to 125 workdays, following a seven-calendar-day waiting period from the first day of disability.

Members who are still disabled after 125 workdays are evaluated for long-term disability. Members hired or rehired on or after July 1, 2009, must satisfy eligibility periods for non-work-related disability coverage and certain income-replacement levels.

The long-term disability benefit provides income replacement equal to 60% of the member's pre-disability income. While members are on long-term disability, they are not considered employees of the Commonwealth of Virginia. Members who can work at least 20 hours a week but cannot perform their full duties may be eligible for long-term disability benefits while working. They must have returned to work with modified duties while on short-term disability.

The long-term disability benefit is adjusted by any salary, wages, workers' compensation benefits or other disability payments the member receives for the same condition. If a member's condition becomes catastrophic, income replacement will increase to 80% of pre-disability income for as long as the condition is considered catastrophic. A disability is determined to be catastrophic if a member is unable to perform at least two of a specified list of activities of daily living without assistance.

Long-term disability benefits end if the member can perform the full duties of his or her pre-disability position without any restrictions during the first 24 months of disability; can perform the regular duties of any job for which the member is reasonably qualified after 24 months of disability and earning 80% or more of his or her pre-disability income; takes a refund of his or her member contributions and interest; does not cooperate or comply with the

requirements of VSDP; or begins receiving a VRS service retirement benefit. Benefits also end in the event of the member's death.

VSDP LONG-TERM CARE PLAN

VSDP plan members are eligible for no-cost long-term care coverage under the VSDP Long-Term Care Plan. The plan provides a two-year maximum coverage period with a maximum \$96-per-day daily benefit for nursing home care and other covered services. The benefit of many of the other services is less than the nursing home benefit, which means those needing these services will take longer to reach their lifetime maximum amount, resulting in longer coverage duration.

Benefits begin after 90 days from the date the member is certified by a licensed health care professional as eligible for benefits. The benefit schedule includes the possibility of an increase for inflation every five years in the amount of 5.00% compounded annually since the last inflation increase. Since such increases are not prefunded, they are accompanied by a corresponding increase in contributions. Upon retirement or termination from employment, VSDP plan members may elect to continue their long-term care coverage by paying the premiums.

Virginia Local Disability Program (VLDP)

ADMINISTRATION

The plan is administered by the System's Board of Trustees. Contributions received are held in trust. The Board sets administrative policy and determines the allocation of the assets held for investment.

ELIGIBILITY

The following state employees are covered automatically under the Virginia Local Disability Program (VLDP) upon employment:

- Full-time permanent, salaried Hybrid Retirement Plan employees of participating local public school divisions; and
- Full-time permanent, salaried Hybrid Retirement Plan employees of participating political subdivisions.

SHORT-TERM AND LONG-TERM DISABILITY BENEFITS

VLDP coverage provides short-term and long-term disability benefits for non-work-related and work-related illnesses and injuries. Eligible members who become disabled receive short-term disability benefits for up to 125 workdays, following a seven-calendar-day waiting period from the first day of disability. Members who are still disabled after 125 workdays are evaluated for long-term disability. The long-term disability benefit provides income replacement equal to 60% of the member's pre-disability income. While members are on long-term disability, they are not considered employees.

Members who can work at least 20 hours a week but cannot perform their full duties may be eligible for long-term disability benefits while working. They must have returned to work with modified duties while on short-term disability.

The long-term disability benefit is adjusted by any salary, wages, workers' compensation benefits or other disability payments the member receives for the same condition. If a member's condition becomes catastrophic, income replacement will increase to 80% of pre-disability income for as long as the condition is considered catastrophic. A disability is determined to be catastrophic if a member is unable to perform at least two of a specified list of activities of daily living without assistance.

Long-term disability benefits end if the member can perform the full duties of his or her pre-disability position without any restrictions during the first 24 months of disability; can perform the regular duties of any job for which the member is reasonably qualified after 24 months of disability and earning 80% or more of his or her pre-disability income; takes a refund of his or her member contributions and interest; does not cooperate or comply with the requirements of VLDP; or begins receiving a VRS service retirement benefit. Benefits also end in the event of the member's death.

VLDP LONG-TERM CARE PLAN

VLDP plan members are eligible for no-cost long-term care coverage under the VSDP Long-Term

Care Plan. The plan provides a two-year maximum coverage period with a maximum \$96-per-day daily benefit for nursing home care and other covered services. The benefit of many of the other services is less than the nursing home benefit, which means those needing these services will take longer to reach their lifetime maximum amount, resulting in longer coverage duration.

Benefits begin after 90 days from the date the member is certified by a licensed health care professional as eligible for benefits. The benefit schedule includes the possibility of an increase for inflation every five years in the amount of 5.00% compounded annually since the last inflation increase. Since such increases are not prefunded, they are accompanied by a corresponding increase in contributions. Upon retirement or termination from employment, VLDP plan members may elect to continue their long-term care coverage by paying the premiums.

Line of Duty Act Program

ADMINISTRATION

The plan is administered by the System's Board of Trustees. Contributions received are held in trust. The Board sets administrative policy and determines the allocation of the assets held for investment.

ELIGIBILITY

Members of SPORS and VaLORS as well as members of VRS who are eligible for enhanced hazardous duty coverage are covered under the Line of Duty Act. Paid employees and volunteers in hazardous duty positions in all VRS-participating and non-VRS participating localities also are covered under the act.

BENEFITS

Coverage provides death and disability benefits, administered by VRS, and health insurance benefits, which are administered by the Virginia Department of Human Resource Management (DHRM). The System is responsible for managing the assets of the Line of Duty Act Fund.

Summary of OPEB Plan Changes

The following changes have occurred to the OPEB plan provisions.

2009 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. On April 16, 2009, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2008 actuarial experience study.
2. For the June 30, 2009, valuation, the Board suspends application of the 80% to 120% market value-of-assets corridor on the actuarial value of assets for the Group Life Insurance Program and the Retiree Health Insurance Credit Program.

2010 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. For the June 30, 2010, valuation, the application of the 80% to 120% market value-of-assets corridor on the actuarial value of assets is reinstated.
2. The Board reduces the investment rate-of-return assumption for the Group Life Insurance Program, the Retiree Health Insurance Credit Program and the Virginia Sickness and Disability Program (VSDP) from 7.50% to 7.00%.

2011 VALUATION: No actuarially material changes are made to the plan provisions.

2012 VALUATION: The changes resulting from legislation are listed below:

1. Under House Bill 791, effective July 1, 2012, the life insurance amount reduction start date for disabled retirees was changed to January 1 following the first full year from the date the retiree reaches normal retirement age.
2. In 2012 House Bill 1130/Senate Bill 498 was enacted and was effective on January 1, 2013, requiring that active non-vested members of Plan 1 have to satisfy the Rule of 90 (sum of age and service is at least 90) or reach their Social Security normal retirement age to be eligible for unreduced retirement. These same members must attain age 60 with five years of service to be eligible for early retirement. This provision applies to the state and teacher plans and to members of political subdivision plans who are not covered by hazardous duty benefits. In addition, state employees on long-term disability are assumed to receive cost-of-living adjustments to their long-term disability benefits in an amount of 2.25% per year, compounded annually.

2013 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. On June 20, 2013, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2012 experience study.
2. Changes noted in the 2012 valuation information, with effective dates in fiscal year 2013 were implemented.

2014 VALUATION: No actuarially material changes are made to the plan provisions. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan covers eligible employees hired on or after January 1, 2014, in the state, teacher and judicial plans or Plan 1 or Plan 2 members who elected during a one-time opt-in period, to be covered under the hybrid plan. The hybrid plan does not apply to members in the SPORS and VaLORS plans. The hybrid plan consists of defined benefit plan and defined contribution plan components.

2015 VALUATION: No actuarially material changes are made to the plan provisions. There are two changes of note:

1. An administrative expense charge was added to the employer contribution rates to cover administrative expenses.
2. The retirement rates for the judicial plan were extended to age 73 to reflect the change in the mandatory retirement age to 73.

2016 VALUATION: No actuarially material changes are made to the plan provisions.

2017 VALUATION: No actuarially material changes are made to the plan provisions. There is one change of note: On April 26, 2017, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2016 experience study.

2018 VALUATION: No actuarially material changes are made to the plan provisions.

2019 VALUATION: The investment rate was decreased from 7.00% per annum to 6.75% per annum.

2020 VALUATION: No actuarially material changes are made to the plan provisions.

2021 VALUATION: No actuarially material changes are made to the plan provisions. There is one change of note: On April 20, 2021, the Board adopts the recommended economic and demographic assumptions proposed by the actuary as a result of the June 2020 experience study.



Virginia
Retirement
System®

STATISTICAL SECTION





Statistical Section

VRS Fiscal Year Returns

Pension Trust Funds:

- Schedule of Retirement Contributions by System and Plan
- Schedule of Pension Trust Fund Additions by Source
- Schedule of Pension Trust Fund Deductions by Type
- Schedule of Retirement Benefits by System and Plan
- Schedule of Retirement Benefits by Type
- Schedule of Refunds by Type
- Schedule of Retirees and Beneficiaries by Type of Retirement
- Schedule of Retirees and Beneficiaries by Type of Retirement and Plan
- Schedule of Retirees and Beneficiaries by Payout Option Selected
- Schedule of Average Benefit Payments
- Schedule of Funding (Market Value Basis): All Pension Plans
- Schedule of Funding (Market Value Basis): VRS Pension Plans

Other Employee Benefit Trust Funds:

- Schedule of Group Life Insurance Additions by Source
- Schedule of Group Life Insurance Deductions by Type
- Schedule of Retiree Health Insurance Credit Additions by Source
- Schedule of Retiree Health Insurance Credit Deductions by Type
- Schedule of Disability Insurance Trust Fund Additions by Source
- Schedule of Disability Insurance Trust Fund Deductions by Type
- Schedule of Retired Members and Beneficiaries by Plan
- Schedule of Average Benefit Payments by Plan

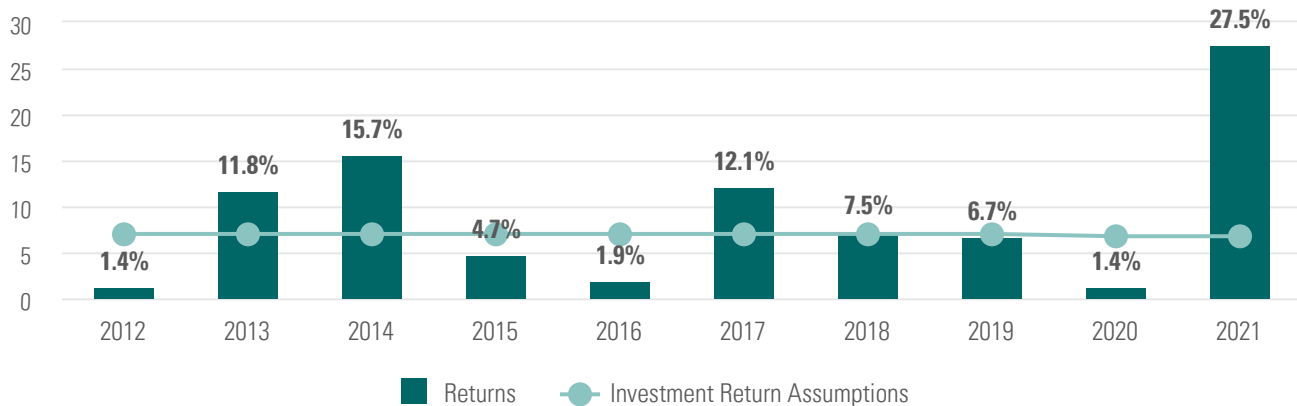
VRS-Participating Employers

Hybrid Defined Contribution Plan Schedules

Commonwealth of Virginia 457 Deferred Compensation and Cash Match Plans

The Statistical Section presents detailed historical information regarding the pension and other employee benefit plans administered by the System. This information includes a 10-year analysis of changes in plan net position, plan enrollment, contributions, plan additions and deductions, benefits and refunds. In addition, this section provides information regarding retirees and an analysis of funding, enrollment and investment activity related to the Commonwealth of Virginia 457 Deferred Compensation Plan and the Virginia Cash Match Plan. The Statistical Section also lists VRS-participating employers as of the end of the fiscal year.

VRS FISCAL YEAR RETURNS



Pension Trust Funds

FIGURE 5.1: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – ALL PENSION TRUST FUNDS

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 53,151	\$ 52,091	\$ 56,979	\$ 64,521	\$ 66,407	\$ 66,363	\$ 72,814	\$ 76,556	\$ 79,790	\$ 79,358
Funding:										
Member and Employer Contributions and Other Additions	1,820	2,600	2,695	3,226	3,323	3,144	3,331	3,338	3,480	3,711
Less: Benefits and Administrative Expenses and Transfers	3,518	3,791	4,030	4,263	4,504	4,692	4,953	5,155	5,424	5,694
Net Funding	(1,698)	(1,191)	(1,335)	(1,037)	(1,181)	(1,548)	(1,622)	(1,817)	(1,944)	(1,983)
Investment Income:										
Interest, Dividends and Other Investment Income	1,053	911	986	913	907	904	926	967	804	692
Net Appreciation (Depreciation) in Fair Value	(415)	5,168	7,891	2,010	230	7,095	4,438	4,084	708	20,814
Net Investment Income	638	6,079	8,877	2,923	1,137	7,999	5,364	5,051	1,512	21,506
Net Increase (Decrease)	(1,060)	4,888	7,542	1,886	(44)	6,451	3,742	3,234	(432)	19,523
Fiduciary Net Position Restricted – End of Year	\$ 52,091	\$ 56,979	\$ 64,521	\$ 66,407	\$ 66,363	\$ 72,814	\$ 76,556	\$ 79,790	\$ 79,358	\$ 98,881

FIGURE 5.2: NUMBER OF ACTIVE MEMBERS

AT JUNE 30

(EXPRESSED IN THOUSANDS)

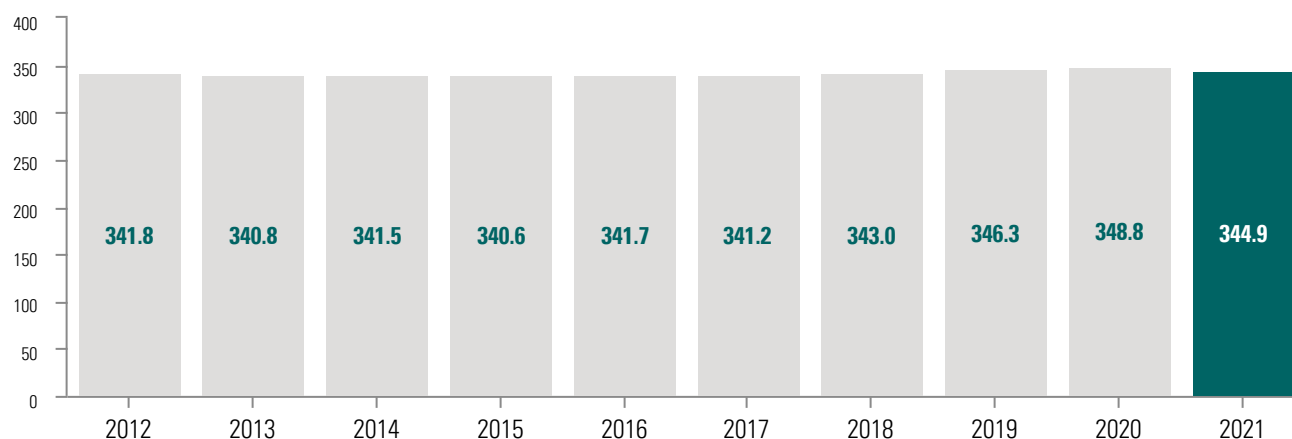


FIGURE 5.3: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA RETIREMENT SYSTEM

FOR THE YEARS ENDED JUNE 30

VIRGINIA RETIREMENT SYSTEM (VRS) – STATE

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 14,040	\$ 13,516	\$ 14,502	\$ 16,169	\$ 16,399	\$ 16,368	\$ 17,790	\$ 18,532	\$ 19,090	\$ 18,770
Funding:										
Member and Employer Contributions and Other Additions	309	520	541	676	923	737	750	747	787	817
Less: Benefits and Administrative Expenses and Transfers	992	1,054	1,119	1,175	1,231	1,279	1,340	1,401	1,468	1,530
Net Funding	(683)	(534)	(578)	(499)	(308)	(542)	(590)	(654)	(681)	(713)
Investment Income:										
Interest, Dividends and Other Investment Income	263	235	249	228	221	222	248	232	192	162
Net Appreciation (Depreciation) in Fair Value	(104)	1,285	1,996	501	56	1,742	1,084	980	169	4,893
Net Investment Income	159	1,520	2,245	729	277	1,964	1,332	1,212	361	5,055
Net Increase (Decrease)	(524)	986	1,667	230	(31)	1,422	742	558	(320)	4,342
Fiduciary Net Position Restricted – End of Year	\$ 13,516	\$ 14,502	\$ 16,169	\$ 16,399	\$ 16,368	\$ 17,790	\$ 18,532	\$ 19,090	\$ 18,770	\$ 23,112

FIGURE 5.3: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA RETIREMENT SYSTEM (cont.)

FOR THE YEARS ENDED JUNE 30

VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 24,518	\$ 23,928	\$ 26,076	\$ 29,411	\$ 30,344	\$ 30,168	\$ 33,120	\$ 34,920	\$ 36,523	\$ 36,449
Funding:										
Member and Employer Contributions and Other Additions	816	1,204	1,225	1,641	1,443	1,531	1,684	1,684	1,747	1,897
Less: Benefits and Administrative Expenses and Transfers	1,697	1,834	1,933	2,036	2,136	2,212	2,306	2,393	2,510	2,616
Net Funding	(881)	(630)	(708)	(395)	(693)	(681)	(622)	(709)	(763)	(719)
Investment Income:										
Interest, Dividends and Other Investment Income	481	415	449	415	413	412	407	443	366	317
Net Appreciation (Depreciation) in Fair Value	(190)	2,363	3,594	913	104	3,221	2,015	1,869	323	9,570
Net Investment Income	291	2,778	4,043	1,328	517	3,633	2,422	2,312	689	9,887
Net Increase (Decrease)	(590)	2,148	3,335	933	(176)	2,952	1,800	1,603	(74)	9,168
Fiduciary Net Position Restricted – End of Year	\$ 23,928	\$ 26,076	\$ 29,411	\$ 30,344	\$ 30,168	\$ 33,120	\$ 34,920	\$ 36,523	\$ 36,449	\$ 45,617

VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 12,722	\$ 12,823	\$ 14,395	\$ 16,628	\$ 17,283	\$ 17,418	\$ 19,250	\$ 20,303	\$ 21,259	\$ 21,234
Funding:										
Member and Employer Contributions and Other Additions	615	747	765	761	776	716	732	748	780	839
Less: Benefits and Administrative Expenses and Transfers	679	741	804	867	942	998	1,095	1,138	1,210	1,294
Net Funding	(64)	6	(39)	(106)	(166)	(282)	(363)	(390)	(430)	(455)
Investment Income:										
Interest, Dividends and Other Investment Income	272	228	252	237	241	239	237	258	215	185
Net Appreciation (Depreciation) in Fair Value	(107)	1,338	2,020	524	60	1,875	1,179	1,088	190	5,594
Net Investment Income	165	1,566	2,272	761	301	2,114	1,416	1,346	405	5,779
Net Increase (Decrease)	101	1,572	2,233	655	135	1,832	1,053	956	(25)	5,324
Fiduciary Net Position Restricted – End of Year	\$ 12,823	\$ 14,395	\$ 16,628	\$ 17,283	\$ 17,418	\$ 19,250	\$ 20,303	\$ 21,259	\$ 21,234	\$ 26,558

FIGURE 5.3: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA RETIREMENT SYSTEM (cont.)

