80 Years of Serving
Those Who Serve Others

Annual Comprehensive Financial Report

for the fiscal year ended
June 30, 2022

Virginia Retirement System®

An Independent Agency of the Commonwealth of Virginia

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

(EXPRESSED IN THOUSANDS)

	2022	2021	% Change
Activity for the Year:			
Contributions	$ 4,520,890	$ 3,711,306	21.81%
Investment Income (Net of Investment Expenses)	$ (117,477)	$ 21,503,294	-100.55%
Retirement Benefits	$ 5,729,308	$ 5,522,199	3.75%
Refunds	$ 130,117	$ 116,186	11.99%
Administrative and Other Expenses (Net of Miscellaneous Income)	$ 59,379	$ 53,420	11.15%
Increase (Decrease) in Net Position Held in Trust for Pension Benefits	$ (1,515,391)	$ 19,522,795	
Retirement Benefits as a Percentage of Contributions	126.7%	148.8%	
Retirement Benefits as a Percentage of Contributions and Investment Income	130.1%	21.9%	
Net Position Held in Trust for Benefits at Fiscal Year-End:			
Virginia Retirement System (VRS)	$ 93,836,088	$ 95,288,645	-1.52%
State Police Officers' Retirement System (SPORS)	$ 1,031,383	$ 1,050,148	-1.79%
Virginia Law Officers' Retirement System (VaLORS)	$ 1,841,041	$ 1,868,924	-1.49%
Judicial Retirement System (JRS)	$ 656,965	$ 673,151	-2.40%
Investment Performance*:			
One-Year Return on Investments	0.6%	27.5%	
Three-Year Return on Investments	9.2%	11.3%	
Five-Year Return on Investments	8.3%	10.7%	
Participating Employers:			
Counties/Cities/Towns	255	255	
Special Authorities	211	208	
School Boards**	144	144	
State Agencies	222	228	
Total Employers	832	835	-0.36%
Members/Retirees:			
Active Members	349,711	344,877	1.40%
Retired Members	231,523	224,973	2.91%

** 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®

Virginia Retirement System

Annual Comprehensive Financial Report

For the Year Ended June 30, 2022

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

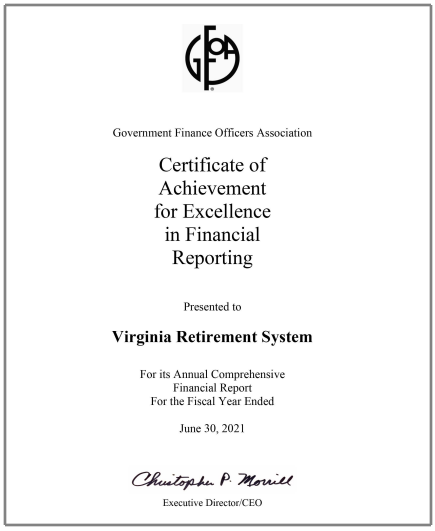
Confidentiality is exercising discretion and performing our ethical duty to protect the personal information of our members, retirees, beneficiaries and employers. We safeguard personal data and sensitive VRS information that is viewed, acquired or otherwise accessible during the course of VRS employment.

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 Annual Comprehensive Financial Report For the Fiscal Year Ended

June 30, 2021

Christopher P. Morrill

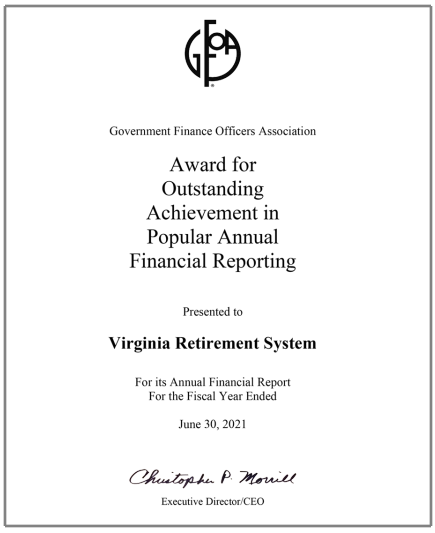
Executive Director/CEO

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, 2021. This was the 40th 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 2022 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, 2021

Christopher P. Morrill

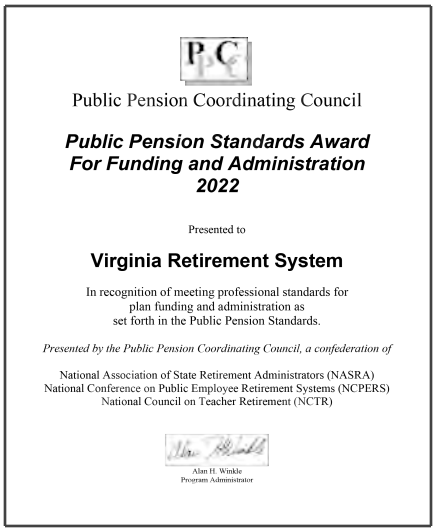
Executive Director/CEO

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, 2021. This was the sixth 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 2022 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 2022

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 H. Winkle
Program Administrator

Public Pension Coordinating Council Standards Award for Funding and Administration

VRS received the 2022 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 19th 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).

Table of Contents

1. INTRODUCTORY SECTION

Chair's Letter 9
Board of Trustees 15
VRS Organization 16
Investment Advisory Committee 16
Defined Contribution Plans Advisory Committee 16
Executive Administrative Team 17
Executive Investment Team 17
Professional Consultants 17
Letter of Transmittal 18