FOR THE YEARS ENDED JUNE 30

STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS) PENSION TRUST FUND

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 599	\$ 575	\$ 625	\$ 721	\$ 733	\$ 731	\$ 796	\$ 837	\$ 865	\$ 855
Funding:										
Member and Employer Contributions and Other Additions	16	31	48	34	39	38	42	38	39	40
Less: Benefits and Administrative Expenses and Transfers	47	49	51	54	55	59	59	64	66	74
Net Funding	(31)	(18)	(3)	(20)	(16)	(21)	(17)	(26)	(27)	(34)
Investment Income:										
Interest, Dividends and Other Investment Income	12	11	11	10	11	9	10	10	9	7
Net Appreciation (Depreciation) in Fair Value	(5)	57	88	22	3	77	48	44	8	222
Net Investment Income	7	68	99	32	14	86	58	54	17	229
Net Increase (Decrease)	(24)	50	96	12	(2)	65	41	28	(10)	195
Fiduciary Net Position Restricted – End of Year	\$ 575	\$ 625	\$ 721	\$ 733	\$ 731	\$ 796	\$ 837	\$ 865	\$ 855	\$ 1,050

VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS) PENSION TRUST FUND

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 911	\$ 895	\$ 992	\$ 1,150	\$ 1,191	\$ 1,211	\$ 1,346	\$ 1,424	\$ 1,496	\$ 1,500
Funding:										
Member and Employer Contributions and Other Additions	42	68	85	79	97	91	91	93	99	94
Less: Benefits and Administrative Expenses and Transfers	69	76	84	90	98	103	111	115	123	131
Net Funding	(27)	(8)	1	(11)	(1)	(12)	(20)	(22)	(24)	(37)
Investment Income:										
Interest, Dividends and Other Investment Income	18	16	18	16	16	17	17	18	14	14
Net Appreciation (Depreciation) in Fair Value	(7)	89	139	36	5	130	81	76	14	392
Net Investment Income	11	105	157	52	21	147	98	94	28	406
Net Increase (Decrease)	(16)	97	158	41	20	135	78	72	4	369
Fiduciary Net Position Restricted – End of Year	\$ 895	\$ 992	\$ 1,150	\$ 1,191	\$ 1,211	\$ 1,346	\$ 1,424	\$ 1,496	\$ 1,500	\$ 1,869

FIGURE 5.3: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA RETIREMENT SYSTEM (cont.)

FOR THE YEARS ENDED JUNE 30

JUDICIAL RETIREMENT SYSTEM (JRS) PENSION TRUST FUND

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 361	\$ 354	\$ 389	\$ 442	\$ 457	\$ 467	\$ 512	\$ 540	\$ 558	\$ 549
Funding:										
Member and Employer Contributions and Other Additions	22	30	31	35	45	31	32	28	28	25
Less: Benefits and Administrative Expenses and Transfers	34	37	39	41	42	41	42	44	47	48
Net Funding	(12)	(7)	(8)	(6)	3	(10)	(10)	(16)	(19)	(23)
Investment Income:										
Interest, Dividends and Other Investment Income	7	6	7	7	5	5	7	6	5	5
Net Appreciation (Depreciation) in Fair Value	(2)	36	54	14	2	50	31	28	5	142
Net Investment Income	5	42	61	21	7	55	38	34	10	147
Net Increase (Decrease)	(7)	35	53	15	10	45	28	18	(9)	124
Fiduciary Net Position Restricted – End of Year	\$ 354	\$ 389	\$ 442	\$ 457	\$ 467	\$ 512	\$ 540	\$ 558	\$ 549	\$ 673

SCHEDULE OF RETIREMENT CONTRIBUTIONS BY SYSTEM AND PLAN

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Virginia Retirement System				State Police Officers' Retirement System	Virginia Law Officers' Retirement System	Judicial Retirement System	Total
	State	Teacher	Political	Sub-Total				
2021	\$ 816,843	\$ 1,896,894	\$ 838,550	\$ 3,552,287	\$ 40,278	\$ 94,017	\$ 24,724	\$ 3,711,306
2020	787,339	1,746,683	779,951	3,313,973	39,097	98,626	28,255	3,479,951
2019	747,065	1,684,222	747,714	3,179,001	37,816	93,198	26,098	3,336,113
2018	750,078	1,684,478	731,625	3,166,181	42,117	91,288	31,327	3,330,913
2017	736,815	1,530,706	716,199	2,983,720	37,589	91,414	30,884	3,143,607
2016	922,801	1,442,652	775,881	3,141,334	39,414	96,966	44,738	3,322,452
2015	676,239	1,640,775	760,937	3,077,951	34,107	79,165	34,518	3,225,741
2014	541,294	1,224,875	764,921	2,531,090	48,329	85,391	30,778	2,695,588
2013	519,319	1,204,021	746,040	2,469,380	31,553	67,654	30,000	2,598,587
2012*	307,843	814,681	613,572	1,736,096	16,611	42,202	21,875	1,816,784

* The General Assembly funded contribution rates for all state employee groups and teachers significantly below those certified by the Board of Trustees for fiscal year 2011. For fiscal year 2012, the funding for all state employee groups remained at low levels for the first three quarters of the year.

FIGURE 5.4: NUMBER OF RETIREES AND BENEFICIARIES

AT JUNE 30

(EXPRESSED IN THOUSANDS)

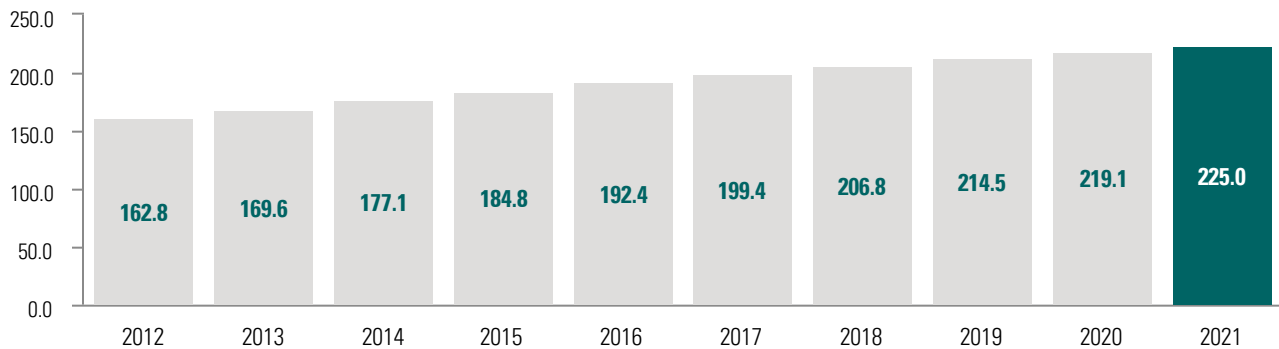
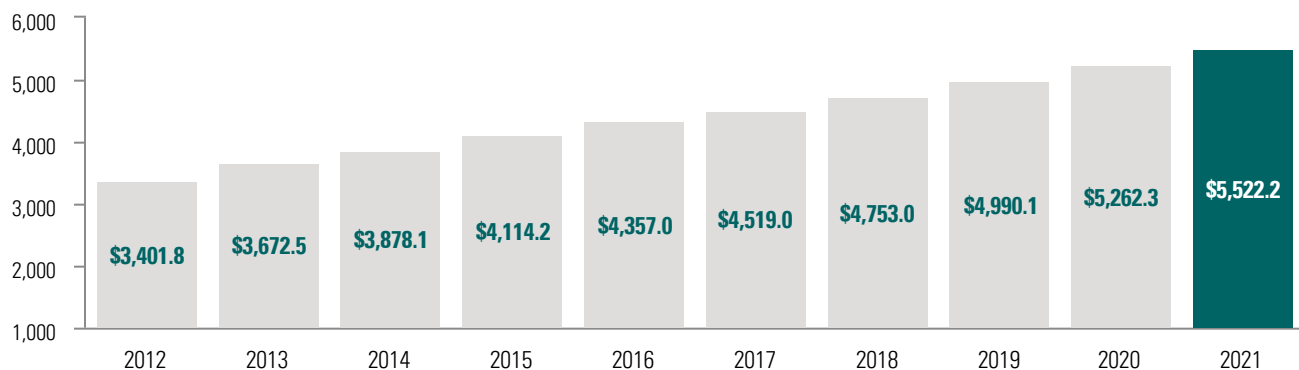


FIGURE 5.5: RETIREMENT BENEFITS PAID

FISCAL YEARS ENDED JUNE 30, 2012-2021

(EXPRESSED IN MILLIONS)



SCHEDULE OF PENSION TRUST FUND ADDITIONS BY SOURCE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Member Contributions	Employer Contributions			Investment Income (Loss)	Other	Total
		For Members	Employer Share				
VIRGINIA RETIREMENT SYSTEM (VRS)							
2021	\$ 885,029	\$ —	\$ 2,605,914	\$ 20,721,739	\$ 63,204	\$ 24,275,886	
2020	888,213	—	2,425,760	1,455,122	1,723	4,770,818	
2019	953,343	—	2,399,465	4,898,307	2,299	8,253,414	
2018	910,312	—	2,389,567	5,158,889	1,076	8,459,844	
2017	888,870	115	2,191,935	7,725,350	1,798	10,808,068	
2016	817,652	23,463	2,189,744	1,095,229	164,195	4,290,283	
2015	758,355	51,006	2,292,248	2,815,780	1,723	5,919,112	
2014	702,089	93,468	1,736,913	8,558,759	460	11,091,689	
2013**	572,543	207,695	1,689,142	5,864,628	1,547	8,335,555	
2012*	208,243	557,522	970,331	614,613	3,782	2,354,491	
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)							
2021	\$ 6,490	—	\$ 33,788	\$ 229,139	—	\$ 269,417	
2020	6,600	—	32,497	16,333	—	55,430	
2019	6,379	—	31,437	54,792	—	92,608	
2018	6,311	—	35,806	58,148	—	100,265	
2017	5,701	—	31,888	87,265	—	124,854	
2016	5,759	—	31,536	12,635	2,119	52,049	
2015	5,680	—	28,427	32,466	—	66,573	
2014	5,646	—	42,683	98,682	—	147,011	
2013	5,361	—	26,192	67,067	—	98,620	
2012*	5,167	1	11,443	6,853	—	23,464	
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)							
2021	\$ 17,602	\$ —	\$ 76,415	\$ 405,216	\$ —	\$ 499,233	
2020	18,712	—	79,914	28,579	—	127,205	
2019	17,871	—	75,327	93,872	—	187,070	
2018	17,495	—	73,793	98,293	—	189,581	
2017	17,598	—	73,816	146,039	—	237,453	
2016	17,574	—	62,900	20,897	16,492	117,863	
2015	17,081	—	62,084	52,312	—	131,477	
2014	17,908	—	67,483	156,786	—	242,177	
2013	17,256	—	50,398	105,084	27	172,765	
2012*	17,510	48	24,644	11,195	110	53,507	
JUDICIAL RETIREMENT SYSTEM (JRS)							
2021	\$ 1,868	\$ —	\$ 22,856	\$ 147,200	\$ —	\$ 171,924	
2020	3,436	—	24,819	10,491	—	38,746	
2019	4,031	—	23,490	35,719	—	63,240	
2018	4,010	—	28,620	37,689	—	70,319	
2017	2,225	2,209	28,039	56,180	—	88,653	
2016	1,154	2,349	33,443	8,137	8,466	53,549	
2015	643	2,531	31,560	20,049	—	54,783	
2014	327	2,724	27,727	60,833	—	91,611	
2013	179	2,795	27,026	41,557	—	71,557	
2012	47	2,921	18,907	4,576	—	26,451	

* Member contributions and employer contributions for members reflect the shift to member-paid retirement contributions for state employees, except judges, effective July 1, 2011.

** Member contributions and employer contributions for members reflect the shift to member-paid retirement contributions for teachers and political subdivision employees, effective July 1, 2012.

SCHEDULE OF PENSION TRUST FUND DEDUCTIONS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Retirement Benefits	Refunds	Administrative Expenses	Other	Total
VIRGINIA RETIREMENT SYSTEM (VRS)					
2021	\$ 5,277,178	\$ 109,987	\$ 51,859	\$ 1,604	\$ 5,440,628
2020	5,033,582	101,961	50,094	3,705	5,189,342
2019	4,774,664	112,169	48,586	9,282	4,944,701
2018	4,548,751	116,473	44,661	8,750	4,718,635
2017	4,324,025	114,137	44,955	10,927	4,494,044
2016	4,169,852	99,444	39,695	2,263	4,311,254
2015	3,935,656	100,993	38,898	2,323	4,077,870
2014	3,711,208	98,049	39,785	6,745	3,855,787
2013	3,516,219	77,588	31,154	4,579	3,629,540
2012	3,257,359	84,577	25,475	694	3,368,105
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)					
2021	\$ 73,226	\$ 274	\$ 531	\$ —	\$ 74,031
2020	64,991	552	360	38	65,941
2019	62,683	805	488	61	64,037
2018	58,197	867	509	63	59,636
2017	57,814	630	926	99	59,469
2016	53,515	584	591	23	54,713
2015	53,338	375	471	27	54,211
2014	50,467	685	353	78	51,583
2013	47,884	364	227	51	48,526
2012	46,113	319	243	7	46,682
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)					
2021	\$ 124,045	\$ 5,790	\$ 943	\$ —	\$ 130,778
2020	117,137	4,893	623	73	122,726
2019	109,193	4,933	831	103	115,060
2018	104,776	5,604	861	247	111,488
2017	96,224	4,938	1,540	310	103,012
2016	92,270	4,524	938	38	97,770
2015	84,990	4,797	743	44	90,574
2014	78,412	4,665	557	124	83,758
2013	71,638	3,586	344	82	75,650
2012	64,849	4,027	366	15	69,257
JUDICIAL RETIREMENT SYSTEM (JRS)					
2021	\$ 47,750	\$ 135	\$ 343	\$ —	\$ 48,228
2020	46,546	12,000	232	42	46,832
2019	43,584	—	315	43	43,942
2018	41,165	24	326	45	41,560
2017	40,895	—	594	67	41,556
2016	41,341	—	363	15	41,719
2015	40,205	—	283	17	40,505
2014	37,984	—	221	47	38,252
2013	36,800	—	141	31	36,972
2012	33,454	—	143	5	33,602

SCHEDULE OF RETIREMENT BENEFITS BY SYSTEM AND PLAN

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Virginia Retirement System				State Police Officers' Retirement System	Virginia Law Officers' Retirement System	Judicial Retirement System	Total
	State	Teacher	Political Subdivisions	Sub-Total				
2021	\$ 1,486,951	\$ 2,553,154	\$ 1,237,073	\$ 5,277,178	\$73,226	\$124,045	\$47,750	\$ 5,522,199
2020	1,427,873	2,448,204	1,157,505	5,033,582	64,991	117,137	46,546	5,262,256
2019	1,360,833	2,331,038	1,082,793	4,774,664	62,683	109,193	43,584	4,990,124
2018	1,296,803	2,241,927	1,010,021	4,548,751	58,197	104,776	41,165	4,752,889
2017	1,234,388	2,147,781	941,856	4,324,025	57,814	96,224	40,895	4,518,958
2016	1,195,198	2,081,069	893,585	4,169,852	53,515	92,270	41,341	4,356,978
2015	1,136,102	1,980,353	819,201	3,935,656	53,338	84,990	40,205	4,114,189
2014	1,081,866	1,874,636	754,706	3,711,208	50,467	78,412	37,984	3,878,071
2013	1,024,464	1,788,548	703,207	3,516,219	47,884	71,638	36,800	3,672,541
2012	961,209	1,654,377	641,773	3,257,359	46,113	64,849	33,454	3,401,775

SCHEDULE OF RETIREMENT BENEFITS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
STATE				
2021	\$ 1,404,953	\$ 64,167	\$ 17,832	\$ 1,486,952
2020	1,344,216	66,004	17,653	1,427,873
2019	1,277,123	66,909	16,801	1,360,833
2018	1,212,167	68,343	16,295	1,296,805
2017	1,146,792	72,148	15,448	1,234,388
2016	1,105,788	74,127	15,283	1,195,198
2015	1,048,497	73,490	14,115	1,136,102
2014	994,111	74,245	13,510	1,081,866
2013	937,148	74,353	12,963	1,024,464
2012	874,606	74,558	12,045	961,209
TEACHER				
2021	\$ 2,428,875	\$ 113,677	\$ 10,601	\$ 2,553,153
2020	2,325,036	112,702	10,466	2,448,204
2019	2,210,585	110,690	9,763	2,331,038
2018	2,122,961	109,420	9,546	2,241,927
2017	2,030,384	108,142	9,255	2,147,781
2016	1,965,675	106,580	8,814	2,081,069
2015	1,867,670	104,305	8,378	1,980,353
2014	1,764,792	101,720	8,124	1,874,636
2013	1,682,021	98,767	7,760	1,788,548
2012	1,551,557	95,498	7,322	1,654,377

SCHEDULE OF RETIREMENT BENEFITS BY TYPE, cont.

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
POLITICAL SUBDIVISIONS				
2021	\$ 1,077,215	\$ 148,853	\$ 11,005	\$ 1,237,073
2020	1,000,280	146,763	10,462	1,157,505
2019	930,161	142,828	9,804	1,082,793
2018	861,564	139,170	9,285	1,010,019
2017	797,794	135,025	9,037	941,856
2016	752,038	132,240	9,307	893,585
2015	685,530	125,992	7,679	819,201
2014	625,221	122,362	7,123	754,706
2013	578,105	118,023	7,079	703,207
2012	521,682	113,610	6,481	641,773
TOTAL VIRGINIA RETIREMENT SYSTEM (VRS)				
2021	\$ 4,911,043	\$ 326,697	\$ 39,438	\$ 5,277,178
2020	4,669,532	325,469	38,581	5,033,582
2019	4,417,869	320,427	36,368	4,774,664
2018	4,196,692	316,933	35,126	4,548,751
2017	3,974,970	315,315	33,740	4,324,025
2016	3,823,501	312,947	33,404	4,169,852
2015	3,601,697	303,787	30,172	3,935,656
2014	3,384,124	298,327	28,757	3,711,208
2013	3,197,274	291,143	27,802	3,516,219
2012	2,947,845	283,666	25,848	3,257,359
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)				
2021	\$ 65,135	\$ 7,309	\$ 782	\$ 73,226
2020	56,996	7,230	765	64,991
2019	55,125	6,892	666	62,683
2018	50,901	6,644	652	58,197
2017	50,708	6,523	583	57,814
2016	46,429	6,447	639	53,515
2015	46,426	6,392	520	53,338
2014	43,693	6,270	504	50,467
2013	41,254	6,128	502	47,884
2012	39,626	6,011	476	46,113

SCHEDULE OF RETIREMENT BENEFITS BY TYPE, cont.