2. FINANCIAL SECTION

Independent Auditor's Report 33
Management's Discussion and Analysis 37
Basic Financial Statements: 48
VRS Statement of Fiduciary Net Position: Defined Benefit Pension Trust Funds, Other Employee Benefit Trust Funds and Other Custodial Plans 48
VRS Statement of Changes in Fiduciary Net Position: Defined Benefit Pension Trust Funds, Other Employee Benefit Trust Funds and Other Custodial Plans 49
VRS Statement of Fiduciary Net Position: Defined Benefit Pension Trust Funds 50
VRS Statement of Changes in Fiduciary Net Position: Defined Benefit Pension Trust Funds 51
VRS Combining Statement of Fiduciary Net Position 52
VRS Combining Statement of Changes in Fiduciary Net Position 53
VRS Combining Statement of Fiduciary Net Position: Other Employee Benefit Trust Funds 54
VRS Combining Statement of Changes in Fiduciary Net Position: Other Employee Benefit Trust Funds 55
Retiree Health Insurance Credit Combining Statement of Fiduciary Net Position 56
Retiree Health Insurance Credit Combining Statement of Changes in Fiduciary Net Position 57
VLDP Combining Statement of Fiduciary Net Position 58
VLDP Combining Statement of Changes in Fiduciary Net Position 59
VRS Combining Statement of Fiduciary Net Position: Other Custodial Plans 60
VRS Combining Statement of Changes in Fiduciary Net Position: Other Custodial Plans 61
Notes to Financial Statements 62
Schedule of Employers' Net Pension Liability by System and Plan 79
Schedule of Actuarial Methods and Significant Assumptions: Pension Plans 80
Schedule of Impact of Changes in Discount Rate: Pension Plans 81
Schedule of Participating Employers: OPEB Plans 83
Schedule of Employers' Net OPEB Liability by Program and Plan 89
Schedule of Actuarial Methods and Significant Assumptions: OPEB Plans 90
Schedule of Impact of Changes in Discount Rate: LODA Plan 91
Schedule of Impact of Changes in Health Care Trend Rate: LODA Plan 91
Schedule of Impact of Changes in Discount Rate: Non-LODA OPEB Plans 92
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS State 118
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS Teacher 120
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VRS Political Subdivisions 122
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: SPORS 124
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: VaLORS 126
Required Supplementary Schedule of Changes in Employers' Net Pension Liability: JRS 128
Required Supplementary Schedule of Employer Contributions: Pension Plans 130
Required Supplementary Schedule of Investment Returns 131
Required Supplementary Schedule of Changes in Employers' Net OPEB Liability and Related Ratios 132
Required Supplementary Schedule of Employer Contributions: OPEB Plans 143
Schedule of Investment Expenses 146
Schedule of Administrative Expenses 147
Schedule of Professional and Consulting Services 148

3. INVESTMENT SECTION

Chief Investment Officer's Letter 151
Investment Account 155
Portfolio Highlights 157
VRS Money Managers 163
Public Equity Commissions 166
Schedule of Investment Expenses 166
Investment Summary 167
Description of Hybrid Defined Contribution Plan 168
Description of Defined Contribution Plans Investment Options 169
Investment Option Performance Summary: Defined Contribution Plans 173

(Continued)

Table of Contents *(continued)*

4. ACTUARIAL SECTION

Pension Trust Funds:

- Actuary's Certification Letter: Pension Plans 177
- Summary of Actuarial Assumptions and Methods: Pension Plans 181
- Solvency Test: Pension Plans 182
- Solvency Test: VRS Pension Plans 183
- Schedule of Funding (Actuarial Value Basis): All Pension Plans 184
- Schedule of Funding (Actuarial Value Basis): VRS Pension Plans 185
- Schedule of Active Member Valuation Data: Pension Plans 186
- Schedule of Active Member Valuation Data: VRS Pension Plans 187
- Schedule of Retiree and Beneficiary Valuation Data: Pension Plans 188
- Schedule of Retiree and Beneficiary Valuation Data: VRS Pension Plans 189
- Actuarial Assumptions and Methods 192
- Additional Information About Actuarial Assumptions and Methods: Pension Plans 212
- Summary of Pension Plan Provisions 213
- Summary of Pension Plan Changes 222

Other Post-Employment Benefit (OPEB) Plan Funds:

- Actuary's Certification Letter: OPEB Plans 223
- Actuary's Certification Letter: OPEB Plans – Line of Duty Act Fund 226
- Summary of Actuarial Assumptions and Methods: OPEB Plans 229
- Solvency Test: OPEB Plans 230
- Schedule of Active Member Valuation Data: OPEB Plans 232
- Schedule of Retiree and Beneficiary Valuation Data: OPEB Plans 234
- Additional Information About Actuarial Assumptions and Methods: OPEB Plans 254
- Summary of OPEB Plan Provisions 256
- Summary of OPEB Plan Changes 260

5. STATISTICAL SECTION

- VRS Fiscal Year Returns 263

Pension Trust Funds:

- Schedule of Retirement Contributions by System and Plan 268
- Schedule of Pension Trust Fund Additions by Source 269
- Schedule of Pension Trust Fund Deductions by Type 270
- Schedule of Retirement Benefits by System and Plan 271
- Schedule of Retirement Benefits by Type 271
- Schedule of Refunds by Type 273
- Schedule of Retirees and Beneficiaries by Type of Retirement 276
- Schedule of Retirees and Beneficiaries by Type of Retirement and Plan 276
- Schedule of Retirees and Beneficiaries by Payout Option Selected 277
- Schedule of Average Benefit Payments 277
- Schedule of Funding (Market Value Basis): All Pension Plans 287
- Schedule of Funding (Market Value Basis): VRS Pension Plans 288

Other Employee Benefit Trust Funds:

- Schedule of Group Life Insurance Additions by Source 290
- Schedule of Group Life Insurance Deductions by Type 290
- Schedule of Retiree Health Insurance Credit Additions by Source 294
- Schedule of Retiree Health Insurance Credit Deductions by Type 295
- Schedule of Disability Insurance Trust Fund Additions by Source 296
- Schedule of Disability Insurance Trust Fund Deductions by Type 297
- Schedule of Retired Members and Beneficiaries by Plan 300
- Schedule of Average Benefit Payments by Plan 300

- VRS-Participating Employers 302
- Hybrid Defined Contribution Plan Schedules 309
- Commonwealth of Virginia 457 Deferred Compensation and Cash Match Plans 311

Figures

FINANCIAL SECTION

Figure 2.1: Summary of Fiduciary Net Position 39
Figure 2.2: Summary of Changes in Fiduciary Net Position 40
Figure 2.3: Distribution of Active Members 41
Figure 2.4: Distribution of Retirees and Beneficiaries 41
Figure 2.5: Distribution of Employers 41
Figure 2.6: Summary of Pension Contributions, Investment Earnings and Miscellaneous Revenues 42
Figure 2.7: Summary of Pension Plan Primary Expenses 43
Figure 2.8: Summary of Pension Plan Reserve Balances 44

Notes to Financial Statements:

Figure 2.9: Active, Retired and Terminated Members and Beneficiaries 71
Figure 2.10: Retirement Plan Provisions 72
Figure 2.11: Member and Employer Contributions 79
Figure 2.12: Other Employee Benefit and Post-Employment Benefit Plan Provisions 84
Figure 2.13: Net Position Restricted for Benefits 93
Figure 2.14: Deposits 93
Figure 2.15: Equity Interests 94
Figure 2.16: Investments and Derivative Instruments Measured at Fair Value 95
Figure 2.17: Investments Measured at the NAV 98
Figure 2.18: Debt Securities Subject to Interest Rate Risk 102
Figure 2.19: Securities Lending Collateral Subject to Interest Rate Risk 103
Figure 2.20: Credit Quality and Exposure Levels of Non-Government-Guaranteed Securities 104
Figure 2.21: Securities Lending Collateral Subject to Credit Risk 105
Figure 2.22: Currency Exposures by Asset Class 106
Figure 2.23: Derivative Instruments Summary 108
Figure 2.24: Derivative Instruments Subject to Interest Rate Risk 108
Figure 2.25: Currency Forwards 110
Figure 2.26: Derivative Instruments Highly Sensitive to Interest Rate Changes 111
Figure 2.27: Derivative Instruments Subject to Counterparty Credit Risk 112
Figure 2.28: Asset Allocation 113
Figure 2.29: Capital Assets 114
Figure 2.30: Long-Term Leases 114

INVESTMENT SECTION

Investment Account:

Figure 3.1: Asset Allocation Mix 156
Figure 3.2: Investment Performance Summary 156

Portfolio Highlights:

Figure 3.3: Traditional Equity Custom Benchmark Sectors and Regions 158
Figure 3.4: Public Equity – Top 10 Exposures 158
Figure 3.5: Fixed Income Portfolio by Sector Allocation 159
Figure 3.6: Fixed Income – Top 10 Holdings by Market Value 160
Figure 3.7: Private Equity Program 160
Figure 3.8: Real Assets by Sector 161
Figure 3.9: Real Assets by Geographic Region 161
Figure 3.10: Credit Strategies Program 162

ACTUARIAL SECTION

Pension Trust Funds:

Figure 4.1: Analysis of Actuarial Gains and Losses – Pension Plans 190
Figure 4.2: Analysis of Actuarial Gains and Losses – VRS Pension Plans 191
Figure 4.3: Retirement Rates – Pension Plans 193
Figure 4.4: Disability Rates – Pension Plans 202
Figure 4.5: Termination Rates – Pension Plans 204
Figure 4.6: Salary Increase Rates – Pension Plans 208

Other Post-Employment Benefit (OPEB) Plan Funds:

Figure 4.7: Retirement Rates – OPEB Plans 236
Figure 4.8: Disability Rates – OPEB Plans 245
Figure 4.9: Termination Rates – OPEB Plans 247
Figure 4.10: Salary Increase Rates – OPEB Plans 251
Figure 4.11: Porting Rates – Long-Term Care 253

STATISTICAL SECTION

Pension Trust Funds:

Figure 5.1: Analysis of Changes and Growth in Fiduciary Net Position – All Pension Trust Funds 263
Figure 5.2: Number of Active Members 264
Figure 5.3: Analysis of Changes and Growth in Fiduciary Net Position – Virginia Retirement System 264
Figure 5.4: Number of Retirees and Beneficiaries 268
Figure 5.5: Retirement Benefits Paid 268
Figure 5.6: Distribution of Retirees by Payout Option Selected 283
Figure 5.7: Distribution of Retirees by Years of Service 284
Figure 5.8: Distribution of Retirees by Age at Retirement 285
Figure 5.9: Distribution of Retirees by Average Final Compensation 286

(Continued)

Figures *(continued)*

STATISTICAL SECTION

Other Employee Benefit Trust Funds:

Figure 5.10: Analysis of Changes and Growth in Fiduciary Net Position – Group Life Insurance Fund 289

Figure 5.11: Analysis of Changes and Growth in Fiduciary Net Position – Retiree Health Insurance Credit Fund 291

Figure 5.12: Analysis of Changes and Growth in Fiduciary Net Position – Disability Insurance Trust Fund 295

Figure 5.13: Analysis of Changes and Growth in Fiduciary Net Position – Line of Duty Act 298

Figure 5.14: Analysis of Changes and Growth in Fiduciary Net Position – Virginia Local Disability Program 298

Figure 5.15: Other Post-Employment Benefit Plan Statistics 300

VRS-Participating Employers:

Figure 5.16: VRS Employer Ranking 308

Commonwealth of Virginia 457 Deferred Compensation and Cash Match Plans:

Figure 5.17: Statement of Changes in Plan Accumulation Assets 312

Figure 5.18: 457(b) Active and Inactive Plan Participants 312

Figure 5.19: 401(a) Active and Inactive Plan Participants 312

Figure 5.20: Total Participant Accounts in Each Fund Option 313

Figure 5.21: Accumulation Plan Assets by Fund 314

Virginia Retirement System
80
YEARS
Since 1942

80 Years of Serving
Those Who Serve Others

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

A. Scott Andrews, 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 8, 2022

**The Honorable Glenn Youngkin, Governor of Virginia,
and Members of the General Assembly:**

As VRS celebrates 80 years of continuous service to our members, we now stand as the 17th largest public or private pension fund in the United States and the 42nd largest in the world. VRS members work for 832 unique employers across Virginia.

Apart from my appointment as chair, the VRS Board of Trustees' membership remained unchanged over the fiscal year. Overseeing the portfolio and the administration of benefits for VRS members and retirees – our total population is now more than 778,000 – is a significant and humbling responsibility for us all. I look forward to working with the board as we continue to support members well into the future.

Your collective actions this year will help improve VRS' funded status and generate future savings. The appropriation of $750 million to the VRS trust fund will reduce unfunded liabilities and the additional $250 million in fiscal year 2023, contingent upon meeting revenue projections, will help bolster the fund. The $80.4 million payment to support the health insurance credit will further shore up funding for this benefit.

Due to exceptional investment performance in fiscal year 2021, the actuarially determined employer contribution rates for the upcoming biennium for state and teacher plans would have been lower than the prior biennium. We are gratified that higher contribution rates from the prior biennium were maintained for the state and teacher plans, which will improve plan health in the long term. In addition, contribution rates for the State Police Officers' Retirement System, Virginia Law Officers' Retirement System and the Judicial Retirement System were funded at the board-certified rates.

Plan design changes over the past decade have reduced the future cost of benefits and introduced a shared risk model, the Hybrid Retirement Plan, which now has the largest portion of active VRS members. On behalf of the VRS Board of Trustees, thank you for your continued support of the retirement plans and other benefits administered by VRS for the Commonwealth's public servants.

Together, all these actions have long-lasting, positive effects, enabling VRS to support members well into the future. Combined with our 6.75% assumed rate of return for the investment portfolio, which we revised after careful consideration in 2019, VRS' funded status is in a solid position.

Similarly, VRS administration provides value to members and retirees. The most recent yearly study conducted by CEM Benchmarking reported that VRS delivers a higher level of customer service at a lower cost compared to the group average of 69 leading retirement systems in the U.S., Canada and other countries (see the Measurement of Management section below).

Members' myVRS accounts now offer a number of online customer-service features that have the advantage of being both faster and more secure than paper forms. VRS is an early leader in online retirement technology, with only two other peer pension plans currently offering a true online retirement experience, according to CEM Benchmarking.

MEASUREMENT OF MANAGEMENT

VRS' mission is to provide quality customer service and to deliver benefits and services efficiently to our members, retirees and employers. To carry out that mission, we regularly evaluate our administrative services and costs against those of our peers.