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)				
2021	\$ 118,779	\$ 4,305	\$ 961	\$ 124,045
2020	111,821	4,412	903	117,136
2019	104,023	4,312	858	109,193
2018	99,748	4,227	801	104,776
2017	91,364	4,141	719	96,224
2016	87,538	4,013	719	92,270
2015	80,663	3,728	599	84,990
2014	74,291	3,549	572	78,412
2013	67,715	3,380	543	71,638
2012	61,128	3,246	475	64,849
JUDICIAL RETIREMENT SYSTEM (JRS)				
2021	\$ 46,368	\$ 235	\$ 1,147	\$ 47,750
2020	45,056	241	1,248	46,545
2019	42,091	235	1,258	43,584
2018	39,725	229	1,211	41,165
2017	39,406	335	1,154	40,895
2016	39,806	387	1,148	41,341
2015	38,632	401	1,172	40,205
2014	36,396	402	1,186	37,984
2013	35,289	394	1,117	36,800
2012	31,963	413	1,078	33,454

SCHEDULE OF REFUNDS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
STATE (VRS)			
2021	\$ 19,137	\$ 9,928	\$ 29,065
2020	19,539	7,888	27,427
2019	20,068	6,829	26,897
2018	22,114	8,122	30,236
2017	23,294	7,543	30,837
2016	18,623	6,617	25,240
2015	20,768	6,956	27,724
2014	19,662	5,374	25,036
2013	14,980	5,114	20,094
2012	17,664	5,199	22,863

SCHEDULE OF REFUNDS BY TYPE, cont.

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
TEACHER (VRS)			
2021	\$ 31,036	\$ 7,426	\$ 38,462
2020	30,131	6,080	36,211
2019	31,115	5,600	36,715
2018	34,057	6,521	40,578
2017	34,320	5,201	39,521
2016	30,070	4,997	35,067
2015	30,314	5,744	36,058
2014	30,947	5,156	36,103
2013	23,406	4,746	28,152
2012	26,823	3,645	30,468
POLITICAL SUBDIVISIONS (VRS)			
2021	\$ 33,638	\$ 8,822	\$ 42,460
2020	32,399	5,924	38,323
2019	35,015	5,234	40,249
2018	35,900	5,425	41,325
2017	37,717	4,351	42,068
2016	32,832	4,548	37,380
2015	31,571	5,327	36,898
2014	32,483	4,393	36,876
2013	24,908	4,434	29,342
2012	27,205	4,041	31,246
TOTAL VIRGINIA RETIREMENT SYSTEM (VRS)			
2021	\$ 83,811	\$ 26,176	\$ 109,987
2020	82,069	19,892	101,961
2019	86,198	17,663	103,861
2018	92,071	20,068	112,139
2017	97,042	17,095	114,137
2016	83,282	16,162	99,444
2015	82,966	18,027	100,993
2014	83,126	14,923	98,049
2013	63,294	14,294	77,588
2012	71,692	12,885	84,577

SCHEDULE OF REFUNDS BY TYPE, cont.

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)			
2021	\$ 274	\$ —	\$ 274
2020	316	236	552
2019	774	31	805
2018	573	294	867
2017	601	29	630
2016	405	179	584
2015	325	50	375
2014	685	—	685
2013	243	121	364
2012	303	16	319
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)			
2021	\$ 5,364	\$ 426	\$ 5,790
2020	4,497	396	4,893
2019	4,592	341	4,933
2018	4,899	705	5,604
2017	4,694	244	4,938
2016	3,688	836	4,524
2015	4,465	332	4,797
2014	4,340	325	4,665
2013	3,157	429	3,586
2012	3,673	354	4,027
JUDICIAL RETIREMENT SYSTEM (JRS)			
2021	\$ 38	\$ 97	\$ 135
2020	—	12	12
2019	—	—	—
2018	—	—	—
2017	—	—	—
2016	—	—	—
2015	—	—	—
2014	—	—	—
2013	—	—	—
2012	—	—	5

SCHEDULE OF RETIREES AND BENEFICIARIES BY TYPE OF RETIREMENT

AS OF JUNE 30, 2021

Minimum Guaranteed Benefit Amount	Number of Retirees	Type of Retirement		
		Service Retirement	Disability Retirement	Pre-Retirement Death
\$ 1-200	13,019	12,095	372	552
201-400	22,100	20,029	1,490	581
401-600	20,090	17,537	2,125	428
601-800	17,203	14,790	2,106	307
801-1,000	15,899	13,709	1,958	232
1,001-1,200	14,840	12,977	1,676	187
1,201-1,400	12,684	11,152	1,367	165
1,401-1,600	12,026	10,807	1,101	118
1,601-1,800	11,545	10,536	932	77
1,801-2,000	11,902	11,026	772	104
2,001-2,500	26,622	25,041	1,431	150
2,501-3,000	17,900	17,066	752	82
3,001-3,500	11,383	10,967	358	58
3,501-4,000	6,720	6,544	144	32
4,001-4,500	4,356	4,257	81	18
Over 4,500	6,684	6,583	64	37
Totals	224,973	205,116	16,729	3,128

SCHEDULE OF RETIREES AND BENEFICIARIES BY TYPE OF RETIREMENT AND PLAN

AS OF JUNE 30, 2021

Plan	Number of Retirees	Type of Retirement		
		Service Retirement	Disability Retirement	Pre-Retirement Death
VRS – State	60,478	55,819	3,385	1,274
VRS – Teacher	97,378	91,684	4,937	757
VRS – Political Subdivisions	59,678	50,772	7,987	919
SPORS	1,495	1,255	196	44
ValORS	5,400	5,071	218	111
JRS	544	515	6	23
All Plans	224,973	205,116	16,729	3,128

SCHEDULE OF RETIREES AND BENEFICIARIES BY PAYOUT OPTION SELECTED

AS OF JUNE 30, 2021

Minimum Guaranteed Benefit Amount	Payout Option Selected							
	Basic Benefit	Survivor Option	PLOP with Basic Benefit	PLOP with Survivor Option	Advance Pension Option	Leveling Option	Increased Basic Benefit	Social Security Leveling Benefit
\$ 1-200	9,822	1,995	287	45	200	415	7	248
201-400	17,145	3,279	620	108	283	404	4	257
401-600	15,360	3,026	682	151	231	325	2	313
601-800	13,002	2,539	684	129	253	287	7	302
801-1,000	11,589	2,356	783	177	248	350	3	393
1,001-1,200	10,316	2,275	1,071	242	299	239	—	398
1,201-1,400	8,571	1,942	1,198	246	271	169	—	287
1,401-1,600	7,825	1,822	1,536	310	212	118	—	203
1,601-1,800	7,333	1,630	1,788	351	234	85	—	124
1,801-2,000	7,408	1,530	2,165	454	193	63	—	89
2,001-2,500	15,027	3,277	6,728	1,016	405	77	—	92
2,501-3,000	10,027	2,073	4,780	664	280	33	—	43
3,001-3,500	6,086	1,650	2,965	502	159	9	—	12
3,501-4,000	3,725	948	1,623	300	118	4	—	2
4,001-4,500	2,333	675	1,073	210	64	1	—	—
Over 4,500	3,475	1,474	1,245	392	92	2	—	4
Totals	149,044	32,491	29,228	5,297	3,542	2,581	23	2,767

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2021	State	Average Monthly Benefit	\$ 640.44	\$ 757.71	\$ 1,047.45	\$ 1,437.89	\$ 2,004.31	\$ 2,702.44
		Number of Active Retirees	11,766	6,523	6,608	6,805	9,827	18,949
		Average AFC	\$ 29,625.49	\$ 43,403.13	\$ 44,415.06	\$ 47,083.35	\$ 50,560.69	\$ 57,991.63
	Teacher	Average Monthly Benefit	\$ 531.86	\$ 695.66	\$ 1,050.24	\$ 1,491.62	\$ 2,253.20	\$ 2,721.77
		Number of Active Retirees	12,926	10,891	12,520	12,883	19,899	28,259
		Average Benefit	\$ 32,410.22	\$ 44,069.85	\$ 48,891.6	\$ 53,522.32	\$ 58,173.02	\$ 61,757.62
	Political Subdivisions	Average Monthly Benefit	\$ 500.30	\$ 633.83	\$ 939.52	\$ 1,404.33	\$ 2,109.15	\$ 2,679.54
		Number of Active Retirees	14,183	8,663	8,313	8,191	9,973	10,355
		Average Benefit	\$ 25,217.7	\$ 34,998.45	\$ 39,501.88	\$ 45,931.98	\$ 54,338.15	\$ 60,561.15
	Total VRS	Average Monthly Benefit	\$ 553.21	\$ 690.64	\$ 1,016.02	\$ 1,452.86	\$ 2,155.41	\$ 2,707.81
		Number of Active Retirees	38,875	26,077	27,441	27,879	39,699	57,563
		Weighted Average AFC	\$ 28,943	\$ 40,889	\$ 44,969	\$ 49,721	\$ 55,325	\$ 60,303
	SPORS	Average Monthly Benefit	\$ 1,255.88	\$ 1,177.20	\$ 1,522.26	\$ 2,118.74	\$ 2,562.07	\$ 3,366.42
		Number of Active Retirees	213	20	36	114	379	733
		Average Benefit	\$ 15,189.34	\$ 43,728.94	\$ 48,998.72	\$ 58,868.35	\$ 62,442.46	\$ 71,615.72

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2021	VaLORS	Average Monthly Benefit	\$ 555.34	\$ 732.63	\$ 1,056.36	\$ 1,368.47	\$ 1,754.06	\$ 2,397.16
		Number of Active Retirees	719	568	952	1,364	1,179	618
		Average Benefit	\$ 27,432.76	\$ 36,395.59	\$ 39,504.22	\$ 42,200.38	\$ 46,243.55	\$ 54,011.32
	JRS	Average Monthly Benefit	\$ 3,013.14	\$ 1,728.93	\$ 2,924.83	\$ 3,772.41	\$ 5,556.79	\$ 7,139.04
		Number of Active Retirees	118	4	7	17	18	380
		Average Benefit	\$ 25,943.37	\$ 142,387.23	\$ 118,190.94	\$ 136,552.07	\$ 145,113.41	\$ 138,619.16
	All Plans	Average Monthly Benefit	\$ 564.27	\$ 692.05	\$ 1,018.49	\$ 1,452.87	\$ 2,149.16	\$ 2,741.11
		Number of Active Retirees	39,925	26,669	28,436	29,374	41,275	59,294
		Weighted Average AFC	\$ 28,834	\$ 40,811	\$ 44,809	\$ 49,457	\$ 55,170	\$ 60,879
FY 2020	State	Average Monthly Benefit	\$ 654.02	\$ 984.34	\$ 1,311.22	\$ 1,872.61	\$ 2,460.80	\$ 3,323.14
		Number of Active Retirees	382	397	401	325	415	1,002
		Average AFC	\$ 50,021.38	\$ 55,053.57	\$ 52,571.08	\$ 60,413.38	\$ 62,656.41	\$ 68,789.87
	Teacher	Average Monthly Benefit	\$ 486.13	\$ 865.93	\$ 1,316.79	\$ 1,846.00	\$ 2,713.81	\$ 3,340.62
		Number of Active Retirees	451	625	721	617	839	992
		Average Benefit	\$ 41,230.05	\$ 50,874.1	\$ 56,958.75	\$ 63,197.88	\$ 70,243.56	\$ 74,914.36
	Political Subdivisions	Average Monthly Benefit	\$ 474.58	\$ 754.72	\$ 1,155.81	\$ 1,717.05	\$ 2,542.99	\$ 3,322.17
		Number of Active Retirees	576	546	602	506	538	577
		Average Benefit	\$ 37,276.05	\$ 42,185.67	\$ 49,206.57	\$ 55,027.95	\$ 64,091.24	\$ 73,794.49
	Total VRS	Average Monthly Benefit	\$ 527.00	\$ 857.00	\$ 1,259.00	\$ 1,807.00	\$ 2,603.93	\$ 3,329.66
		Number of Active Retirees	1,409	1,568	1,724	1,448	1,792	2,571
		Weighted Average AFC	\$ 41,997	\$ 48,907	\$ 53,231	\$ 59,718	\$ 66,639	\$ 72,276
	SPORS	Average Monthly Benefit	\$ —	\$ 1,082.49	\$ 1,598.18	\$ 2,968.10	\$ 3,262.20	\$ 4,753.84
		Number of Active Retirees	—	3	6	3	15	21
		Average Benefit	\$ —	\$ 61,959.94	\$ 60,268.35	\$ 74,259.53	\$ 78,750.91	\$ 97,682.52
	VaLORS	Average Monthly Benefit	\$ 494.08	\$ 789.70	\$ 1,144.94	\$ 1,492.00	\$ 1,884.22	\$ 2,710.04
		Number of Active Retirees	29	39	61	82	45	22
		Average Benefit	\$ 35,862.33	\$ 39,996.68	\$ 42,574.08	\$ 46,019.45	\$ 49,167.93	\$ 65,649.72
	JRS	Average Monthly Benefit	\$ 1,471.81	\$ 1,455.31	\$ —	\$ —	\$ 5,506.51	\$ 8,830.85
		Number of Active Retirees	2	1	—	—	1	26
		Average Benefit	\$ 154,667	\$ 152,410.31	\$ —	\$ —	\$ 154,819.57	\$ 169,367.62
	All Plans	Average Monthly Benefit	\$ 528.00	\$ 856.00	\$ 1,257.00	\$ 1,792.00	\$ 2,593.35	\$ 3,390.01
		Number of Active Retirees	1,440	1,611	1,791	1,533	1,853	2,640
		Weighted Average AFC	\$ 42,030	\$ 48,780	\$ 52,892	\$ 59,014	\$ 66,361	\$ 73,379

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2019	State	Average Monthly Benefit	\$ 556.77	\$ 1,130.53	\$ 2,220.79	\$ 3,096.43	\$ 4,017.05	\$ 6,231.70
		Number of Active Retirees	425	843	738	680	242	5
		Average AFC	\$ 48,438.21	\$ 53,122.77	\$ 60,109.13	\$ 67,482.06	\$ 73,075.21	\$ 92,173.89
	Teacher	Average Monthly Benefit	\$ 476.86	\$ 1,065.89	\$ 2,315.80	\$ 3,207.99	\$ 4,293.18	\$ 4,423.04
		Number of Active Retirees	490	1,485	1,416	871	132	4
		Average Benefit	\$ 41,487.37	\$ 52,765.27	\$ 66,479.2	\$ 73,634.63	\$ 83,052.23	\$ 79,395.87
	Political Subdivisions	Average Monthly Benefit	\$ 442.07	\$ 906.12	\$ 2,142.88	\$ 2,887.59	\$ 3,729.12	\$ 5,607.75
		Number of Active Retirees	554	1,027	1,023	543	72	2
		Average Benefit	\$ 34,890.16	\$ 43,392.24	\$ 59,749.44	\$ 66,564.07	\$ 75,715.07	\$ 81,452.4
	Total VRS	Average Monthly Benefit	\$ 486.86	\$ 1,033.22	\$ 2,238.05	\$ 3,088.68	\$ 4,052.29	\$ 5,460.56
		Number of Active Retirees	1,469	3,355	3,177	2,094	446	11
		Weighted Average AFC	\$ 41,010.35	\$ 49,985.92	\$ 62,832.47	\$ 69,803.18	\$ 76,454.22	\$ 85,577.98
	SPORS	Average Monthly Benefit	\$ —	\$ 1,677.61	\$ 3,040.45	\$ 4,156.60	\$ 5,375.07	\$ —
		Number of Active Retirees	—	2	24	26	6	—
		Average Benefit	\$ —	\$ 56,913.25	\$ 75,116.44	\$ 89,192.84	\$ 102,437.81	\$ —
	VaLORS	Average Monthly Benefit	\$ 480.85	\$ 983.78	\$ 1,644.12	\$ 2,774.46	\$ 4,785.22	\$ —
		Number of Active Retirees	23	129	121	25	3	—
		Average Benefit	\$ 40,863.42	\$ 40,995.09	\$ 47,746.88	\$ 60,974.57	\$ 83,333.98	\$ —
	JRS	Average Monthly Benefit	\$ 422.28	\$ —	\$ 6,166.24	\$ 7,382.26	\$ 7,546.48	\$ 8,028.31
		Number of Active Retirees	2	—	1	3	5	8
		Average Benefit	\$ 91,640	\$ —	\$ 168,489.58	\$ 162,497.43	\$ 155,159.32	\$ 157,977.8
	All Plans	Average Monthly Benefit	\$ 486.68	\$ 1,031.76	\$ 2,223.40	\$ 3,103.94	\$ 4,112.31	\$ 6,541.72
		Number of Active Retirees	1,494	3,486	3,323	2,148	460	19
		Weighted Average AFC	\$ 41,075.86	\$ 49,657.19	\$ 62,403.68	\$ 70,064.58	\$ 77,693.49	\$ 116,062.11
FY 2018	State	Average Monthly Benefit	\$ 430.51	\$ 743.61	\$ 1,115.65	\$ 1,492.54	\$ 2,155.74	\$ 3,201.83
		Number of Active Retirees	329	382	437	329	413	1,226
		Average AFC	\$ 46,191.00	\$ 51,341.00	\$ 51,470.00	\$ 56,655.00	\$ 59,536.00	\$ 70,115.00
	Teacher	Average Monthly Benefit	\$ 397.48	\$ 702.13	\$ 1,164.24	\$ 1,605.86	\$ 2,411.89	\$ 3,225.68
		Number of Active Retirees	478	647	802	653	782	1,424
		Average Benefit	\$ 39,946.00	\$ 47,785.00	\$ 55,420.00	\$ 58,933.00	\$ 65,809.00	\$ 73,067.00
	Political Subdivisions	Average Monthly Benefit	\$ 348.9	\$ 619.09	\$ 889.04	\$ 1,452.77	\$ 2,234.06	\$ 2,986.58
		Number of Active Retirees	471	644	583	523	595	877
		Average Benefit	\$ 35,320.00	\$ 40,381.00	\$ 42,941.00	\$ 53,511.00	\$ 61,134.00	\$ 68,504.00
	Total VRS	Average Monthly Benefit	\$ 388.08	\$ 679.64	\$ 1,064.53	\$ 1,527.89	\$ 2,293.68	\$ 3,157.94
		Number of Active Retirees	1,278	1,673	1,822	1,505	1,790	3,527
		Weighted Average AFC	\$ 39,849.00	\$ 45,747.00	\$ 50,480.00	\$ 56,551.00	\$ 62,808.00	\$ 70,906.00
	SPORS	Average Monthly Benefit	\$ —	\$ 467.23	\$ —	\$ 1,344.71	\$ 2,929.29	\$ 4,355.99
		Number of Active Retirees	—	2	—	4	16	22
		Average Benefit	\$ —	\$ 54,484.00	\$ —	\$ 60,252.00	\$ 75,772.00	\$ 92,743.00
	VaLORS	Average Monthly Benefit	\$ 457.08	\$ 706.48	\$ 1,001.35	\$ 1,231.97	\$ 1,846.1	\$ 2,624.09
		Number of Active Retirees	22	51	63	131	81	41
		Average Benefit	\$ 37,163.00	\$ 37,664.00	\$ 40,782.00	\$ 44,121.00	\$ 51,789.00	\$ 59,481.00
	JRS	Average Monthly Benefit	\$ —	\$ 2,287.69	\$ —	\$ —	\$ 2,020.72	\$ 7,766.95
		Number of Active Retirees	—	1	—	—	3	14
		Average Benefit	\$ —	\$ 148,351.00	\$ —	\$ —	\$ 149,709.00	\$ 158,830.00

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2018	All Plans	Average Monthly Benefit	\$ 389.25	\$ 681.11	\$ 1,062.42	\$ 1,503.79	\$ 2,279.44	\$ 3,177.07
		Number of Active Retirees	1,300	1,727	1,885	1,640	1,890	3,604
		Weighted Average AFC	\$ 39,803.00	\$ 45,578.00	\$ 50,155.00	\$ 55,567.00	\$ 62,583.00	\$ 71,251.00
FY 2017	State	Average Monthly Benefit	\$ 413.21	\$ 743.04	\$ 1,034.43	\$ 1,550.8	\$ 2,059.13	\$ 3,066.54
		Number of Active Retirees	320	374	414	338	374	1,200
		Average AFC	\$ 45,412.00	\$ 49,487.00	\$ 48,208.00	\$ 58,190.00	\$ 56,901.00	\$ 65,405.00
	Teacher	Average Monthly Benefit	\$ 386.27	\$ 693.17	\$ 1,093.01	\$ 1,571.09	\$ 2,414.56	\$ 3,132.83
		Number of Active Retirees	444	644	772	656	756	1,369
		Average Benefit	\$ 39,773.00	\$ 45,512.00	\$ 52,398.00	\$ 58,570.00	\$ 65,087.00	\$ 70,892.00
	Political Subdivisions	Average Monthly Benefit	\$ 350.60	\$ 553.85	\$ 886.92	\$ 1,351.87	\$ 2,211.27	\$ 2,813.82
		Number of Active Retirees	493	590	562	482	591	813
		Average Benefit	\$ 33,216.00	\$ 35,209.00	\$ 41,290	\$ 48,136.00	\$ 59,764.00	\$ 65,487.00
	Total VRS	Average Monthly Benefit	\$ 379.14	\$ 653.66	\$ 1,012.88	\$ 1,494.85	\$ 2,267.51	\$ 3,032.62
		Number of Active Retirees	1,257	1,608	1,748	1,476	1,721	3,382
		Weighted Average AFC	\$ 38,637.00	\$ 42,656.00	\$ 47,834.00	\$ 55,076.00	\$ 61,480.00	\$ 67,646.00
	SPORS	Average Monthly Benefit	\$ 599.64	\$ 639.34	\$ —	\$ 1,826.61	\$ 2,960.46	\$ 3,905.67
		Number of Active Retirees	1	4	—	3	23	47
		Average Benefit	\$ 55,565	\$ 46,014	\$ —	\$ 58,898	\$ 74,016.00	\$ 85,256.00
	VaLORS	Average Monthly Benefit	\$ 444.50	\$ 653.93	\$ 1,032.94	\$ 1,318.83	\$ 1,788.27	\$ 2,564.74
		Number of Active Retirees	17	44	45	107	82	38
		Average Benefit	\$ 35,913.00	\$ 36,428.00	\$ 41,026.00	\$ 43,808.00	\$ 47,182.00	\$ 58,498.00
	JRS	Average Monthly Benefit	\$ —	\$ 511.79	\$ —	\$ 2,608.35	\$ 4,863.62	\$ 8,352.50
		Number of Active Retirees	—	2	—	2	2	14
		Average Benefit	\$ —	\$ 142,367.00	\$ —	\$ 147,295.00	\$ 156,110.00	\$ 153,865.00
	All Plans	Average Monthly Benefit	\$ 380.18	\$ 653.46	\$ 1,013.37	\$ 1,485.01	\$ 2,257.56	\$ 3,060.69
		Number of Active Retirees	1,275	1,658	1,793	1,588	1,828	3,481
		Weighted Average AFC	\$ 38,614.00	\$ 42,619.00	\$ 47,663.00	\$ 54,440.00	\$ 61,100.00	\$ 68,130.00
FY 2016*	State	Average Monthly Benefit	\$ 401.55	\$ 768.31	\$ 1,038.35	\$ 1,539.86	\$ 1,907.73	\$ 3,004.64
		Number of Active Retirees	315	318	357	307	411	1,307
		Average AFC	\$ 43,993.00	\$ 49,585.00	\$ 49,392.00	\$ 55,174.00	\$ 54,986.00	\$ 64,126.00
	Teacher	Average Monthly Benefit	\$ 432.49	\$ 746.26	\$ 1,115.50	\$ 1,606.80	\$ 2,436.89	\$ 3,078.52
		Number of Active Retirees	484	681	699	671	797	1,468
		Average AFC	\$ 42,306	\$ 49,610	\$ 54,438	\$ 58,555	\$ 65,786.00	\$ 70,336.00
	Political Subdivisions	Average Monthly Benefit	\$ 320.69	\$ 562.57	\$ 895.21	\$ 1,252.95	\$ 2,082.39	\$ 2,946.00
		Number of Active Retirees	545	569	556	473	647	895
		Average AFC	\$ 31,052.00	\$ 38,544.00	\$ 41,480.00	\$ 45,989.00	\$ 58,617.00	\$ 68,431.00
	Total VRS	Average Monthly Benefit	\$ 379.90	\$ 684.08	\$ 1,022.44	\$ 1,477.29	\$ 2,196.01	\$ 3,019.89
		Number of Active Retirees	1,344	1,568	1,612	1,451	1,855	3,670
		Weighted Average AFC	\$ 38,138.00	\$ 45,589.00	\$ 48,851.00	\$ 53,743.00	\$ 60,893.00	\$ 67,660.00
	SPORS	Average Monthly Benefit	\$ —	\$ 139.46	\$ 864.59	\$ 1,538.59	\$ 2,960.02	\$ 4,092.02
		Number of Active Retirees	—	2	2	5	11	18
		Average AFC	\$ —	\$ 24,869.00	\$ 53,438.00	\$ 62,731.00	\$ 75,082.00	\$ 92,720.00
	VaLORS	Average Monthly Benefit	\$ 372.46	\$ 619.25	\$ 946.46	\$ 1,203.56	\$ 1,596.89	\$ 2,458.85

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2016*	VaLORS	Number of Active Retirees	29	26	48	90	79	51
		Average AFC	\$ 39,019	\$ 37,606	\$ 39,308	\$ 43,542.00	\$ 45,962.00	\$ 55,791.00
	JRS	Average Monthly Benefit	\$ —	\$ —	\$ —	\$ 4,396.22	\$ 5,647.58	\$ 8,048.62
		Number of Active Retirees	—	—	—	1	1	17
	All Plans	Average AFC	\$ —	\$ —	\$ —	\$ 146,295.00	\$ 146,294.00	\$ 154,562.00
		Average Monthly Benefit	\$ 379.74	\$ 682.34	\$ 1,020.04	\$ 1,463.44	\$ 2,177.77	\$ 3,040.16
		Number of Active Retirees	1,373	1,596	1,662	1,547	1,946	3,756
		Weighted Average AFC	\$ 38,156.00	\$ 45,433.00	\$ 48,581.00	\$ 53,239.00	\$ 60,411.00	\$ 68,012.00
FY 2015	State	Average Monthly Benefit	\$ 392.12	\$ 694.37	1,030.11	\$ 1,446.53	\$ 1,930.58	\$ 3,016.49
		Number of Active Retirees	329	327	369	301	388	1,170
	Teacher	Average Monthly Benefit	\$ 381.68	\$ 714.22	\$ 1,066.14	\$ 1,541.72	\$ 2,476.42	\$ 3,096.71
		Number of Active Retirees	559	669	696	704	732	1453
	Political Subdivisions	Average Monthly Benefit	\$ 330.59	\$ 513.35	\$ 843.1	\$ 1,254.45	\$ 2,059.4	\$ 2,708.39
		Number of Active Retirees	592	620	478	458	572	846
	Total VRS	Average Monthly Benefit	\$ 363.56	\$ 633.14	\$ 988.43	\$ 1,432.21	\$ 2,210.28	\$ 2,974.96
		Number of Active Retirees	1,480	1,616	1,543	1,463	1,692	3,469
	SPORS	Average Monthly Benefit	\$ 1,078.6	\$ 969.65	\$ —	\$ 2,506.63	\$ 2,539.27	\$ 3,697.36
		Number of Active Retirees	1	1	—	2	16	34
	VaLORS	Average Monthly Benefit	\$ 455.8	\$ 585.05	\$ 946.2	\$ 1,161.28	\$ 1,715.68	\$ 2,141.37
		Number of Active Retirees	23	50	52	95	93	56
	JRS	Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 5,408.75	\$ 7,674.09
		Number of Active Retirees	—	—	—	—	1	31
	All Plans	Average Monthly Benefit	\$ 365.45	\$ 631.90	\$ 987.05	\$ 1,417.08	\$ 2,189.44	\$ 3,009.36
		Number of Active Retirees	1,504	1,667	1,595	1,560	1,802	3,590
	State	Average Monthly Benefit	\$ 374.40	\$ 674.96	\$ 1,035.41	\$ 1,308.58	\$ 1,913.24	\$ 2,766.37
		Number of Active Retirees	341	363	299	315	333	1,185
	Teacher	Average Monthly Benefit	\$ 408.27	\$ 701.52	\$ 1,083.91	\$ 1,559.04	\$ 2,383.18	\$ 3,055.18
		Number of Active Retirees	604	651	611	690	804	1,463
	Political Subdivisions	Average Monthly Benefit	\$ 308.87	\$ 542.75	\$ 855.38	\$ 1,248.49	\$ 2,007.63	\$ 2,668.41
		Number of Active Retirees	569	563	456	448	524	676
	Total VRS	Average Monthly Benefit	\$ 363.28	\$ 638.73	\$ 997.01	\$ 1,408.99	\$ 2,170.49	\$ 2,873.56
		Number of Active Retirees	1,514	1,577	1,366	1,453	1,661	3,324
	SPORS	Average Monthly Benefit	\$ —	\$ —	\$ 615.19	\$ 1,631.99	\$ 2,809.19	\$ 3,597.68
		Number of Active Retirees	—	—	1	2	10	28
	VaLORS	Average Monthly Benefit	\$ 383.32	\$ 695.40	\$ 899.70	\$ 1,133.65	\$ 1,700.98	\$ 2,537.26
		Number of Active Retirees	25	29	45	75	72	36
	JRS	Average Monthly Benefit	\$ —	\$ —	\$ —	\$ —	\$ 5,051.59	\$ 7,400.90
		Number of Active Retirees	—	—	—	—	3	22
	All Plans	Average Monthly Benefit	\$ 363.61	\$ 639.75	\$ 993.63	\$ 1,395.78	\$ 2,159.73	\$ 2,905.16
		Number of Active Retirees	1,539	1,606	1,412	1,530	1,746	3,410
FY 2013**	State	Average Monthly Benefit	\$ 373.47	\$ 636.41	\$ 1,035.61	\$ 1,362.08	\$ 1,881.63	\$ 2,813.81
		Number of Active Retirees	291	299	261	283	340	1,086
	Teacher	Average Monthly Benefit	\$ 429.20	\$ 689.55	\$ 1,128.94	\$ 1,537.48	\$ 2,304.17	\$ 2,915.42
		Number of Active Retirees	531	574	536	636	747	1,672

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2012, TO JUNE 30, 2021

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2013**	Political Subdivisions	Average Monthly Benefit	\$ 295.20	\$ 525.24	\$ 803.27	\$ 1,220.49	\$ 1,920.03	\$ 2,666.07
		Number of Active Retirees	562	512	396	394	496	753
	Total VRS	Average Monthly Benefit	\$ 363.12	\$ 617.34	\$ 1,000.42	\$ 1,404.56	\$ 2,093.05	\$ 2,830.51
		Number of Active Retirees	1,384	1,385	1,193	1,313	1,583	3,511
	SPORS	Average Monthly Benefit	\$ —	\$ —	\$ —	\$ 2,263.68	\$ 2,752.85	\$ 3,282.00
		Number of Active Retirees	—	—	—	3	10	17
	VaLORS	Average Monthly Benefit	\$ 332.59	\$ 632.67	\$ 883.09	\$ 1,223.64	\$ 1,709.19	\$ 2,246.63
		Number of Active Retirees	29	30	39	67	70	49
	JRS	Average Monthly Benefit	\$ —	\$ —	\$ 3,645.63	\$ 4,738.37	\$ —	\$ 7,490.90
		Number of Active Retirees	—	—	3	1	—	28
	All Plans	Average Monthly Benefit	\$ 362.24	\$ 617.66	\$ 1,003.13	\$ 1,400.06	\$ 2,080.06	\$ 2,860.90
		Number of Active Retirees	1,413	1,415	1,235	1,384	1,663	3,605
FY 2012	All Plans	Average Monthly Benefit	\$ 349.17	\$ 628.04	\$ 950.15	\$ 1,360.69	\$ 2,149.70	\$ 2,843.02
		Number of Active Retirees	1,331	1,309	1,176	1,273	1,453	3,367

* Average Final Compensation (AFC) information was not available prior to fiscal year 2016.

** Fiscal year 2013 is the first year for which information is available to support this detailed presentation by plan.

FIGURE 5.6: DISTRIBUTION OF RETIREES BY PAYOUT OPTION SELECTED

ALL RETIREES AT JUNE 30, 2021

	Basic Benefit	Survivor Option	PLOP with Basic Benefit	PLOP with Survivor Option	Advance Pension Option	Total
VRS – State	59.57%	18.49%	12.79%	3.16%	5.99%	100.00%
VRS – Teacher	70.64%	10.01%	13.88%	1.42%	4.05%	100.00%
VRS – Political Subdivisions	67.38%	16.62%	11.37%	2.69%	1.94%	100.00%
SPORS	40.67%	32.84%	16.66%	9.23%	0.60%	100.00%
VaLORS	60.54%	16.65%	16.24%	3.33%	3.24%	100.00%
JRS	25.18%	45.59%	12.87%	14.34%	2.02%	100.00%
All Plans	69.00%	14.00%	12.00%	2.00%	3.00%	100.00%

FISCAL YEAR 2021 RETIREES

	Basic Benefit	Survivor Option	PLOP with Basic Benefit	PLOP with Survivor Option	Advance Pension Option	Total
VRS – State	63.36%	13.34%	18.03%	3.79%	1.48%	100.00%
VRS – Teacher	69.42%	9.50%	17.65%	2.14%	1.29%	100.00%
VRS – Political Subdivisions	66.88%	12.54%	16.39%	3.27%	0.92%	100.00%
SPORS	30.53%	21.05%	35.79%	11.58%	1.05%	100.00%
VaLORS	62.16%	14.77%	20.92%	1.23%	0.92%	100.00%
JRS	34.62%	26.92%	19.23%	15.38%	3.85%	100.00%
All Plans	69.00%	11.00%	17.00%	2.00%	1.00%	100.00%

Benefit Payout Options

Basic Benefit. The Basic Benefit is based on the unreduced (normal) retirement benefit calculation. It does not provide for a continuation of a benefit to a survivor. Upon the member's death, any remaining member contributions and accrued interest are paid in a lump sum to the member's beneficiary.

Survivor Option. Members may choose a whole percentage of their benefit, between 10% and 100%, to continue as a lifetime benefit to a survivor upon their death. The member's benefit is actuarially reduced accordingly.

Basic Benefit With Partial Lump-Sum Option Payment (PLOP) and Survivor Option With PLOP. This option is available with the Basic Benefit or Survivor Option. Members who are in active service for one or more years beyond their eligibility for an unreduced retirement benefit are eligible to elect a partial lump-sum payment of their member contributions and accrued interest equal to one, two or three times their annual retirement benefit, depending on how long they work beyond their unreduced retirement eligibility. The monthly benefit is actuarially reduced accordingly.

Advance Pension Option. With this option, members elect to receive a temporary higher benefit that begins at retirement and continues until an age chosen by the member, between age 62 up to the normal retirement age under Social Security. At that point, the monthly benefit is permanently reduced on an actuarially equivalent basis.