In fiscal year 2021, VRS' total pension administration cost of $81 remained lower than the peer average of $107, according to CEM Benchmarking. VRS' total service score was 81, exceeding the peer median of 79.

In its evaluation of VRS investments, CEM reported that VRS saves approximately $60.7 million in fees annually by managing a portion of the total fund in-house. In addition, VRS' skilled negotiating in external investment management costs and effective cost management results in approximately $55.4 million a year in savings versus the cost paid by our peers for similar services.

Active management by VRS' investment professionals also continues to provide added value to the fund. As of June 30, 2022, VRS' investment professionals have provided an average added value of $1 billion annually to the trust fund over the past 10 years that would not have been realized from managing a passive, indexed portfolio.

VRS maintains its position in the most coveted quadrant of CEM's cost-effective services chart, where we deliver high service at a low cost in comparison to our peers.

INVESTMENT UPDATE

The largest portion of our retirees' benefits are funded through investment returns. The VRS investment team knows that decisions made today must support the current and future needs of members. This is precisely why VRS focuses on performance over the long term, not simply a single year. By balancing risk with reward in our diversified portfolio, the VRS fund is projected to grow steadily, meeting or exceeding the assumed rate of return over time.

And once members retire, about 86% choose to remain in Virginia. VRS paid $5.7 billion to retirees in fiscal year 2022—they spend this retirement income in their communities, boosting the state and local economies.

VRS weathered a primarily down-market year in the past year following a banner return of 27.5% in fiscal year 2021. The VRS trust fund reported a 0.6% return, net of fees, on its investment portfolio for fiscal year 2022, ending the year with approximately $101.1 billion in assets.

During fiscal year 2022, the major asset classes performed as follows:

- Public equity program returned -14.8%
- Fixed income program returned -10.6%
- Credit strategies program returned 1.5%
- Real assets program returned 21.7%
- Private equity program returned 27.4%
- Private investment partnerships 17.0%
- Multi-asset public strategies -4.7%

Ronald D. Schmitz, VRS Chief Investment Officer, will retire at the end of 2022. Schmitz joined VRS as Chief Investment Officer in 2011 from the Oregon Public Employees Retirement System.

During Schmitz's tenure, the VRS Trust Fund almost doubled in size, moving from $51 billion in 2011 to more than $100 billion for the first time in 2021. The VRS Trust Fund generated a 27.5% return in 2021, a record level of fiscal year performance not seen in the past 30 years.

Schmitz has been instrumental in leading staff's value-add contribution to the fund, leveraging his experience and leadership skills to develop strategies that have enabled the growth of the fund and the maximizing of investment returns, while targeting an acceptable level of risk.

VRS appreciates Schmitz's service to the Commonwealth, dedication to the fund and commitment to VRS members and beneficiaries.

The portfolio included approximately $29.9 billion in public equity, $12.9 billion in fixed income, $14.5 billion in credit strategies, $15.1 billion in real assets, $19.0 billion in private equity, $2.6 billion in private investment partnerships and $3.6 billion in the multi-asset public strategies portfolio, as of June 30, 2022.

VRS remains in a solid position to support our current and future retirees and maintain stable contribution rates for our employers. The VRS trust fund is managed by our dedicated investment team, which takes its mission seriously. Our investment professionals are bound by a risk-controlled approach; however, they typically add about a half percent of outperformance annually. In a year scarred by inflation, war and other disruptions, they achieved a remarkable 6% of added value above the benchmark, which translates to hundreds of millions toward the bottom line of the VRS trust fund.

VRS has enhanced its investment-related communications this year with an informative series of short videos highlighting our focus, diversification, long-term performance and adding value to the fund. We have also expanded our quarterly investment reports with commentary to explain investment strategy and market situations. Our goal is to increase members' and retirees' knowledge of our investing strategies while providing additional transparency in our reporting.

VRS Chief Investment Officer Ron Schmitz will retire at the end of 2022. After an extensive national search, we are pleased to announce that Andrew Junkin joined us in September and will become the chief investment officer in January 2023. Junkin has demonstrated vision and skill as an investor in both the public and private sectors.

CUSTOMER SERVICE AND BENEFITS ADMINISTRATION

VRS is dedicated to serving those who serve others in Virginia, and we strive to meet members where they are to help improve retirement outcomes. Our focus on advancements in customer service technology and services, including our online retirement program, is an important element of this mission. We were pleased to see 38% of July retirements using online functionality – reducing overtime and freeing staff to handle more high-touch processing.

Other enhancements to myVRS such as direct deposit management, beneficiary management and survivor accounts, provided members and retirees with more opportunities for self-service management of their accounts. Through a myVRS link to Securian Financial added this year, members and retirees can also manage their optional group life insurance accounts online.

With the integration of online video counseling during the pandemic, VRS can now offer members across the commonwealth access to counseling without travel, in addition to in-person sessions. We have introduced an online scheduling tool to automate virtual and in-person appointment scheduling. Enhanced video technology in our conference rooms equalizes in-person and remote worker participation and fosters collaboration across teams and departments. The Benefit Tip video series with VRS Director Trish Bishop, launched this year, provided key benefits information with a personal touch.

New VRS members are often presented with a variety of handbooks, forms, online resources and benefit choices requiring prompt action as they enter the system. This year, VRS published the award-winning, compact Member Guide to help orient new hires to their VRS benefits. With a bright design and concise information, it streamlines the orientation process for VRS members in all plans and serves as a guide for employers during their onboarding process.

Guiding members and retirees to money management and financial education resources continued to be a priority. The myVRS Financial Wellness program gained more than 10,500 new users from January to June 2022. Approximately 1,600 completed financial wellness checkups. A newly added money mindfulness component offers guided meditations and financial journaling activities to help individuals set achievable financial goals. During the fiscal year, the program expanded to include content for retirees, as well as a financial wellness campaign targeting hybrid plan members aged 50 and younger. In addition, VRS staff presented programs on myVRS Financial Wellness to national audiences during the year.

Our Certified Financial Planning™ services, offered in partnership with MissionSquare Retirement, continue to grow in popularity. This year, the program resulted in 479 Certified Financial Planning™ consultations and 72 financial plans. All VRS members and retirees can participate in complimentary webinars and consultations with CFP® professionals. Financial plans are available at low or no cost, depending on the individual's need.

New legislation passed in the 2022 General Assembly session will separate VRS employer contribution rates into defined benefit and defined contribution components, effective July 2024. Separation allows greater flexibility for investing Hybrid Retirement Plan members' voluntary contributions, while simplifying the remittance and reconciliations process for employers. In addition, VRS created an online guide to benefits and resources to assist with member counseling.