FIGURE 5.7: DISTRIBUTION OF RETIREES BY YEARS OF SERVICE

ALL RETIREES AT JUNE 30, 2021

	1-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	Over 50 Years	Total
VRS – State	19.47%	21.72%	27.51%	26.44%	4.75%	0.11%	100.00%
VRS – Teacher	13.28%	24.06%	33.67%	27.21%	1.76%	0.02%	100.00%
VRS – Political Subdivisions	23.78%	28.46%	30.45%	16.03%	1.26%	0.02%	100.00%
SPORS	14.24%	3.75%	32.98%	42.94%	5.89%	0.20%	100.00%
VaLORS	13.34%	28.15%	47.07%	10.83%	0.59%	0.02%	100.00%
JRS	21.70%	2.02%	6.43%	10.29%	14.71%	44.85%	100.00%
All Plans	17.75%	24.51%	31.41%	23.71%	2.46%	0.16%	100.00%

FISCAL YEAR 2021 RETIREES

	1-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	Over 50 Years	Total
VRS – State	14.69%	27.38%	24.17%	23.72%	9.52%	0.52%	100.00%
VRS – Teacher	11.55%	31.74%	32.39%	20.83%	3.47%	0.02%	100.00%
VRS – Political Subdivisions	15.94%	32.33%	32.75%	16.31%	2.67%	—%	100.00%
SPORS	2.11%	4.21%	40.00%	42.11%	10.53%	1.05%	100.01%
VaLORS	7.08%	34.46%	48.31%	9.23%	0.92%	—%	100.00%
JRS	—%	—%	7.69%	15.38%	23.08%	53.85%	100.00%
All Plans	13.47%	30.66%	30.96%	19.95%	4.70%	0.26%	100.00%

FIGURE 5.8: DISTRIBUTION OF RETIREES BY AGE AT RETIREMENT

ALL RETIREES AT JUNE 30, 2021

	Under 55	55-59	60-65	Over Age 65	Total
VRS – State	16.08%	21.01%	34.24%	28.67%	100.00%
VRS – Teacher	13.87%	32.71%	34.41%	19.01%	100.00%
VRS – Political Subdivisions	23.94%	19.68%	30.44%	25.94%	100.00%
SPORS	53.84%	29.10%	12.44%	4.62%	100.00%
VaLORS	43.76%	24.69%	23.48%	8.07%	100.00%
JRS	5.52%	14.52%	31.80%	48.16%	100.00%
All Plans	18.09%	25.85%	32.90%	23.16%	100.00%

FISCAL YEAR 2021 RETIREES

	Under 55	55-59	60-65	Over Age 65	Total
VRS – State	4.11%	9.17%	35.62%	51.10%	100.00%
VRS – Teacher	6.33%	17.05%	40.30%	36.32%	100.00%
VRS – Political Subdivisions	14.64%	15.47%	31.33%	38.56%	100.00%
SPORS	40.00%	24.21%	24.21%	11.58%	100.00%
VaLORS	37.54%	31.69%	21.54%	9.23%	100.00%
JRS	—%	7.70%	15.38%	76.92%	100.00%
All Plans	9.50%	15.09%	35.66%	39.75%	100.00%

FIGURE 5.9: DISTRIBUTION OF RETIREES BY AVERAGE FINAL COMPENSATION

ALL RETIREES AT JUNE 30, 2021

	Up to \$10,000	\$10,001- 20,000	\$20,001- 30,000	\$30,001- 40,000	\$40,001- 50,000	\$50,001- 60,000	\$60,001- 70,000	\$70,001- 80,000	\$80,001- 90,000	\$90,001- 100,000	Over \$100,000	Total
VRS – State	5.74%	5.81%	15.77%	19.69%	16.51%	11.68%	8.30%	5.59%	3.61%	2.38%	4.92%	100.00%
VRS – Teacher	2.80%	6.75%	9.14%	11.57%	16.97%	18.45%	13.67%	7.80%	5.30%	3.89%	3.66%	100.00%
VRS – Political Subdivisions	6.86%	12.83%	16.07%	17.35%	15.18%	10.65%	7.42%	4.86%	2.98%	2.00%	3.80%	100.00%
SPORS	9.90%	0.67%	2.61%	6.89%	12.91%	13.65%	15.18%	15.65%	10.77%	6.29%	5.48%	100.00%
VaLORS	2.85%	0.04%	5.48%	42.44%	31.93%	10.67%	3.74%	1.50%	0.56%	0.35%	0.44%	100.00%
JRS	17.46%	0.18%	—%	—%	0.37%	0.18%	0.92%	0.92%	2.21%	3.13%	74.63%	100.00%
All Plans	4.76%	7.89%	12.61%	15.97%	16.66%	14.30%	10.31%	6.31%	4.14%	2.91%	4.14%	100.00%

FISCAL YEAR 2021 RETIREES

	Up to \$10,000	\$10,001- 20,000	\$20,001- 30,000	\$30,001- 40,000	\$40,001- 50,000	\$50,001- 60,000	\$60,001- 70,000	\$70,001- 80,000	\$80,001- 90,000	\$90,001- 100,000	Over \$100,000	Total
VRS – State	0.26%	0.72%	8.10%	15.86%	18.31%	16.38%	11.55%	8.79%	5.55%	4.10%	10.38%	100.00%
VRS – Teacher	0.34%	5.15%	10.48%	7.74%	9.25%	15.77%	18.01%	11.34%	6.82%	7.52%	7.58%	100.00%
VRS – Political Subdivisions	0.65%	10.06%	10.98%	14.38%	17.21%	13.41%	10.35%	8.10%	4.20%	3.64%	7.02%	100.00%
SPORS	—%	—%	1.05%	—%	—%	1.05%	13.68%	20.00%	15.79%	22.11%	26.32%	100.00%
VaLORS	—%	—%	0.61%	24.31%	50.15%	12.92%	4.62%	2.77%	1.54%	1.23%	1.85%	100.00%
JRS	—%	—%	—%	—%	—%	—%	—%	—%	—%	—%	100.00%	100.00%
All Plans	0.41%	5.44%	9.70%	12.16%	14.95%	14.94%	13.61%	9.52%	5.60%	5.40%	8.27%	100.00%

SCHEDULE OF FUNDING (MARKET VALUE OF ASSETS BASIS): ALL PENSION PLANS

(EXPRESSED IN THOUSANDS)

Actuarial Valuation Date June 30	Market Value of Assets (MVA) (a)	Actuarial Accrued Liability (AAL) – Entry Age (b)	Net Pension Liability (AAL-MVA) (b-a)	Funded Ratio Funded (MVA/ AAL) (a/b)	Covered Payroll (c)	Net Pension Liability as a Percentage of Covered Payroll (b-a)/(c)
VIRGINIA RETIREMENT SYSTEM (VRS)**						
2020	\$ 76,453,387	\$ 101,893,256	\$ 25,439,869	75.0%	\$18,749,343	135.7%
2019	76,871,911	99,133,971	22,262,060	77.5%	18,242,017	122.0%
2018	73,754,573	93,174,818	19,420,245	79.2%	17,614,448	110.3%
2017	70,159,680	89,851,284	19,691,604	78.1%	16,764,876	117.5%
2016	63,954,159	87,118,992	23,164,833	73.4%	16,325,998	141.9%
2015	64,025,668	84,711,142	20,685,474	75.6%	15,901,380	130.1%
2014	62,207,257	82,083,384	19,876,127	75.8%	15,671,359	126.8%
2013*	54,972,736	79,077,591	24,104,855	69.5%	15,269,079	157.9%
2012	50,266,721	77,858,856	27,592,135	64.6%	14,880,275	185.4%
2011	51,280,335	75,184,760	23,904,425	68.2%	14,708,859	162.5%
STATE POLICE RETIREMENT SYSTEM						
2020	\$ 854,763	\$ 1,206,424	\$ 351,661	70.9%	\$ 131,255	267.9%
2019	865,273	1,181,120	315,847	73.3%	132,230	238.9%
2018	836,702	1,112,893	276,191	75.2%	126,523	218.3%
2017	796,073	1,040,628	244,555	76.5%	110,265	221.8%
2016	730,688	1,081,980	351,292	67.5%	114,877	305.8%
2015	733,352	1,050,701	317,349	69.7%	110,543	285.5%
2014	720,990	1,029,155	308,165	70.1%	112,303	274.0%
2013*	625,562	996,690	371,128	62.7%	109,006	341.0%
2012	575,468	1,013,278	437,810	56.8%	104,189	420.6%
2011	598,686	985,704	387,018	60.8%	99,669	388.3%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)						
2020	\$ 1,500,469	\$ 2,258,553	\$ 758,084	66.4%	\$ 363,896	208.3%
2019	1,495,990	2,211,238	715,248	67.7%	369,776	193.4%
2018	1,423,980	2,057,504	633,524	69.2%	346,106	183.0%
2017	1,345,887	1,977,781	631,894	68.1%	339,150	186.3%
2016	1,211,446	1,984,257	772,811	61.1%	352,677	219.1%
2015	1,191,353	1,906,721	715,368	62.5%	330,397	217.2%
2014	1,150,450	1,820,045	669,595	63.2%	352,709	190.0%
2013*	992,031	1,742,110	750,079	56.9%	342,154	219.0%
2012	894,916	1,753,014	858,098	51.1%	344,616	248.9%
2011	910,666	1,683,191	772,525	54.1%	356,240	216.8%
JUDICIAL RETIREMENT SYSTEM (JRS)						
2019	\$ 549,455	\$ 677,872	\$ 128,417	81.1%	\$ 74,734	179.2%
2019	557,541	669,741	112,200	83.2%	76,848	179.2%
2018	540,009	645,662	105,653	83.6%	67,424	179.2%
2017	512,749	631,522	118,773	81.2%	66,288	179.2%
2016	467,389	607,798	140,409	76.9%	65,524	214.3%
2015	456,258	600,388	144,130	76.0%	61,881	230.3%
2014	442,194	608,169	165,975	72.7%	59,373	279.4%
2013*	388,835	590,626	201,791	65.8%	57,110	353.5%
2012	354,250	582,456	228,206	60.8%	56,958	400.9%
2011	361,401	569,494	208,093	63.5%	58,919	353.7%

* Revised economic and demographic assumptions due to experience study.

** The breakdown of VRS data into state, teacher and political subdivisions is also presented in the Statistical Section.

SCHEDULE OF FUNDING (MARKET VALUE BASIS): VRS PENSION PLANS

(EXPRESSED IN THOUSANDS)

Actuarial Valuation Date June 30	Market Value of Assets (MVA) (a)	Actuarial Accrued Liability (AAL) – Entry Age (b)	Net Pension Liability (AAL-MVA) (b-a)	Funded Ratio Funded (MVA/ AAL) (a/b)	Covered Payroll (c)	Net Pension Liability as a Percentage of Covered Payroll (b-a)/(c)
VIRGINIA RETIREMENT SYSTEM (VRS) – STATE						
2020	\$ 18,770,067	\$ 25,751,335	\$ 6,981,268	72.9%	\$ 4,428,496	157.6%
2019	19,090,109	25,398,188	6,308,079	75.2%	4,375,061	144.2%
2018	18,532,189	24,115,157	5,582,968	76.8%	4,161,922	134.1%
2017	17,789,888	23,311,534	5,521,646	76.3%	4,037,072	136.8%
2016	16,367,842	22,878,243	6,510,401	71.5%	4,002,477	162.7%
2015	16,398,575	22,291,558	5,892,983	73.6%	3,872,724	152.2%
2014	16,168,535	21,822,936	5,654,401	74.1%	3,854,779	146.7%
2013*	14,502,362	21,068,651	6,566,289	68.8%	3,716,548	176.7%
2012	13,469,215	20,944,258	7,475,043	64.3%	3,713,119	201.3%
2011	13,992,901	20,407,958	6,415,057	68.6%	3,686,259	174.0%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER						
2020	\$ 36,449,229	\$ 50,834,783	\$ 14,385,554	71.7%	\$ 8,911,307	161.4%
2019	36,522,768	49,303,959	12,781,191	74.1%	8,608,489	148.5%
2018	34,919,563	46,516,176	11,596,613	75.1%	8,479,023	136.8%
2017	33,119,545	45,006,017	11,886,472	73.6%	7,919,450	150.1%
2016	30,168,211	43,581,629	13,413,418	69.2%	7,666,824	175.0%
2015	30,344,072	42,564,178	12,220,106	71.3%	7,488,507	163.2%
2014	29,411,183	41,297,669	11,886,486	71.2%	7,362,793	161.4%
2013*	26,076,425	39,852,334	13,775,909	65.4%	7,211,543	191.0%
2012	23,930,149	39,090,408	15,160,259	61.2%	7,004,577	216.4%
2011	24,520,362	37,771,732	13,251,370	64.9%	6,922,130	191.4%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS						
2020	\$ 21,234,091	\$ 25,307,138	\$ 4,073,047	83.9%	\$ 5,409,540	75.3%
2019	21,259,034	24,431,824	3,172,790	87.0%	5,258,467	60.3%
2018	20,302,821	22,543,485	2,240,664	90.1%	4,973,503	45.1%
2017	19,250,247	21,533,733	2,283,486	89.4%	4,808,354	47.5%
2016	17,418,106	20,659,120	3,241,014	84.3%	4,656,697	69.6%
2015	17,283,021	19,855,406	2,572,385	87.0%	4,540,149	56.7%
2014	16,627,539	18,962,779	2,335,240	87.7%	4,453,787	52.4%
2013*	14,393,949	18,156,606	3,762,657	79.3%	4,340,988	86.7%
2012	12,867,357	17,824,190	4,956,833	72.2%	4,162,579	119.1%
2011	12,767,072	17,005,070	4,237,998	75.1%	4,100,470	103.4%
VIRGINIA RETIREMENT SYSTEM (VRS) – TOTAL						
2020	\$ 76,453,387	\$ 101,893,256	\$ 25,439,869	75.0%	\$ 18,749,343	135.7%
2019	76,871,911	99,133,971	22,262,060	77.5%	18,242,017	122.0%
2018	73,754,573	93,174,818	19,420,245	79.2%	17,614,448	110.3%
2017	70,159,680	89,851,284	19,691,604	78.1%	16,764,876	117.5%
2016	63,954,159	87,118,992	23,164,833	73.4%	16,325,998	141.9%
2015	64,025,668	84,711,142	20,685,474	75.6%	15,901,380	130.1%
2014	62,207,257	82,083,384	19,876,127	75.8%	15,671,359	126.8%
2013*	54,972,736	79,077,591	24,104,855	69.5%	15,269,079	157.9%
2012	50,266,721	77,858,856	27,592,135	64.6%	14,880,275	185.4%
2011	51,280,335	75,184,760	23,904,425	68.2%	14,708,859	162.5%

* Revised economic and demographic assumptions due to experience study.

Other Employee Benefit Trust Funds

FIGURE 5.10: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – GROUP LIFE INSURANCE FUND

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN MILLIONS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 833	\$ 747	\$ 888	\$ 1,079	\$ 1,163	\$ 1,225	\$ 1,438	\$ 1,595	\$ 1,763	\$ 1,855
Funding:										
Member and Employer Contributions and Other Additions	47	202	206	208	214	240	249	257	270	277
Benefits and Administrative Expenses	141	151	161	177	175	186	203	203	214	254
Net Funding	(94)	51	45	31	39	54	46	55	56	23
Investment Income:										
Interest, Dividends and Other Investment Income	16	14	17	16	17	18	19	21	18	17
Net Appreciation (Depreciation) in Fair Value	(9)	76	130	36	6	140	92	92	18	518
Net Investment Income	7	90	147	52	23	158	111	113	36	535
Net Increase (Decrease)	(86)	141	192	83	62	213	157	168	92	558
Fiduciary Net Position Restricted – End of Year	\$ 747	\$ 888	\$ 1,079	\$ 1,163	\$ 1,225	\$ 1,438	\$ 1,595	\$ 1,763	\$ 1,855	\$ 2,413

SCHEDULE OF GROUP LIFE INSURANCE ADDITIONS BY SOURCE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Contributions				Investment Income (Loss)	Other	Total
	State	Teacher	Political Subdivisions	Sub-Total			
2021	\$ 83,536	\$ 119,154	\$ 74,734	\$ 277,424	\$ 534,709	\$ —	\$ 812,133
2020	82,484	115,184	72,509	270,177	36,276	—	306,453
2019	77,778	110,262	69,288	257,328	113,440	—	370,768
2018	75,997	106,329	66,606	248,932	110,917	—	359,849
2017	71,666	103,751	64,667	240,084	158,430	—	398,514
2016	65,980	91,121	57,156	214,257	23,445	—	237,702
2015	63,927	88,871	55,665	208,463	52,175	—	260,638
2014	64,151	86,807	54,628	205,586	146,865	—	352,451
2013	61,541	85,725	53,449	200,715	90,166	973	291,854
2012	14,243	20,183	12,108	46,534	7,295	751	54,580

SCHEDULE OF GROUP LIFE INSURANCE DEDUCTIONS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Group Life Claims			Administrative Expenses	Other	Total
	Active	Retired	Sub-Total			
2020	\$ 79,119	\$ 172,263	\$ 251,382	\$ 862	\$ 1,918	\$ 254,162
2020	64,273	147,787	212,060	824	1,439	214,323
2019	66,036	133,843	199,879	709	1,981	202,569
2018	64,822	135,463	200,285	664	1,713	202,662
2017	56,889	127,203	184,092	31	1,731	185,854
2016	60,427	113,416	173,843	81	1,469	175,393
2015	55,429	120,331	175,760	183	1,393	177,336
2014	53,478	105,880	159,358	275	1,276	160,909
2013	47,875	101,612	149,487	65	1,148	150,700
2012	54,605	85,338	139,943	77	1,006	141,026

**FIGURE 5.11: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION –
RETIREE HEALTH INSURANCE CREDIT FUND**

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$209,033	\$127,234	\$146,472	\$170,048	\$173,194	\$173,211	\$201,315	\$235,372	\$269,346	\$301,178
Funding:										
Employer Contributions and Other Additions	51,356	145,031	146,742	144,834	151,916	168,271	184,706	187,652	195,872	236,138
Less: Reimbursements and Administrative Expenses	131,435	137,906	143,088	148,459	154,320	159,280	164,295	169,072	169,128	172,642
Net Funding	(80,079)	7,125	3,654	(3,625)	(2,404)	8,991	20,411	18,580	26,744	63,496
Investment Income:										
Interest, Dividends and Other Investment Income	2,997	1,856	2,226	2,140	2,098	2,168	2,343	2,785	2,576	2,465
Net Appreciation (Depreciation) in Fair Value	(4,717)	10,257	17,696	4,631	323	16,945	11,303	12,609	2,512	77,442
Net Investment Income	(1,720)	12,113	19,922	6,771	2,421	19,113	13,646	15,394	5,088	79,907
Net Increase (Decrease)	(81,799)	19,238	23,576	3,146	17	28,104	34,057	33,974	31,832	143,403
Fiduciary Net Position Restricted – End of Year	\$127,234	\$146,472	\$170,048	\$173,194	\$173,211	\$201,315	\$235,372	\$269,346	\$301,178	\$444,581

VIRGINIA RETIREMENT SYSTEM – STATE

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$107,777	\$ 54,290	\$ 59,880	\$ 65,202	\$ 67,434	\$ 68,685	\$ 79,516	\$ 95,908	\$109,023	\$125,378
Funding:										
Employer Contributions and Other Additions	5,859	60,848	59,438	63,907	66,410	74,520	79,952	79,926	84,850	119,847
Less: Reimbursements and Administrative Expenses	58,224	60,911	61,249	64,551	66,157	71,395	69,272	73,000	70,681	72,156
Net Funding	(52,365)	(63)	(1,811)	(644)	253	3,125	10,680	6,926	14,169	47,691
Investment Income:										
Interest, Dividends and Other Investment Income	1,977	866	941	910	864	875	981	1,121	1,136	1,069
Net Appreciation (Depreciation) in Fair Value	(3,099)	4,787	6,192	1,966	134	6,831	4,731	5,068	1,050	33,722
Net Investment Income	(1,122)	5,653	7,133	2,876	998	7,706	5,712	6,189	2,186	34,791
Net Increase (Decrease)	(53,487)	5,590	5,322	2,232	1,251	10,831	16,392	13,115	16,355	82,482
Fiduciary Net Position Restricted – End of Year	\$ 54,290	\$ 59,880	\$ 65,202	\$ 67,434	\$ 68,685	\$ 79,516	\$ 95,908	\$109,023	\$125,378	\$207,860

**FIGURE 5.11: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION –
RETIREE HEALTH INSURANCE CREDIT FUND, cont.**

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	VIRGINIA RETIREMENT SYSTEM – TEACHER									
	2011	2012	2013	2014	2015	2016	2017	2018	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 85,006	\$ 56,869	\$ 68,955	\$ 82,108	\$ 84,386	\$ 82,854	\$ 96,091	\$111,639	\$129,016	\$144,161
Funding:										
Employer Contributions and Other Additions	42,245	80,489	80,720	78,875	80,831	88,059	99,019	100,643	105,210	107,172
Less: Reimbursements and Administrative Expenses	69,777	73,147	75,033	79,670	83,510	83,640	89,578	90,616	92,356	94,121
Net Funding	(27,532)	7,342	5,687	(795)	(2,679)	4,419	9,441	10,027	12,854	13,051
Investment Income:										
Interest, Dividends and Other Investment Income	1,033	728	1,012	970	995	1,000	1,049	1,330	1,096	1,148
Net Appreciation (Depreciation) in Fair Value	(1,638)	4,016	6,454	2,103	152	7,818	5,058	6,020	1,195	35,945
Net Investment Income	(605)	4,744	7,466	3,073	1,147	8,818	6,107	7,350	2,291	37,093
Net Increase (Decrease)	(28,137)	12,086	13,153	2,278	(1,532)	13,237	15,548	17,377	15,145	50,144
Fiduciary Net Position Restricted – End of Year	\$ 56,869	\$ 68,955	\$ 82,108	\$ 84,386	\$ 82,854	\$ 96,091	\$111,639	\$129,016	\$144,161	\$194,305