Barry C. Faison began his career with VRS in 1979, ultimately serving as Chief Financial Officer since 2001. He will retire at the end of 2022.

His careful adherence to statements published by the Governmental Accounting Standards Board led to VRS receiving a Certificate of Achievement for Excellence in Financial Reporting for 40 consecutive years and an Award for Outstanding Achievement for Popular Annual Financial Reporting for six consecutive years since inception from the Government Finance Officers Association of the United States and Canada.

Faison was a visionary leader for VRS' Modernization program to enhance employer reporting and create a web-based solution to provide members a holistic view of benefits, ultimately leading to online retirement. Employers across Virginia rely on his insight and expertise in financial management and transparent reporting.

VRS is grateful for Faison's legacy of exceptional contributions, stewardship and dedication to public service.

DEFINED CONTRIBUTION PLANS UPDATE

Since the beginning of the COVID-19 pandemic, VRS has reinforced messaging to participants encouraging continued saving for retirement. We made it easier for participants to schedule virtual meetings with plan representatives to talk about planning and provided resources to reassure them in times of market volatility.

VRS partnered with MissionSquare Retirement, the third-party record keeper for its defined contribution plans (DCP), to boost awareness and use of the VRS Commonwealth of Virginia 457 Deferred Compensation Plan's SmartStep automatic-increase feature while driving engagement with the participant website, Account Access.

To help accomplish VRS' goals, MissionSquare developed an engaging superhero, "Captain Save-It," to inspire participants to take initiative and use the SmartStep auto-increase feature. SmartStep allows participants to arrange for yearly automatic increases in their contribution amounts. This campaign was designed to appeal to participants while increasing awareness about plan features that make it easier to save over the long term.

The campaign resulted in increased SmartStep participation, with 750 new participants for the Hybrid Retirement Plan and 780 for the Commonwealth of Virginia 457 Plan. The overall voluntary contribution participation rate was 60.7% of the 141,679 total population – 85,973 members chose to make a voluntary contribution. In addition, the campaign was recognized with three national awards (see Awards section below).

Asset retention in defined contribution plans was also a focus in fiscal year 2022, with review and analysis of distribution types, unforeseen emergency withdrawals and rollovers. Initiatives in this area have included an updated distribution process with a specific form for rollover requests, the addition of Certified Financial Planning™ services and highlighting a list of reasons to keep funds in the plan in the Leaving Employment guide.

ADVANCEMENTS IN TECHNOLOGY AND SECURITY

Improving technology and taking a proactive approach to data security remains a priority as we ensure high availability for our mission-critical applications and business processes. Online retirements are increasing, allowing staff to focus on high-touch cases and putting information and counseling at our members' fingertips.

Top initiatives of this fiscal year included:

- Partnering with the Investments department to modernize infrastructure, security and data platforms, with a multiyear plan to migrate to a managed services model that offers web-based efficiencies.
- Setting up two Tier 3 data centers with Hyper-Converged Infrastructure (HCI) to hedge against natural disaster. We expect to commission the new data centers in the spring of 2023.
- Investing in technology talent development to assure continued progress and innovation.

Security is a paramount priority. The technology department works with business departments multiple times annually to test various scenarios, ensuring the reliability and availability of backup solutions in the event of a disaster. VRS also takes a layered and proactive approach to security using a variety of tools and processes.

VRS is an active participant in the Commonwealth of Virginia's implementation of a new Enterprise Resource Planning solution. The Human Capital Management (HCM) statewide initiative will replace

several legacy systems. This expansive project leverages the commonwealth's investment in Enterprise Resource Planning software and will allow for full integration with the Statewide Financials application.

AWARDS

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

- 2022 Communicator Award of Distinction for the SmartStep Auto-Increase Awareness Campaign, presented by the Academy of Interactive & Visual Arts (AIVA), in recognition of marketing effectiveness.
- 2022 National Association of Government Defined Contribution Administrators (NAGDCA) Art Caple President's Award for the SmartStep Auto-Increase Awareness Campaign.
- 2022 NAGDCA Leadership Awards for the SmartStep Auto-Increase Awareness Campaign in two categories, COVID-19 Response and Participant Education & Communication, honoring excellence and creative communication among public sector defined contribution plans.
- Capital Award of Merit, 2022 Virginia Public Relations Awards, presented by the Public Relations Society of America-Richmond Chapter, recognizing outstanding public relations tactics for the new *VRS Member Guide*.
- 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, 2021; this is the 40th consecutive year that VRS has been honored.
- Award for Outstanding Achievement in Financial Reporting, also from GFOA, for the sixth *Popular Annual Financial Report*.
- Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC); this is the 19th award VRS has received from PPCC.
- 2021 Governor's Honor Award, presented to Douglas D. Riley, VRS Accounts Payable Specialist, recognizing his outstanding community volunteer service.
- 2021 Vision Award from the Commonwealth of Virginia Campaign (CVC) for VRS' video "Why I Give."

SERVING THOSE WHO SERVE OTHERS

Much has changed at VRS since its establishment 80 years ago, but our dedication to serving those who serve others, through sound financial stewardship and superior customer service, remains steadfast. Our mission to deliver retirement benefits and services to Virginia public employees is enhanced by innovative thinking and leveraging technology to meet the needs of our members, retirees, beneficiaries and employers.

Sincerely,

A. Scott Andrews
Chair, Virginia Retirement System

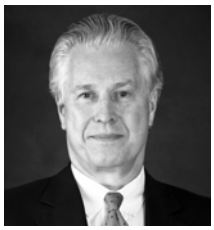
Board of Trustees

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.

A. Scott Andrews, *Chair*
Northern Contours & Harvest Equity Investments
Employee Benefit Plans Professional
Appointed by Governor
Term Expires: 2/28/2027
As Chair: 2/28/2024
Committee Assignments: Administration & Personnel (Chair), Audit & Compliance, Investment Policy (Chair)



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)

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

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

** Term continues until successor appointed.*

Michael P. Disharoon
Palladium Registered Investment Advisors
Investment Professional
Appointed by Governor
Term Expires: 2/28/2025
Committee Assignments: Benefits & Actuarial (Vice Chair), Investment Policy

William A. Garrett
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

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

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: 12/31/2023

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
Chief Investment Officer, Hereditas Group,
(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: 12/31/2023

W. Bryan Lewis
Vice President and Chief Investment Officer, United States Steel Corporation
Term Expires: 3/31/2024

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: 5/24/2024

Susan T. Gooden, Ph.D., *Vice Chair*
Member, VRS Board of Trustees
Virginia Commonwealth University
Term Expires: 5/24/2024

Ravindra Deo
Executive Director, Federal Retirement Thrift Investment Board
Term Expires: 6/20/2024

Shannon T. Irvin
Assistant Superintendent for Administration, Nelson County Public Schools
Term Expires: 6/20/2023

Rick Larson
Assistant Vice President for Human Resources, Training and Performance,
James Madison University
Term Expires: 6/20/2023

Brenda O. Madden
Senior Vice President and Human Resources Director, Davenport & Company
Term Expires: 6/20/2024

Arun S. Muralidhar, Ph.D.
Co-Founder, Mcube Investment Technologies LLC;
Co-Founder and Client CIO, AlphaEngine Global Investment Solutions
Term Expires: 6/20/2024

Edward N. Smither
County Administrator, Powhatan County
Term Expires: 6/20/2024

David A. Winter
Owner, Winter HR Consulting LLC
Term Expires: 6/20/2023

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

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. Schlussler
Director, Internal Equity Management

Daniel B. Whitlock, CFA, CAIA
Director, Global Equity

Steven M. Woodall, CFA, CAIA
Director, Credit Strategies

Professional Consultants

ACTUARY
Ed Koebel, EA, MAAA, FCA
Chief Executive Officer,
Cavanaugh Macdonald Consulting LLC

Judith Kermans, EA, FCA, MAAA
President & Chief Executive Officer,
Gabriel, Roeder, Smith & Company (GRS)

AUDITOR
Staci A. Henshaw, CPA
Auditor of Public Accounts,
Commonwealth of Virginia

VRS DEFINED CONTRIBUTION PLANS
Kathleen Wilson
MissionSquare Retirement

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 8, 2022

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, 2022. In addition to the Introductory Section, the System's *Annual Report* contains a Financial Section, Investment Section, Actuarial Section and Statistical Section. VRS' *Annual Report* for fiscal year 2022 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 2 of the 2022 Special Session I 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 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.

VRS Milestones (1908-Present)

1908 Retired Teachers Fund created.

1942 Virginia Retirement System (VRS) created for teachers and state employees.

1944 Political subdivisions have the option to join VRS.

1950 State Police Officers' Retirement System (SPORS) created.

1960 Group Life Insurance Program created.

1970 Cost-of-Living Adjustment (COLA) established; Judicial Retirement System (JRS) created.

1990 Health Insurance Credit for state retirees established.

1992 Health Insurance Credit for retired teachers and political subdivision employees established.

1995 Optional Group Life Insurance Program established.

1999 Virginia Sickness and Disability Program (VSDP) for state employees established; Virginia Law Officers' Retirement System (VaLORS) created.

2002 VSDP Long-Term Care Plan established.

2010 VRS Plan 2 implemented for members hired or rehired on or after July 1, 2010.

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.

2014 VRS implemented the Hybrid Retirement Plan, a combined defined benefit and defined contribution plan, for eligible members hired on or after July 1, 2014.

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.

2016 The enhanced myVRS was launched, increasing self-service functionality for members.

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.

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.

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.

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.

2022 VRS observed its 80th anniversary of "Serving Those Who Serve Others."

Accounting System and Internal Control

The financial statements included in the *Annual Report* for fiscal year 2022 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, 2022, 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.

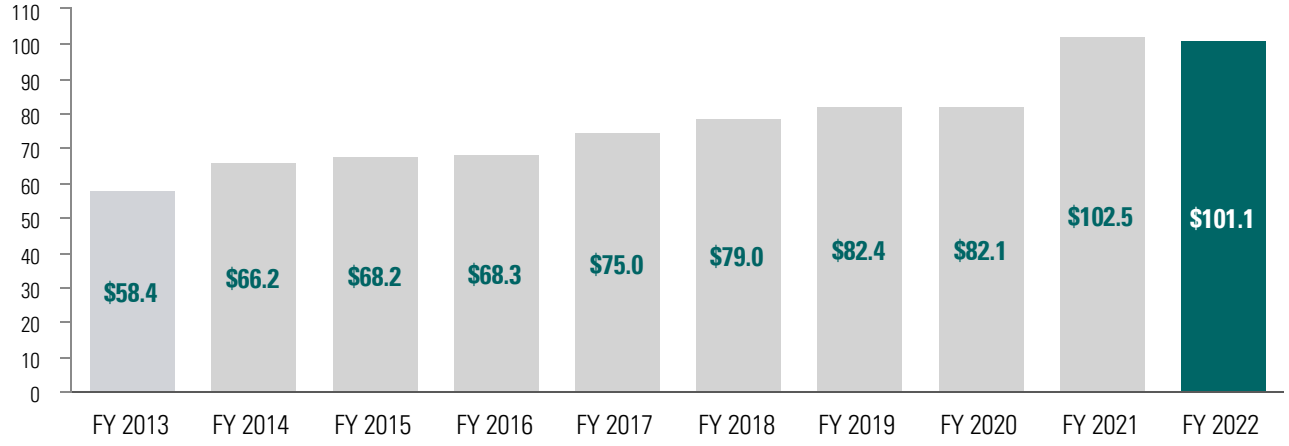
For other post-employment benefits (OPEBs), GASB Statement Number 74 focuses on financial reporting for state and local plan administrators and is also addressed in the Financial Section. GASB Statement Number 75 establishes accounting and financial reporting requirements for state and local governments 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, 2022, 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, 2022. The total pension liability was determined based on the actuarial valuation as of June 30, 2021, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2022.

Based on these calculations, the Plan Fiduciary Net Position as a percentage of the Total Pension Liability was 83.26% for the VRS State Plan, 82.61% for the VRS Teacher Plan and 92.52% 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 76.06%, 74.41% and 86.42%, respectively.

This compares to opening plan fiduciary net position as a percentage of the total pension liability at June 30, 2021, for the VRS State Plan, the VRS Teacher Plan and the aggregate total of the VRS Political Subdivision Plans, of 86.44%, 85.46% and 97.25%, respectively. For SPORS, VaLORS and JRS, the percentage of total pension liability was 81.27%, 78.18% and 90.17%, respectively, at June 30, 2021. Further information on this valuation is included in the Financial Section and the Actuarial Section. Contributions for fiscal year 2022 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 2022. 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, 2022. The total OPEB liability was determined based on the actuarial valuation as of June 30, 2021, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2022.

Based on these calculations, the plan fiduciary net position as a percentage of the total OPEB liability was 67.21% for the Group Life Insurance Fund, 21.52% for the state employee Health Insurance Credit, 15.08% for the teacher employee Health Insurance Credit, 39.63% for the aggregate total of the VRS political subdivision plans for Health Insurance Credit, 22.44% for the state-funded Health Insurance Credit for constitutional officers, 17.17% for the state-funded Health Insurance Credit for social services employees, and 36.51% 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 195.90% for the Disability Insurance Program and 1.87% for the Line of Duty Act plan. The Virginia Local Disability Program plans for teachers and political subdivisions were 101.57% and 107.99%, respectively.