	VIRGINIA RETIREMENT SYSTEM – POLITICAL SUBDIVISIONS									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 13,911	\$ 14,267	\$ 16,126	\$ 18,592	\$ 19,332	\$ 19,321	\$ 22,156	\$ 23,170	\$ 24,468	\$ 24,466
Funding:										
Employer Contributions and Other Additions	1,975	1,945	1,876	1,933	1,991	2,278	2,179	2,406	2,553	5,239
Less: Reimbursements and Administrative Expenses	1,626	1,802	1,817	2,015	2,278	1,717	2,735	2,598	3,044	3,182
Net Funding	349	143	59	(82)	(287)	561	(556)	(192)	(491)	2,057
Investment Income:										
Interest, Dividends and Other Investment Income	(13)	262	273	260	239	258	270	270	281	208
Net Appreciation (Depreciation) in Fair Value	20	1,454	2,134	562	37	2,016	1,300	1,220	208	6,503
Net Investment Income	7	1,716	2,407	822	276	2,274	1,570	1,490	489	6,711
Net Increase (Decrease)	356	1,859	2,466	740	(11)	2,835	1,014	1,298	(2)	8,768
Fiduciary Net Position Restricted – End of Year	\$ 14,267	\$ 16,126	\$ 18,592	\$ 19,332	\$ 19,321	\$ 22,156	\$ 23,170	\$ 24,468	\$ 24,466	\$ 33,234

**FIGURE 5.11: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION –
RETIREE HEALTH INSURANCE CREDIT FUND, cont.**

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

VIRGINIA RETIREMENT SYSTEM – CONSTITUTIONAL OFFICERS										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 1,651	\$ 1,337	\$ 830	\$ 2,377	\$ 1,120	\$ 1,479	\$ 2,427	\$ 3,278	\$ 4,479	\$ 5,112
Funding:										
Employer Contributions and Other Additions	805	805	2,833	113	1,830	2,305	2,397	2,794	2,526	2,666
Less: Reimbursements and Administrative Expenses	1,119	1,312	3,245	1,370	1,471	1,572	1,727	1,831	1,979	2,064
Net Funding	(314)	(507)	(412)	(1,257)	359	733	670	963	547	602
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	—	24	31	41	44	30
Net Appreciation (Depreciation) in Fair Value	—	—	1,959	—	—	191	150	197	42	924
Net Investment Income	—	—	1,959	—	—	215	181	238	86	954
Net Increase (Decrease)	(314)	(507)	1,547	(1,257)	359	948	851	1,201	633	1,556
Fiduciary Net Position Restricted – End of Year	\$ 1,337	\$ 830	\$ 2,377	\$ 1,120	\$ 1,479	\$ 2,427	\$ 3,278	\$ 4,479	\$ 5,112	\$ 6,668

VIRGINIA RETIREMENT SYSTEM – SOCIAL SERVICES										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ 732	\$ 534	\$ 683	\$ 1,738	\$ 915	\$ 861	\$ 1,091	\$ 1,319	\$ 2,273	\$ 1,935
Funding:										
Employer Contributions and Other Additions	472	862	1,818	5	824	1,062	1,126	1,847	689	1,160
Less: Reimbursements and Administrative Expenses	670	713	1,683	828	878	929	971	1,015	1,061	1,084
Net Funding	(198)	149	135	(823)	(54)	133	155	832	(372)	76
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	—	11	12	22	18	10
Net Appreciation (Depreciation) in Fair Value	—	—	920	—	—	86	61	100	16	325
Net Investment Income	—	—	920	—	—	97	73	122	34	335
Net Increase (Decrease)	(198)	149	1,055	(823)	(54)	230	228	954	(338)	411
Fiduciary Net Position Restricted – End of Year	\$ 534	\$ 683	\$ 1,738	\$ 915	\$ 861	\$ 1,091	\$ 1,319	\$ 2,273	\$ 1,935	\$ 2,346

**FIGURE 5.11: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION –
RETIREE HEALTH INSURANCE CREDIT FUND, cont.**

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

VIRGINIA RETIREMENT SYSTEM – REGISTRARS										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$ (44)	\$ (63)	\$ (2)	\$ 31	\$ 7	\$ 11	\$ 34	\$ 58	\$ 87	\$ 126
Funding:										
Employer Contributions and Other Additions	—	82	57	1	30	47	33	36	44	54
Less: Reimbursements and Administrative Expenses	19	21	61	25	26	27	12	12	7	35
Net Funding	(19)	61	(4)	(24)	4	20	21	24	37	19
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	—	—	—	1	1	—
Net Appreciation (Depreciation) in Fair Value	—	—	37	—	—	3	3	4	1	23
Net Investment Income	—	—	37	—	—	3	3	5	2	23
Net Increase (Decrease)	(19)	61	33	(24)	4	23	24	29	39	42
Fiduciary Net Position Restricted – End of Year	\$ (63)	\$ (2)	\$ 31	\$ 7	\$ 11	\$ 34	\$ 58	\$ 87	\$ 126	\$ 168

SCHEDULE OF RETIREE HEALTH INSURANCE CREDIT ADDITIONS BY SOURCE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Contributions					Investment Income (Loss)	Other	Total
	State	Teacher	Political Subdivisions	State-Funded HIC	Sub-Total			
2021	\$ 119,847	\$ 107,172	\$ 5,239	\$ 3,880	\$ 236,138	\$ 79,907	\$ —	\$ 316,045
2020	84,850	105,210	2,553	3,259	195,872	5,088	—	200,960
2019	79,926	100,643	2,406	3,259	186,234	15,394	—	201,628
2018	79,400	99,469	2,291	3,546	184,706	13,646	—	198,352
2017	74,520	88,059	2,278	3,414	168,271	19,113	—	187,384
2016	66,411	80,831	1,990	2,684	151,916	2,421	—	154,337
2015	63,908	78,874	1,933	119	144,834	6,771	—	151,605
2014	59,438	80,720	1,876	4,708	146,742	19,922	—	166,664
2013	60,848	80,489	1,945	1,749	145,031	12,113	—	157,144
2012	5,859	42,245	1,975	1,277	51,356	(1,720)	—	49,636

SCHEDULE OF RETIREE HEALTH INSURANCE CREDIT DEDUCTIONS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Retiree Health Insurance Reimbursements					Administrative Expenses	Other	Total
	State	Teacher	Political Subdivisions	State- Funded HIC	Sub-Total			
2021	\$ 71,536	\$ 93,607	\$ 3,098	\$ 3,160	\$ 171,401	\$ 1,198	\$ 43	\$ 172,642
2020	70,440	92,086	2,996	3,035	168,557	548	23	169,128
2019	72,857	90,455	2,564	2,849	168,725	328	19	169,072
2018	69,099	89,420	2,697	2,722	163,938	257	15	164,210
2017	71,255	83,510	1,677	2,523	158,965	294	21	159,280
2016	65,984	83,329	2,226	2,375	153,914	401	5	154,320
2015	64,354	79,457	1,956	2,222	147,989	465	5	148,459
2014	59,433	76,389	1,799	4,989	142,610	463	15	143,088
2013	60,749	72,997	1,746	2,046	137,538	358	10	137,906
2012	58,074	69,638	1,582	1,808	131,102	333	—	131,435

FIGURE 5.12: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – DISABILITY INSURANCE TRUST FUND

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	2012*	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fiduciary Net Position Restricted – Beginning of Year	\$369,071	\$343,972	\$370,121	\$410,097	\$414,518	\$407,826	\$442,334	\$462,961	\$488,241	\$490,220
Funding:										
Employer Contributions and Other Additions	78	17,267	17,693	24,026	25,156	24,768	25,982	25,263	26,994	26,542
Less: Disability Insurance Benefits and Administrative Expenses	28,955	30,668	34,290	37,942	38,782	38,466	38,706	31,627	35,168	36,729
Net Funding	(28,877)	(13,401)	(16,597)	(13,916)	(13,626)	(13,698)	(12,724)	(6,364)	(8,174)	(10,187)
Investment Income:										
Interest, Dividends and Other Investment Income	7,048	5,919	6,264	5,705	5,576	5,458	6,609	6,923	5,558	4,711
Net Appreciation (Depreciation) in Fair Value	(3,270)	33,631	50,309	12,632	1,358	42,748	26,742	24,721	4,595	127,175
Net Investment Income	3,778	39,550	56,573	18,337	6,934	48,206	33,351	31,644	10,153	131,886
Net Increase (Decrease)	(25,099)	26,149	39,976	4,421	(6,692)	34,508	20,627	25,280	1,979	121,699
Fiduciary Net Position Restricted – End of Year	\$343,972	\$370,121	\$410,097	\$414,518	\$407,826	\$442,334	\$462,961	\$488,241	\$490,220	\$611,919

* The disability insurance contribution rate for fiscal year 2012 was zero as a result of a statutory contribution holiday.

SCHEDULE OF DISABILITY INSURANCE TRUST FUND ADDITIONS BY SOURCE

FISCAL YEARS 2012–2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Contributions	Investment Income	Transfers and Other Additions	Total
LONG-TERM DISABILITY PROGRAM				
2021	\$ 25,671	\$ 107,844	\$ —	\$ 133,515
2020	26,559	7,786	—	34,345
2019	24,856	25,197	—	50,053
2018	25,195	26,653	—	51,848
2017	23,399	40,339	—	63,738
2016	20,134	5,911	—	26,045
2015	19,458	15,884	—	35,342
2014	14,393	49,603	—	63,996
2013	14,061	35,090	—	49,151
2012	67	3,378	—	3,445
LONG-TERM CARE PROGRAM				
2021	\$ 1,384	\$ 23,529	\$ —	\$ 24,913
2020	1,143	1,659	—	2,802
2019	1,557	5,297	—	6,854
2018	2,065	5,420	—	7,485
2017	1,369	7,867	—	9,236
2016	5,022	1,023	—	6,045
2015	4,557	2,454	10	7,021
2014	2,998	6,970	302	10,270
2013	2,929	4,460	277	7,666
2012	11	400	—	411
TOTAL DISABILITY INSURANCE TRUST FUND				
2021	\$ 27,055	\$ 131,373	\$ —	\$ 158,428
2020	27,702	9,445	—	37,147
2019	26,413	30,494	—	56,907
2018	27,260	32,073	—	59,333
2017	24,768	48,206	—	72,974
2016	25,156	6,934	—	32,090
2015	24,015	18,338	10	42,363
2014	17,391	56,573	302	74,266
2013	16,990	39,550	277	56,817
2012	78	3,778	—	3,856

SCHEDULE OF DISABILITY INSURANCE TRUST FUND DEDUCTIONS BY TYPE

FISCAL YEARS 2012-2021

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Long-Term Disability Benefits	Long-Term Care and Costs	TPA Administrative Services	VRS Administrative Expenses	Transfers and Other Expenses	Total
LONG-TERM DISABILITY PROGRAM						
2021	\$ 28,704	\$ —	\$ 7,137	\$ 493	\$ 166	\$ 36,500
2020	27,162	—	6,611	520	100	34,393
2019	23,045	—	6,431	650	27	30,153
2018	29,421	—	6,637	799	29	36,886
2017	29,792	—	7,001	600	45	37,438
2016	30,358	—	7,102	660	10	38,130
2015	28,504	—	7,953	729	13	37,199
2014	24,920	—	7,830	486	39	33,275
2013	23,015	—	6,320	449	26	29,810
2012	20,924	—	6,974	425	32	28,355
LONG-TERM CARE PROGRAM						
2021	\$ —	\$ 86	\$ —	\$ 107	\$ 36	\$ 229
2020	—	643	—	111	21	775
2019	—	1,331	—	137	6	1,474
2018	—	1,652	—	162	6	1,820
2017	—	902	—	117	9	1,028
2016	—	536	—	114	2	652
2015	—	628	—	113	2	743
2014	—	931	—	69	15	1,015
2013	—	798	—	57	3	858
2012	—	546	—	50	4	600
TOTAL DISABILITY INSURANCE TRUST FUND						
2021	\$ 28,704	\$ 86	\$ 7,137	\$ 600	\$ 202	\$ 36,729
2020	27,162	643	6,611	631	121	35,168
2019	23,045	1,331	6,431	787	33	31,627
2018	29,421	1,652	6,637	961	35	38,706
2017	29,792	902	7,001	717	54	38,466
2016	30,358	536	7,102	774	12	38,782
2015	28,504	628	7,953	842	15	37,942
2014	24,920	931	7,830	555	54	34,290
2013	23,015	798	6,320	506	29	30,668
2012	20,924	546	6,974	475	36	28,955

FIGURE 5.13: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – LINE OF DUTY ACT

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Net Position Restricted – Beginning of Year	\$ —	\$ —	\$ —	\$ —	\$ 728	\$ 2,708	\$ 3,461	\$ 1,889	\$ 2,839	\$ 4,333
Funding:										
Employer Contributions and Other Additions	11,554	6,869	7,229	9,121	10,881	11,608	10,890	13,377	13,567	13,633
Less: Disability Insurance Benefits and Administrative Expenses	11,559	7,814	8,668	8,572	9,026	11,538	13,140	13,362	13,000	14,074
Net Funding	(5)	(945)	(1,439)	549	1,855	70	(2,250)	15	567	(441)
Investment Income:										
Interest, Dividends and Other Investment Income	1	144	157	64	62	77	96	769	681	727
Net Appreciation (Depreciation) in Fair Value	4	801	1,282	115	63	606	582	166	246	2,934
Net Investment Income	5	945	1,439	179	125	683	678	935	927	3,661
Net Increase (Decrease)	9	—	—	728	1,980	753	(1,572)	950	1,494	3,220
Net Position Restricted – End of Year	\$ 9	\$ —	\$ —	\$ 728	\$ 2,708	\$ 3,461	\$ 1,889	\$ 2,839	\$ 4,333	\$ 7,553

FIGURE 5.14: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA LOCAL DISABILITY PROGRAM

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	2014*	2015	2016	2017	2018	2019	2021
Net Position Restricted – Beginning of Year	\$ —	\$ —	\$ —	\$ —	\$ 630	\$ 1,463	\$ 6,204
Funding:							
Employer Contributions and Other Additions	429	875	1,351	1,993	3,030	4,192	6,504
Less: Disability Insurance Benefits and Administrative Expenses	429	873	1,351	1,363	2,261	2,208	3,069
Net Funding	—	2	—	630	769	1,984	3,435
Investment Income:							
Interest, Dividends and Other Investment Income	—	—	—	—	14	26	62
Net Appreciation (Depreciation) in Fair Value	—	(2)	—	—	50	150	2,055
Net Investment Income	—	(2)	—	—	64	176	2,117
Net Increase (Decrease)	\$ —	—	—	630	833	2,160	5,552
Net Position Restricted – End of Year	\$ —	\$ —	\$ —	\$ 630	\$ 1,463	\$ 3,623	\$ 11,756

FIGURE 5.14: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA LOCAL DISABILITY PROGRAM, cont.

FOR THE YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

VIRGINIA RETIREMENT SYSTEM – TEACHER

	2014*	2015	2016	2017	2018	2019	2021
Net Position Restricted – Beginning of Year	\$ —	\$ —	\$ —	\$ —	\$ 279	\$ 647	\$ 2,887
Funding:							
Employer Contributions and Other Additions	182	370	567	883	1,339	1,966	3,166
Less: Disability Insurance Benefits and Administrative Expenses	182	369	567	604	1,000	1,035	1,494
Net Funding	—	1	—	279	339	931	1,672
Investment Income:							
Interest, Dividends and Other Investment Income	—	—	—	—	7	13	30
Net Appreciation (Depreciation) in Fair Value	—	(1)	—	—	22	70	1,001
Net Investment Income	—	(1)	—	—	29	83	1,031
Net Increase (Decrease)	\$ —	\$ —	\$ —	\$ 279	\$ 368	\$ 1,014	\$ 2,703
Net Position Restricted – End of Year	\$ —	\$ —	\$ —	\$ 279	\$ 647	\$ 1,661	\$ 5,590

VIRGINIA RETIREMENT SYSTEM – POLITICAL SUBDIVISIONS

	2014*	2015	2016	2017	2018	2019	2021
Net Position Restricted – Beginning of Year	\$ —	\$ —	\$ —	\$ —	\$ 351	\$ 816	\$ 3,317
Funding:							
Employer Contributions and Other Additions	247	505	784	1,110	1,691	2,226	3,338
Less: Disability Insurance Benefits and Administrative Expenses	247	504	784	759	1,261	1,173	1,575
Net Funding	—	1	—	351	430	1,053	1,763
Investment Income:							
Interest, Dividends and Other Investment Income	—	—	—	—	7	13	32
Net Appreciation (Depreciation) in Fair Value	—	(1)	—	—	28	80	1,054
Net Investment Income	—	(1)	—	—	35	93	1,086
Net Increase (Decrease)	\$ —	\$ —	\$ —	\$ 351	\$ 465	\$ 1,146	\$ 2,849
Net Position Restricted – End of Year	\$ —	\$ —	\$ —	\$ 351	\$ 816	\$ 1,962	\$ 6,166

* Fiscal year 2014 was the first year for which this data was available.

FIGURE 5.15: OTHER POST-EMPLOYMENT BENEFIT PLAN STATISTICS

SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES BY PLAN

	Group Life Insurance	Retiree Health Insurance Credit	Disability Insurance	Line of Duty
2021	213,194	132,361	2,481	749
2020	208,644	129,855	2,488	739
2019	188,370	127,802	2,579	726
2018	182,438	124,406	2,710	696
2017	176,107	120,304	2,785	654
2016	169,786	116,408	2,844	621
2015	163,482	112,053	2,860	525
2014	156,549	108,076	2,764	551
2013	149,926	103,952	2,757	536
2012	143,657	99,836	2,722	788

SCHEDULE OF AVERAGE BENEFIT PAYMENTS BY PLAN

Group Life Insurance			Retiree Health Insurance Credit		
Year Ended June 30	Number of Claims Paid	Average Claim Amount	Payment Period	Number of Recipients	Average Monthly Credit Amount
2021	6,291	\$ 26,308	June 2021	132,361	\$ 108
2020	5,304	25,516	June 2020	129,855	108
2019	5,171	24,307	June 2019	127,802	108
2018	5,255	24,865	June 2018	124,406	108
2017	4,846	24,634	June 2017	120,304	108
2016	4,660	23,735	June 2016	116,408	108
2015	4,520	24,754	June 2015	112,053	108
2014	4,259	23,489	June 2014	108,076	108
2013	4,206	21,816	June 2013	103,952	107
2012	4,013	21,737	June 2012	99,834	107

Disability Insurance			
Payment Period	Number of Claims Paid	Average Gross Monthly Benefit	Average Net Monthly Benefit*
June 2021	2,481	\$ 2,066	\$ 1,052
June 2020	2,488	2,211	1,263
June 2019	2,579	2,181	1,252
June 2018	2,707	1,899	982
June 2017	2,783	1,851	969
June 2016	2,836	1,797	892
June 2015	2,829	1,820	885
June 2014	2,814	1,852	843
June 2013	2,707	1,852	814
June 2012	2,683	1,828	762

* The net monthly benefit reflects adjustments for Social Security, workers' compensation and other offsets.