This compares to the opening plan fiduciary net position as a percentage of the total OPEB liability at June 30, 2021, of 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 Program. The Virginia Local Disability Program plans for teachers and political subdivisions were 114.46% and 119.59%, respectively. Further information on this valuation is included in the Financial Section and the Actuarial Section.

Contributions for fiscal year 2022 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, 2022, the total value of the VRS managed investment portfolio was $102.8 billion, a decrease from the investment balance of $105.0 billion at June 30, 2021. The decrease was due to decreased investment activity that was partially offset by increased 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, 2022, totaled $101.1 billion, representing a decrease from the net position of $102.5 billion as of June 30, 2021.

Information regarding the investment professionals who provide services for the VRS Investment Pool for the pension and OPEB plans can be found on pages 163 through 165 in the Investment Section. The schedule of public equity commissions and investment expenses is located on page 166.

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 2022 session, the Virginia General Assembly enacted the following bills that affect the Virginia Retirement System.

2022 BILLS

HOUSE BILL 473 AND SENATE BILL 70: SEPARATE DEFINED BENEFIT AND DEFINED CONTRIBUTION EMPLOYER RATES. The employer defined contribution amount for the Hybrid Retirement Plan and the board-certified defined benefit rate for all plans will be separate contribution amounts, effective July 1, 2024. Currently, the blended monthly employer contribution rate consists of the VRS board-certified defined benefit rate for all plans, employer mandatory defined contributions and an estimate of the employer's defined contribution plan matching contributions, based on employees' voluntary contributions. Following implementation, the blended defined benefit rate for all plans will be separate from the defined contribution rate, which includes employer mandatory contributions and matching contributions, as required by § 51.1-169. Unblending the defined contribution rate should reduce payroll reconciliation issues and other administrative burdens on employers.

An effective date of July 1, 2024, coincides with the new biennial contribution rates and allows time for VRS to work with employers to make process changes. Separating the rates may require employers to modify payroll processes and will require changes to VRS processes as well. VRS will begin communicating with employers in the coming months.

SENATE BILL 349: GAIN/LOSS CALCULATIONS FOR APPROVED DOMESTIC RELATIONS ORDERS. This legislation requires VRS plan record keepers (currently MissionSquare Retirement and TIAA) to calculate gains and losses in a defined contribution account from the valuation date through the date of distribution of the benefits, if ordered to do so by a court and to the extent that sufficient information exists to perform the calculation.

The record keeper, when required by the court to perform the calculation, must recalculate the account history manually to the extent possible based on available data, starting with the date in the court order. The recalculation must also account for any fund transfers or dividends paid.

VRS is required to conduct a survey and submit a report to the General Assembly by October 1, 2022, regarding gain/loss calculation practices of other governmental retirement plans administered by Virginia public employers.

SENATE BILL 468: LINE OF DUTY ACT (LODA) MEDICAL REVIEWS MUST BE CONDUCTED BY VIRGINIA LICENSED HEALTHCARE PRACTITIONERS OR THOSE FROM NEIGHBORING STATES. Medical reviews of claim files under the Line of Duty Act (LODA) must be performed by a licensed healthcare practitioner who is licensed in Virginia, the District of Columbia or a state contiguous to Virginia, effective July 1, 2023.

STATE BUDGET

ITEM 483 (H): VRS EMPLOYER CONTRIBUTION RATES. The introduced biennium budget (covering fiscal years 2023 and 2024) maintains employer contribution rates for pensions for public school teachers and state employees at the higher, previous levels, while also fully funding the VRS board-certified contribution rates for the State Police Officers' Retirement System (SPORS), the Virginia Law Officers' Retirement System (VaLORS) and the Judicial Retirement System (JRS).

The budget also maintains the higher, previous employer rates for the state health insurance credit plan, the VRS Group Life Insurance Program and the Virginia Sickness and Disability Program while also fully funding the board-certified contribution rates for other post-employment benefits (OPEB).

LUMP-SUM CONTRIBUTIONS TO VRS. Allocates a total of $1 billion — $750 million by June 30, 2022 (Item 277, 2022 Amendments to the 2021 Appropriation Act), and, contingent on funding, up to $250 million during fiscal year 2023 (Item 485, 2022 Appropriation Act) — to reduce the unfunded liabilities for VRS-administered retirement plans and other post-employment benefits.

Item 483 of the 2022 Appropriation Act also provides additional funding for the State Retiree Health Insurance Credit Plan, and the Health Insurance Credit Plans for Constitutional Officers and Local Social Services Employees: An additional $80.4 million from the general fund split between fiscal year 2023 ($25,309,001) and fiscal year 2024 ($55,100,000) for certain health insurance credit plans to increase funded status to 30%.

- An estimated $77,118,170 to the health insurance credit plan for state employees.
- An estimated $1,576,017 to the health insurance credit plan for constitutional officers and their employees.
- An estimated $1,714,814 to the health insurance credit plan for local social services employees.

This appropriation is not contingent on revenue forecasts.

Membership

MEMBER AND RETIREE HIGHLIGHTS. The total VRS membership increased from 754,033 members, retirees and beneficiaries in fiscal year 2021 to 778,087 in fiscal year 2022, representing an increase of 3.19%.

The following are highlights from the fiscal year:

- The number of active VRS members increased 1.40%, from 344,877 to 349,711.
- The number of retirees and beneficiaries increased 2.91% from 224,973 to 231,523.
- VRS paid $5,729.3 million in retirement benefits during fiscal year 2022, compared to $5,522.2 million in retirement benefits in fiscal year 2021.
- The number of inactive and deferred members increased 6.88% from 184,183 to 196,853.
- A total of 88,145 members held accounts through the Commonwealth of Virginia Deferred Compensation Plan at the end of the fiscal year. Of these participants, 72,363 received a cash match through the Virginia Cash Match Plan.