SCHEDULE OF AVERAGE BENEFIT PAYMENTS BY PLAN, cont.

Line of Duty*

Line of Duty Death Benefits**			Health Insurance Benefits		
Year Ended June 30	LOD Death	Presumptive LOD Death	Year Ended June 30	Number of Active Claims	Avg. Annual Health Insurance Benefit
2021	—	2	2021	749	\$ 17,417
2020	1	1	2020	739	16,238
2019	1	3	2019	726	17,464
2018	3	—	2018	696	17,381
2017	3	3	2017	654	15,107
2016	1	2	2016	621	13,503
2015	—	3	2015	525	15,198
2014	3	2	2014	573	12,725
2013	2	3	2013	552	10,807
2012	4	4	2012	781	12,298

* The Line of Duty Program was funded by a trust fund beginning in fiscal year 2011. In that year and fiscal year 2012, employers had the option to opt-out and self-fund the benefits provided by the program. Data for fiscal year 2012 is not representative of the program's expected activity going forward.

** The Line of Duty Program provides a \$100,000 death benefit for an eligible individual whose death was as a direct or proximate result of the performance of duty. The program also provides a \$25,000 death benefit for certain individuals whose death arose out of their employment or was within five years of the date of retirement.

VRS-Participating Employers

More than 800 employers participate in the Virginia Retirement System (VRS) on behalf of their employees. Employers include state agencies, public colleges and universities, school divisions and political subdivisions.

The following employers were participating in VRS as of June 30, 2021:

PARTICIPATING POLITICAL SUBDIVISIONS: 463

A: retirement only

B: retirement and group life insurance

C: retirement, group life insurance and retiree health insurance credit

D: retirement and retiree health insurance credit

COUNTIES: 93			
Accomack County: C	Dickenson County: A	Lancaster County: B	Rappahannock County: C
Albemarle County: B	Dinwiddie County: B	Lee County: B	Richmond County: B
Alleghany County: B	Essex County: C	Loudoun County: B	Roanoke County: C
Amelia County: C	Fauquier County: B	Louisa County: C	Rockbridge County: B
Amherst County: C	Floyd County: B	Lunenburg County: B	Rockingham County: B
Appomattox County: B	Fluvanna County: C	Madison County: C	Russell County: C
Augusta County: B	Franklin County: B	Mathews County: C	Scott County: B
Bath County: B	Frederick County: B	Mecklenburg County: B	Shenandoah County: C
Bedford County: B	Giles County: B	Middlesex County: B	Smyth County: B
Bland County: C	Gloucester County: C	Montgomery County: B	Southampton County: C
Botetourt County: B	Goochland County: B	Nelson County: B	Spotsylvania County: B
Brunswick County: B	Grayson County: B	New Kent County: C	Stafford County: C
Buchanan County: B	Greene County: C	Northampton County: B	Surry County: B
Buckingham County: B	Greensville County: C	Northumberland County: C	Sussex County: B
Campbell County: B	Halifax County: C	Nottoway County: B	Tazewell County: C
Caroline County: B	Hanover County: C	Orange County: B	Warren County: B
Carroll County: B	Henrico County: B	Page County: B	Washington County: C
Charles City County: B	Henry County: C	Patrick County: C	Westmoreland County: C
Charlotte County: B	Highland County: B	Pittsylvania County: C	Wise County: C
Chesterfield County: B	Isle of Wight County: C	Powhatan County: C	Wythe County: C
Clarke County: B	James City County: C	Prince Edward County: B	York County: C
Craig County: C	King & Queen County: C	Prince George County: B	
Culpeper County: B	King George County: B	Prince William County: C	
Cumberland County: B	King William County: B	Pulaski County: C	

CITIES AND TOWNS: 162

City of Alexandria: A	Town of Ashland: B	Town of Gordonsville: B	Town of Pennington Gap: A
City of Bristol: B	Town of Bedford: B	Town of Gretna: B	Town of Pound: A
City of Buena Vista: B	Town of Berryville: B	Town of Grottoes: B	Town of Pulaski: B
City of Chesapeake: B	Town of Big Stone Gap: A	Town of Grundy: B	Town of Purcellville: B
City of Colonial Heights: B	Town of Blacksburg: B	Town of Halifax: B	Town of Quantico: B
City of Covington: C	Town of Blackstone: B	Town of Hamilton: C	Town of Remington: B
City of Danville: A	Town of Bluefield: B	Town of Haymarket: B	Town of Rich Creek: B
City of Emporia: B	Town of Bowling Green: B	Town of Haysi: A	Town of Richlands: A
City of Fairfax: A	Town of Boydton: B	Town of Herndon: B	Town of Rocky Mount: B
City of Falls Church: B	Town of Boykins: A	Town of Hillsville: B	Town of Round Hill: B
City of Franklin: B	Town of Bridgewater: B	Town of Hurt: B	Town of Rural Retreat: A
City of Fredericksburg: B	Town of Broadway: B	Town of Independence: A	Town of Saltville: A
City of Galax: B	Town of Brodnax: A	Town of Iron Gate: B	Town of Scottsville: B
City of Hampton: B	Town of Brookneal: B	Town of Jarratt: A	Town of Shenandoah: C
City of Harrisonburg: B	Town of Buchanan: A	Town of Jonesville: B	Town of Smithfield: B
City of Hopewell: B	Town of Burkeville: B	Town of Kenbridge: C	Town of South Boston: B
City of Lexington: B	Town of Cape Charles: B	Town of Kilmarnock: C	Town of South Hill: B
City of Lynchburg: B	Town of Chase City: B	Town of La Crosse: A	Town of St. Paul: B
City of Manassas Park: B	Town of Chatham: B	Town of Lawrenceville: C	Town of Stanley: C
City of Manassas: C	Town of Chilhowie: B	Town of Lebanon: B	Town of Stephens City: B
City of Martinsville: B	Town of Chincoteague: B	Town of Leesburg: B	Town of Strasburg: C
City of Newport News: B	Town of Christiansburg: A	Town of Louisa: B	Town of Tappahannock: A
City of Norfolk: B	Town of Clarksville: B	Town of Lovettsville: B	Town of Tazewell: A
City of Norton: B	Town of Clifton Forge: B	Town of Luray: B	Town of Timberville: B
City of Petersburg: B	Town of Coeburn: B	Town of Madison: B	Town of Troutville: A
City of Poquoson: C	Town of Colonial Beach: B	Town of Marion: B	Town of Urbanna: B
City of Portsmouth: B	Town of Courtland: B	Town of McKenney: B	Town of Victoria: B
City of Radford: C	Town of Craigsville: B	Town of Middleburg: B	Town of Vienna: B
City of Richmond: B	Town of Crewe: B	Town of Middletown: D	Town of Vinton: B
City of Roanoke: B	Town of Culpeper: B	Town of Mineral: A	Town of Wakefield: A
City of Salem: B	Town of Dayton: B	Town of Montross: B	Town of Warrenton: B
City of Staunton: B	Town of Dublin: B	Town of Mount Jackson: B	Town of Warsaw: B
City of Suffolk: B	Town of Dumfries: C	Town of Narrows: A	Town of Waverly: A
City of Virginia Beach: B	Town of Eastville: B	Town of New Market: B	Town of Weber City: B
City of Waynesboro: B	Town of Edinburg: A	Town of Occoquan: A	Town of West Point: B
City of Williamsburg: B	Town of Elkton: B	Town of Onancock: B	Town of Windsor: B
City of Winchester: C	Town of Exmore: A	Town of Onley: B	Town of Wise: B
Town of Abingdon: C	Town of Floyd: B	Town of Orange: B	Town of Woodstock: C
Town of Altavista: B	Town of Front Royal: B	Town of Parksley: B	Town of Wytheville: B
Town of Amherst: B	Town of Gate City: A	Town of Pearisburg: C	
Town of Appomattox: B	Town of Glasgow: B	Town of Pembroke: B	

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS: 208

Accomack-Northampton Planning District Commission: C	Commonwealth Regional Council: A
Albemarle County Service Authority: B	Crater Criminal Justice Training Academy: B
Albemarle-Charlottesville Regional Jail: B	Crater Juvenile Detention Home Community: B
Alexandria Redevelopment & Housing Authority: B	Culpeper Soil & Water Conservation District: B
Alexandria Renew Enterprises: A	Cumberland Mountain Community Services Board: B
Alleghany Highlands Community Services Board: B	Cumberland Plateau Regional Housing Authority: B
Alleghany Highlands Regional Library, Inc.: B	Daniel Boone Soil & Water Conservation District: C
Amherst County Service Authority: C	Danville-Pittsylvania Community Services Board: B
Anchor Commission: B	Danville Redevelopment & Housing Authority: B
Appalachian Juvenile Commission: C	Dinwiddie County Water Authority: B
Appomattox Regional Library: B	District 19 Community Services Board: C
Appomattox River Water Authority: B	Eastern Shore Community Services Board: B
Augusta County Service Authority: B	Eastern Shore Public Library: B
Bedford Public Library: B	Eastern Shore Soil & Water Conservation District: B
Bedford Regional Water Authority: B	Economic Development Authority of Henrico County: B
Big Sandy Soil & Water Conservation District: A	Evergreen Soil & Water Conservation District: C
Big Stone Gap Redevelopment & Housing Authority: B	Fauquier County Water & Sanitation Authority: B
Big Walker Soil & Water Conservation District: A	Ferrum Water & Sewage Authority: A
Blacksburg-VPI Sanitation Authority: B	Franklin Redevelopment & Housing Authority: B
Blue Ridge Behavioral Healthcare: B	Frederick County Sanitation Authority: C
Blue Ridge Juvenile Detention Center: B	Giles County Public Service Authority: B
Blue Ridge Regional Jail Authority: B	Goochland-Powhatan Community Services Board: B
Blue Ridge Resource Authority: B	Greensville County Water & Sewer Authority: C
Breaks Interstate Park Commission: A	Greensville-Emporia Department of Social Services: C
Bristol Redevelopment & Housing Authority: B	Halifax Service Authority: B
Bristol Virginia Utilities Authority: B	Hampton-Newport News Community Services Board: A
Brunswick Industrial Development Authority: B	Hampton Redevelopment & Housing Authority: B
Campbell County Utilities & Service Authority: B	Hampton Roads Planning District Commission: B
Capital Region Airport Commission: C	Hampton Roads Regional Jail Authority: B
Central Rappahannock Regional Library: B	Hampton Roads Sanitation District: C
Central Shenandoah Justice Training Academy: B	Hampton Roads Transit: B
Central Virginia Regional Jail: B	Hampton Roads Transportation Accountability Commission: C
Central Virginia Waste Management Authority: C	Hampton Roads Workforce Council: B
Charlottesville-Albemarle Airport Authority: B	Handley Regional Library: B
Charlottesville Redevelopment & Housing Authority: B	Harrisonburg-Rockingham Community Services Board: C
Chesapeake Bay Bridge & Tunnel District: B	Harrisonburg-Rockingham Regional Sewer Authority: B
Chesapeake Redevelopment & Housing Authority: B	Henricopolis Soil & Water Conservation District: B
Chesterfield County Health Center Commission: B	Henry County Public Service Authority: C
Clinch Valley Soil & Water Conservation District: B	Holston River Soil & Water Conservation District: C
Coeburn-Norton-Wise Regional Water Treatment Authority: B	Hopewell Redevelopment & Housing Authority: A
Colonial Behavioral Health: C	Horizon Behavioral Health: B
Colonial Soil & Water Conservation District: B	Institute for Advanced Learning and Research: A

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS, cont.

James City Service Authority: C	Peter Francisco Soil & Water Conservation District: A
John Marshall Soil & Water Conservation District: B	Petersburg Redevelopment & Housing Authority: C
Lee County Public Service Authority: B	Peumansend Creek Regional Jail Authority: B
Lee County Redevelopment & Housing Authority: B	Piedmont Community Services Board: B
Lenowisco Planning District Commission: B	Piedmont Regional Jail: B
Lonesome Pine Regional Library: B	Piedmont Regional Juvenile Detention Center: B
Lonesome Pine Soil & Water Conservation District: B	Planning District One Behavioral Health Services Board: C
Loudoun County Sanitation Authority: B	Portsmouth Redevelopment & Housing Authority: B
Massanutten Regional Library: B	Potomac and Rappahannock Transportation Commission: B
Maury Service Authority: B	Potomac River Fisheries Commission: B
Meherrin Regional Library: C	Prince William County Service Authority: C
Meherrin River Regional Jail Authority: C	Prince William Soil & Water Conservation District: B
Middle Peninsula Juvenile Detention Commission: C	Rappahannock Area Community Services Board: C
Middle Peninsula-Northern Neck Community Services Board: B	Rappahannock Area Youth Services & Group Home Commission: B
Middle Peninsula Planning District Commission: B	Rappahannock Juvenile Center: C
Middle Peninsula Regional Security Center: B	Rappahannock-Rapidan Community Services Board: B
Middle River Regional Jail Authority: B	Rappahannock-Rapidan Regional Planning District Commission: B
Monacan Soil & Water Conservation District: C	Rappahannock Regional Jail: B
Montgomery Regional Solid Waste Authority: B	Region Ten Community Services Board: B
Mount Rogers Community Services Board: B	Richmond Metropolitan Transportation Authority: B
Nelson County Service Authority: B	Richmond Redevelopment & Housing Authority: B
New River Resource Authority: C	Richmond Regional Planning District Commission: A
New River Soil & Water Conservation District: B	Rivanna Solid Waste Authority: B
New River Valley Community Services Board: A	Rivanna Water & Sewer Authority: B
New River Valley Emergency Communications Regional Authority: B	Riverside Regional Jail: B
New River Valley Juvenile Detention Home Commission: B	Roanoke Higher Education Authority: C
New River Valley Regional Commission: A	Roanoke Redevelopment & Housing Authority: A
New River Valley Regional Jail: B	Roanoke River Service Authority: B
Norfolk Airport Authority: B	Robert E. Lee Soil & Water Conservation District: A
Norfolk Redevelopment & Housing Authority: B	Rockbridge Area Community Services Board: B
Northern Neck Planning District Commission: B	Rockbridge Area Social Services Department: B
Northern Neck Regional Jail: B	Rockbridge County Public Service Authority: B
Northern Shenandoah Valley Regional Commission: B	Rockbridge Regional Library: A
Northern Virginia Health Care Center Commission: A	RSW Regional Jail Authority: B
Northern Virginia Juvenile Detention Home: B	Russell County Public Service Authority: C
Northern Virginia Transportation Authority: C	Scott County Public Service Authority: B
Northwestern Community Services Board: B	Scott County Redevelopment & Housing Authority: B
NRV Regional Water Authority: B	Scott County Soil & Water Conservation District: C
Pamunkey Regional Jail: C	Shenandoah Valley Juvenile Center: C
Pamunkey Regional Library: C	Shenandoah Valley Regional Airport Commission: B
Peaks of Otter Soil & Water Conservation District: B	Skyline Soil & Water Conservation District: A
Peanut Soil and Water Conservation District: A	South Central Wastewater Authority: B
Peninsula Airport Commission: B	Southeastern Virginia Public Service Authority: B
Pepper's Ferry Regional Wastewater Authority: C	Southside Behavioral Health: C

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS, cont.

Southside Planning District Commission: B	Virginia Peninsula Regional Jail: B
Southside Regional Jail: C	Virginia Peninsulas Public Service Authority: B
Southside Regional Juvenile Group Home Commission: B	Virginia Resources Authority: B
Southwest Regional Recreation Authority: B	Virginia's Region 2000 Local Government Council: B
Southwest Virginia Regional Jail: B	Washington County Service Authority: B
Staunton Redevelopment & Housing Authority: B	Washington Metropolitan Area Transportation Commission: A
Suffolk Redevelopment & Housing Authority: B	Waynesboro Redevelopment & Housing Authority: B
Sussex Service Authority: B	Western Tidewater Community Services Board: D
Tazewell Soil & Water Conservation District: B	Western Tidewater Regional Jail: B
Thomas Jefferson Planning District Commission: B	Western Virginia Regional Jail Authority: C
Thomas Jefferson Soil & Water Conservation District: B	Western Virginia Water Authority: B
Tidewater Soil & Water Conservation District: A	Williamsburg Area Transit Authority: C
Tidewater Youth Services Commission: C	Wise County Public Service Authority: B
Tri-County/City Soil & Water Conservation District: B	Wise County Redevelopment & Housing Authority: C
Upper Occoquan Sewage Authority: B	Woodway Water Authority: B
Valley Community Services Board: B	Wythe-Grayson Regional Library: B
Virginia Biotechnology Research Park Authority: C	Wytheville Redevelopment & Housing Authority: B
Virginia Coalfield Economic Development Authority: C	
Virginia Highlands Airport Authority: B	

SCHOOLS: 144*

E: teacher and non-teacher (as applicable) employees covered by retirement, group life insurance and the retiree health insurance credit

COUNTY SCHOOLS: 94

Accomack County Schools: E	Carroll County Schools: E	Giles County Schools: E	Loudoun County Schools: E
Albemarle County Schools: E	Charles City County Schools: E	Gloucester County Schools: E	Louisa County Schools: E
Alleghany County Schools: E	Charlotte County Schools: E	Goochland County Schools: E	Lunenburg County Schools: E
Amelia County Schools: E	Chesterfield County Schools: E	Grayson County Schools: E	Madison County Schools: E
Amherst County Schools: E	Clarke County Schools: E	Greene County Schools: E	Mathews County Schools: E
Appomattox County Schools: E	Craig County Schools: E	Greensville County Schools: E	Mecklenburg County Schools: E
Arlington County Schools: E	Culpeper County Schools: E	Halifax County Schools: E	Middlesex County Schools: E
Augusta County Schools: E	Cumberland County Schools: E	Hanover County Schools: E	Montgomery County Schools: E
Bath County Schools: E	Dickenson County Schools: E	Henrico County Schools: E	Nelson County Schools: E
Bedford County Schools: E	Dinwiddie County Schools: E	Henry County Schools: E	New Kent County Schools: E
Bland County Schools: E	Essex County Schools: E	Highland County Schools: E	Northampton County Schools: E
Botetourt County Schools: E	Fairfax County Schools: E	Isle of Wight County Schools: E	Northumberland County Schools: E
Brunswick County Schools: E	Fauquier County Schools: E	King & Queen County Schools: E	Nottoway County Schools: E
Buchanan County Schools: E	Floyd County Schools: E	King George County Schools: E	Orange County Schools: E
Buckingham County Schools: E	Fluvanna County Schools: E	King William County Schools: E	Page County Schools: E
Campbell County Schools: E	Franklin County Schools: E	Lancaster County Schools: E	Patrick County Schools: E
Caroline County Schools: E	Frederick County Schools: E	Lee County Schools: E	

COUNTY SCHOOLS, cont.

Pittsylvania County Schools: E	Richmond County Schools: E	Smyth County Schools: E	Warren County Schools: E
Powhatan County Schools: E	Roanoke County Schools: E	Southampton County Schools: E	Washington County Schools: E
Prince Edward County Schools: E	Rockbridge County Schools: E	Spotsylvania County Schools: E	Westmoreland County
Prince George County Schools: E	Rockingham County Schools: E	Stafford County Schools: E	Schools: E
Prince William County Schools: E	Russell County Schools: E	Surry County Schools: E	Wise County Schools: E
Pulaski County Schools: E	Scott County Schools: E	Sussex County Schools: E	Wythe County Schools: E
Rappahannock County Schools: E	Shenandoah County Schools: E	Tazewell County Schools: E	York County Schools: E

CITY AND TOWN SCHOOLS: 39

Alexandria City Schools: E	Falls Church Public Schools: E	Manassas Park City Schools: E	Roanoke City Schools: E
Bristol City Schools: E	Franklin City Schools: E	Martinsville City Schools: E	Salem City Schools: E
Buena Vista City Schools: E	Fredericksburg City Schools: E	Newport News Public Schools: E	Staunton City Schools: E
Charlottesville Public Schools: E	Galax City Schools: E	Norfolk Public Schools: E	Suffolk City Schools: E
Chesapeake Public Schools: E	Hampton City Schools: E	Norton City Schools: E	Virginia Beach City Schools: E
Colonial Beach Schools: E	Harrisonburg City Schools: E	Petersburg City Schools: E	Waynesboro City Schools: E
Colonial Heights City Schools: E	Hopewell City Schools: E	Poquoson City Schools: E	West Point Schools: E
Covington City Schools: E	Lexington City Schools: E	Portsmouth City Schools: E	Williamsburg–James City County
Danville City Schools: E	Lynchburg Public Schools: E	Radford City Schools: E	Schools: E
Fairfax City Schools: E	Manassas City Schools: E	Richmond City Public Schools: E	Winchester Public Schools: E

OTHER SCHOOLS: 11

Amelia-Nottoway Technical Center: E	Charlottesville-Albemarle Vocational Technical Center: E	New Horizons Technical Center: E	Rowanty Vocational Technical Center: E
Appomattox Regional Governor's School: E	Jackson River Vocational Technical Center: E	Northern Neck Regional Special Education Program: E	Valley Vocational Technical Center: E
Bridging Communities Regional Career Center & Technical Center: E	Maggie Walker Governor's School for Government and International Studies: E	Northern Neck Regional Vocational Center: E	

** Of the 144 school boards, 133 also provide coverage for non-teacher employees and are treated as political subdivisions.*

AGENCIES OF THE COMMONWEALTH OF VIRGINIA, INCLUDING PUBLIC COLLEGES AND UNIVERSITIES: 228

Covered by retirement, group life insurance, retiree health insurance credit and sickness and disability

TOTAL VRS-PARTICIPATING EMPLOYERS: 835

FIGURE 5.16: VRS EMPLOYER RANKING CURRENT YEAR

AS OF JUNE 30, 2021

Employer	Active Employees	Percentage of Total
1. Fairfax County Public Schools	22,306	6.47%
2. Loudoun County School Board – Professional Employees	9,971	2.89%
3. Prince William County School Board – Professional Employees	9,127	2.65%
4. Virginia Beach City School Board – Professional Employees	7,768	2.25%
5. Chesterfield County School Board – Professional Employees	6,698	1.94%
6. City of Virginia Beach	5,802	1.68%
7. Henrico County School Board	5,310	1.54%
8. University of Virginia – Academic Division	5,176	1.50%
9. Henrico County	5,073	1.47%
10. VPI & SU - Academic	4,608	1.34%
11. All Other	263,038	76.27%
Total	344,877	100.00%

HISTORICAL COMPARISON

AS OF JUNE 30, 2011

Employer	Active Employees	Percentage of Total
1. Fairfax County Schools – Professional Employees	19,783	5.82%
2. Virginia Beach City Schools – Professional Employees	8,410	2.48%
3. Prince William County Schools – Professional Employees	7,621	2.24%
4. Loudoun County Schools – Professional Employees	7,170	2.11%
5. Chesterfield County Schools – Professional Employees	5,890	1.73%
6. City of Virginia Beach – General Government	5,886	1.73%
7. University of Virginia – Academic Division	5,371	1.58%
8. Henrico County Schools – Professional Employees	5,086	1.50%
9. Henrico County – General Government	4,918	1.45%
10. Norfolk City Schools – Professional Employees	4,907	1.44%
11. All other	264,698	77.92%
Total	339,740	100.00%

HYBRID DEFINED CONTRIBUTION PLAN SCHEDULE OF FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Total Hybrid Defined Contribution Plans
Assets:	
Receivables:	
Contributions	\$ 10,112
Total Receivables	10,112
Investments:	
Hybrid Defined Contribution Investments	1,297,159
Total Investments	1,297,159
Total Assets	1,307,271
Liabilities:	
Other Payables	1,780
Total Liabilities	1,780
Net Position – Restricted for Benefits	\$ 1,305,491

HYBRID DEFINED CONTRIBUTION PLAN SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	Total Hybrid Defined Contribution Plans
Additions:	
Contributions:	
Members	\$ 151,276
Employers	120,139
Total Contributions	271,415
Investment Income:	
Interest, Dividends and Other Investment Income	7,807
Net Appreciation/(Depreciation) in Fair Value of Investments	298,601
Total Investment Income Before Investment Expenses	306,408
Investment Expenses:	
Total Investment Expenses	—
Net Investment Income	306,408
Miscellaneous Revenue	—
Total Additions	577,823
Deductions:	
Refunds of Member Contributions	29,820
Administrative Expenses	5,316
Other Expenses	—
Total Deductions	35,136
Net Increase (Decrease)	542,687
Net Position – Restricted for Benefits – Beginning of Year	762,804
Net Position – Restricted for Benefits – End of Year	\$ 1,305,491

HYBRID PLAN MEMBER AND EMPLOYER CONTRIBUTIONS

(EXPRESSED IN THOUSANDS)

	Virginia Retirement System	Judicial Retirement System	Total Hybrid Contributions
Member Contributions	\$ 149,841	\$ 1,435	\$ 151,276
Employer Contributions	119,097	1,042	120,139
Total	\$ 268,938	\$ 2,477	\$ 271,415

Commonwealth of Virginia 457 Deferred Compensation and Cash Match Plans Program With Oversight by VRS

PLAN OVERVIEW

The Commonwealth of Virginia 457 Deferred Compensation Plan is qualified under Section 457(b) of the Internal Revenue Code and regulated by Title 51.1, Chapter 6, of the *Code of Virginia*. The 457 Deferred Compensation Plan provides eligible members a way to save for retirement through deferrals of compensation each pay period.

The Cash Match Plan is qualified under Section 401(a) of the Internal Revenue Code and is regulated by Title 51.1, Chapter 6, of the *Code of Virginia*. Employees participating in the Deferred Compensation Plan are eligible to receive an employer-provided contribution to the Cash Match Plan if they are state employees or employees whose employers have elected the Cash Match Plan.

ELIGIBILITY

New and re-hired salaried state employees in Plan 1 and Plan 2 are automatically enrolled in the Deferred Compensation Plan upon employment with two opportunities to opt out of the plan. The Deferred Compensation Plan is voluntary for salaried state employees hired before January 1, 2008, and for eligible political subdivision employees whose employers have elected to participate in the plan.

Wage employees of employers that offer the plans may participate in the Deferred Compensation Plan but not the Cash Match Plan. Figure 5.17 presents details of each plan's activity for the years ended June 30, 2021, 2020 and 2019.

Contributions to the Deferred Compensation Plan during fiscal year 2021 and fiscal year 2020 were \$171,469,430.38 and \$158,533,725.53, respectively.

Contributions to the Cash Match Plan during fiscal year 2021 and fiscal year 2020 were \$15,035,712 and \$15,346,156, respectively.

As shown in Figures 5.18 and 5.19, there were approximately 87,568 employees in the Deferred Compensation Plan and 72,511 employees in the Cash Match Plan as of June 30, 2021.

Current state legislation establishing the Commonwealth of Virginia 457 Deferred Compensation Plan allows participants to use plan funds to purchase eligible prior service credit in their defined benefit plan. Approximately 80 plan participants used the trustee-to-trustee transfer provision to buy VRS service credit.

The Virginia Retirement System (the System) has oversight but no investment responsibility for the Deferred Compensation and Cash Match Plans.

These plans' assets, therefore, are not included in the System's Basic Financial Statements.

FIGURE 5.17: STATEMENT OF CHANGES IN PLAN ACCUMULATION ASSETS

FOR THE YEARS ENDED JUNE 30

	Deferred Compensation Plan – 457(b)			Cash Match Plan – 401(a)		
	2021	2020	2019	2021	2020	2019
Plan Assets on July 1	\$ 3,271,196,108	\$ 2,875,519,022	\$ 2,700,559,681	\$ 493,196,551	\$ 479,319,288	\$ 456,617,544
Contributions	171,469,430	158,533,726	146,380,483	15,035,712	15,346,156	15,494,911
Distributions	(178,531,571)	(168,994,253)	(153,953,494)	(29,010,738)	(26,740,826)	(27,910,128)
Plan Transfers*	18,914,186	330,392,735	17,625,303	8,849,802	10,825,702	7,589,365
Third-Party Administrative Fees**	(2,418,791)	(2,353,135)	(2,298,608)	(81,674)	(76,827)	(71,792)
Period Earnings	890,342,005	78,098,013	167,205,656	127,254,732	14,523,058	27,599,388
Plan Assets on June 30	\$ 4,170,971,367	\$ 3,271,196,108	\$ 2,875,519,022	\$ 615,244,385	\$ 493,196,551	\$ 479,319,288

* For the Deferred Compensation Plan, this represents plan transfers from other eligible Section 457(b) plans into the Commonwealth's Plan. For the Cash Match Plan, this represents transfers from other qualified plans, including Partial Lump-Sum Option Payments (PLOPs) for the VRS pension plans.

** The current third-party administrator, MissionSquare Retirement (formerly ICMA-RC), is compensated based on an annual record-keeping and communication fee of \$30.50 per participant deducted on monthly basis (approximately \$2.54 per month). Participants with multiple accounts only pay one annual fee of \$30.50. In addition, administrative costs were incurred by VRS for each of the plans. For the Deferred Compensation Plan, they were \$688,260 and \$804,806 in fiscal year 2021 and fiscal year 2020, respectively. For the Cash Match Plan, they were \$562,879 and \$444,250 in fiscal year 2021 and fiscal year 2020, respectively. These costs are funded by the employers participating in the plans.

FIGURE 5.18: 457(b) ACTIVE AND INACTIVE PLAN PARTICIPANTS

AT JUNE 30

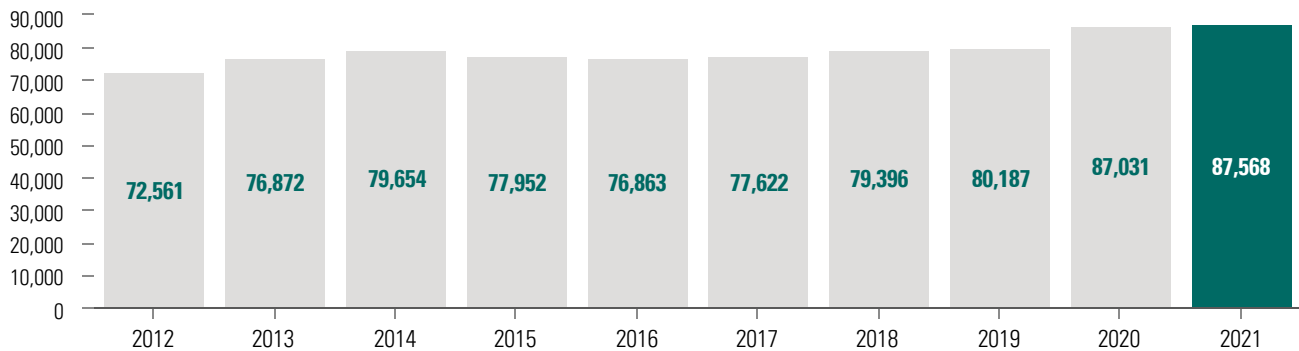


FIGURE 5.19: 401(a) ACTIVE AND INACTIVE PLAN PARTICIPANTS

AT JUNE 30

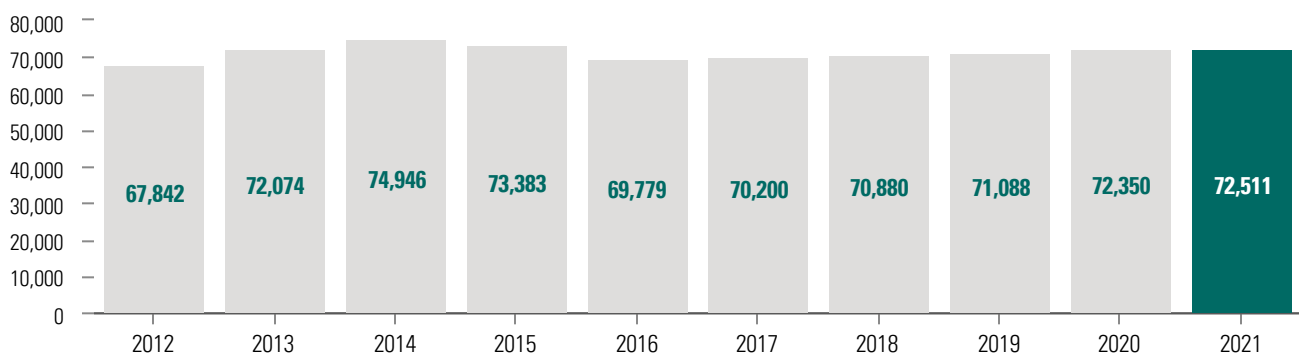


FIGURE 5.20: TOTAL PARTICIPANT ACCOUNTS IN EACH FUND OPTION

AT JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

Fund Name	Deferred Compensation Plan – 457(b)	Cash Match Plan – 401(a)
Retirement Portfolio	8,567	6,662
Target Date 2025 Portfolio	7,272	5,780
Target Date 2030 Portfolio	7,682	6,100
Target Date 2035 Portfolio	7,860	6,272
Target Date 2040 Portfolio	7,291	5,840
Target Date 2045 Portfolio	7,959	6,538
Target Date 2050 Portfolio	8,060	6,825
Target Date 2055 Portfolio	6,533	5,595
Target Date 2060 Portfolio	3,153	2,675
Target Date 2065 Portfolio	790	711
Money Market Fund	4,258	2,966
Stable Value Fund	18,967	15,073
Bond Fund	9,445	5,891
Inflation-Protected Bond Fund	3,589	2,258
High-Yield Bond Fund	4,105	2,491
Stock Fund	24,539	17,569
Small/Mid-Cap Stock Fund	14,122	9,078
International Stock Fund	12,052	7,630
Global Real Estate Fund	7,207	5,201
VRS Investment Portfolio	1,428	864
Self-Directed Brokerage	724	97

The number of participant accounts exceeds the number of participants, as a participant may invest in more than one fund.

FIGURE 5.21: ACCUMULATION PLAN ASSETS BY FUND

FOR THE YEARS ENDED JUNE 30

Fund Name	Deferred Compensation Plan – 457(b)			Cash Match Plan – 401(a)		
	2021	2020	2019	2021	2020	2019
Retirement Portfolio	\$ 320,723,643	\$ 287,214,236	\$ 135,928,598	\$ 51,486,734	\$ 45,989,307	\$ 23,163,540
Target Date 2020 Portfolio	\$ —	\$ —	\$ 145,120,377	\$ —	\$ —	\$ 21,495,258
Target Date 2025 Portfolio	\$ 221,027,213	\$ 172,967,965	\$ 141,773,944	\$ 30,495,511	\$ 24,240,950	\$ 22,036,269
Target Date 2030 Portfolio	\$ 178,560,983	\$ 137,107,664	\$ 109,054,604	\$ 27,540,293	\$ 21,376,162	\$ 20,158,988
Target Date 2035 Portfolio	\$ 156,721,920	\$ 109,088,538	\$ 87,791,153	\$ 26,954,661	\$ 20,082,314	\$ 18,585,381
Target Date 2040 Portfolio	\$ 111,616,265	\$ 75,987,459	\$ 65,549,881	\$ 21,764,138	\$ 15,539,592	\$ 14,495,065
Target Date 2045 Portfolio	\$ 83,767,190	\$ 54,633,924	\$ 45,030,640	\$ 20,201,294	\$ 14,081,477	\$ 13,154,787
Target Date 2050 Portfolio	\$ 56,878,644	\$ 37,045,505	\$ 32,308,833	\$ 16,673,634	\$ 11,528,364	\$ 10,381,616
Target Date 2055 Portfolio	\$ 33,621,418	\$ 21,951,106	\$ 18,348,922	\$ 9,241,261	\$ 6,325,267	\$ 5,733,889
Target Date 2060 Portfolio	\$ 9,264,790	\$ 5,371,101	\$ 3,987,917	\$ 2,164,306	\$ 1,300,998	\$ 995,785
Target Date 2065 Portfolio	\$ 1,736,097	\$ 295,103	\$ —	\$ 313,770	\$ 63,699	\$ —
Money Market Fund	\$ 74,820,391	\$ 75,798,748	\$ 53,921,201	\$ 8,276,367	\$ 8,423,408	\$ 6,739,266
Stable Value Fund	\$ 523,297,780	\$ 527,291,096	\$ 411,350,637	\$ 101,300,410	\$ 100,396,075	\$ 96,730,425
Bond Fund	\$ 157,684,503	\$ 160,553,873	\$ 118,389,045	\$ 15,400,301	\$ 16,642,023	\$ 13,990,477
Inflation-Protected Bond Fund	\$ 46,902,098	\$ 38,335,085	\$ 34,277,998	\$ 4,591,203	\$ 3,868,972	\$ 3,319,138
High-Yield Bond Fund	\$ 42,379,617	\$ 34,867,403	\$ 36,982,014	\$ 4,528,139	\$ 4,121,189	\$ 4,533,496
Stock Fund	\$ 1,314,381,660	\$ 963,640,876	\$ 860,917,003	\$ 183,452,513	\$ 135,658,557	\$ 132,204,644
Small/Mid-Cap Stock Fund	\$ 411,309,176	\$ 264,424,982	\$ 265,760,065	\$ 48,486,073	\$ 31,536,887	\$ 35,672,477
International Stock Fund	\$ 201,129,840	\$ 146,079,592	\$ 141,061,592	\$ 19,623,112	\$ 14,393,847	\$ 15,854,876
Global Real Estate Fund	\$ 90,531,329	\$ 69,729,511	\$ 87,334,070	\$ 13,753,893	\$ 10,577,197	\$ 13,406,658
VRS Investment Portfolio – Interim Account	\$ 991,657	\$ 953,694	\$ 672,588	\$ 36,831	\$ 225,458	\$ 19,907
VRS Investment Portfolio	\$ 40,912,054	\$ 32,256,924	\$ 32,784,987	\$ 6,943,536	\$ 5,495,634	\$ 5,227,836
Self-Directed Brokerage	\$ 92,713,099	\$ 55,601,723	\$ 47,172,954	\$ 2,016,405	\$ 1,329,174	\$ 1,419,509
Total Accumulation Plan Assets	\$4,170,971,367	\$3,271,196,107	\$2,875,519,023	\$ 615,244,385	\$ 493,196,551	\$ 479,319,287

Detailed information on each of these funds, including the investment objective, distribution of assets, investment performance and annual operating expense for each fund, is presented in the Investment Section.



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