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

OPERATIONAL MEASURES	TARGET	FY 2022 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 0.75 business days.	The average response time is 0.40 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.	99.73% 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.	99.74% 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.	99.94% 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 99.95% 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 2022:

- The VRS Customer Contact Center answered 204,405 calls and provided 7,616 email responses.
- The Member Counseling Team conducted 219 statewide retirement education and group counseling sessions with a total of 8,670 attendees, and participated in 13 virtual benefit fairs with 529 attendees and 20 in-person benefit fairs with 2,647 attendees. The team also held 3,340 in-person, telephone and virtual counseling sessions for members and retirees. In addition to piloting various new myVRS features, the team guided 3,729 members through the online retirement process.
- The Hybrid Counseling Team conducted 80 Plan Features & Benefits presentations with MissionSquare Retirement, attended by 1,373 Hybrid Retirement Plan members, and 335 virtual counseling sessions. Hybrid Retirement Plan member counselors participated in one virtual benefit fair with 35 attendees. In addition, MissionSquare Retirement held 498 Hybrid Overview Sessions with 3,246 attendees.
- The Education and Training Team converted its instructor-led training sessions to virtual training and provided 32 e-courses for employers, with 991 views and 575 completions; and 25 employer webinars with 570 attendees. There were a total of 22,820 views of 27 member training videos, on subjects ranging from the Hybrid Retirement Plan to the Line of Duty Act, with 7,804 completions.
- 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 133 virtual employer site visits and 78 virtual employer roundtables, with 2,065 participants (representing 573 employers) in attendance, and offered technical assistance and guidance to 418 new benefit administrators at participating employers.
- In addition, the Employer Representatives assisted six political subdivisions joining VRS; nine employers electing the Group Life Insurance Program; 11 employers electing the enhanced benefit for hazardous duty employees; four employers electing the enhanced retirement multiplier for hazardous duty employees; one employer electing the enhanced health insurance credit; four employers electing to offer tax-deferred purchase of prior service; eight employers electing to offer the Commonwealth of Virginia 457 Deferred Compensation Plan; one employer electing to offer the Virginia Cash Match Plan; two employers electing to offer the Commonwealth of Virginia's Voluntary Group Long Term Care Insurance Program; and four new state agencies joining VRS.
- The VRS website (varetire.org) received 3 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 28.6%, well above the government industry average.
- *Member News* had more than 275,000 subscribers, with an "open rate" of 37.3%.
- VRS had approximately 4,400 Facebook followers and 2,282 LinkedIn followers.

Innovations

VRS continues to leverage technology for enhanced customer service, robust data security and ensured availability for our key business processes and applications. Our focus is on advancements in customer service technology and services, including our online retirement program with numerous self-service features.

VRS' technology stack includes custom software for managing back-office processes; the myVRS member portal for customer-facing functions; an enterprise content management system for handling incoming documents; and an enterprise financial management system. Together, these solutions support most benefit administration processes. In addition, VRS maintains a data repository with reporting tools and data analytics functions.

There were several noteworthy initiatives this fiscal year:

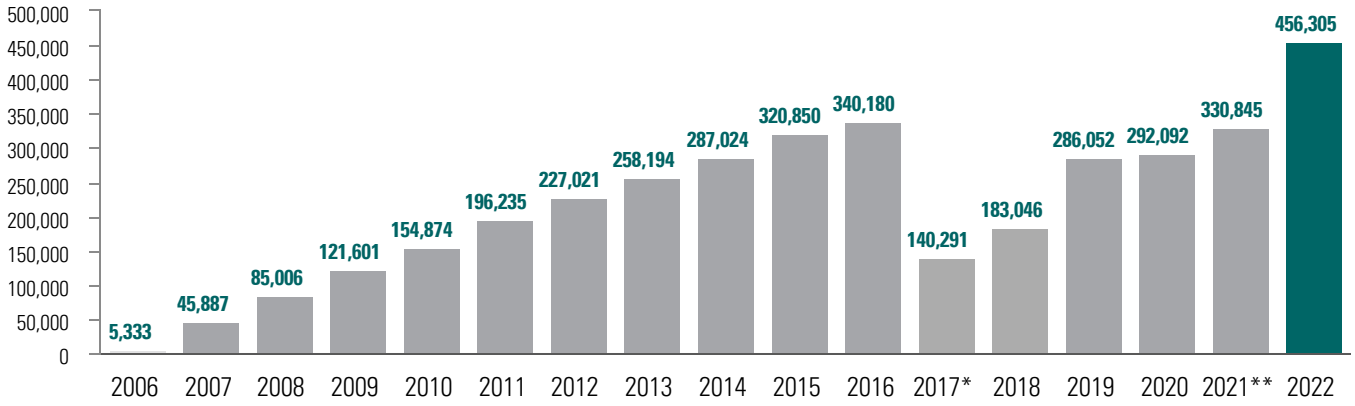
- Enhanced the myVRS portal and improved user experience by adding a secure link for active members and retirees to directly access Securian Financial to update their life insurance information.
- Streamlined the annual security review process required of employers and their business partners who access the myVRS Navigator employer portal. VRS created an intuitive review process within the application, eliminating paper forms.
- Engaged in a multiyear partnership between Information Technology and the Investments departments to modernize Investments' technology platforms while migrating to efficient web-based services.
- After considering a move to the cloud, determined that establishing Tier 3 data centers would better serve the agency's technology environment and business needs; data centers expected to come online in early 2023.
- Continued participation in the Commonwealth of Virginia's implementation of a new Enterprise Resource Planning solution, expected to replace several legacy systems by late 2022.
- Completed installation of new conference room technology to better support a hybrid workforce.

VRS also focused on technology talent development. As we undertake new and future technology initiatives, it is imperative that we invest in our staff to prepare them for the new technology ecosystems and opportunities ahead.

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 member registrations as of June 30, 2022, was 334,936, with 121,369 retiree registrations, for a total of 456,305.
- In fiscal year 2022, there were 41,392 member and 9,714 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 261,189 retirement plans and 508,138 benefit estimates in fiscal year 2022.
- In fiscal year 2022, 2,442 retirees used the health insurance credit feature, 17,233 designated beneficiaries and 5,708 updated direct deposit information online.

myVRS USERS



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

*** Corrected prior fiscal year count.*

The myVRS Financial Wellness program, now in its sixth 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 2022 totaled 83,686. There were 4,358 registrations, with 591 course completions, during the fiscal year. "Planning for Retirement" was the most completed course in fiscal year 2022, with an average knowledge gain of 20.4% for all courses.

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

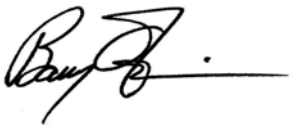
As it observes its 80th anniversary of serving those who serve others, VRS remains unswerving in its mission of providing efficient service, benefits delivery and responsible stewardship of the funds in our care. Our multi-year transformation of business processes and technology at VRS has empowered our members to take active roles in planning their futures, throughout their careers to retirement and beyond, by managing their myVRS accounts, making voluntary contributions to the Hybrid Retirement Plan, participating in supplemental deferred compensation plans and exploring myVRS Financial Wellness and financial planning resources.

VRS staff remained diligent in providing exceptional service to our members, retirees, beneficiaries, employers and stakeholders, even while continuing to work remotely and responding to customer needs in addition to usual tasks. Our return to the office in a hybrid schedule brought renewed collaboration and collegiality, enhanced by technology that enables us to work together and serve customers virtually and in-person.

These successes, 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 also thank Governor Glenn Youngkin 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. We are grateful to each of these individuals and representatives. Together, our VRS team continues to help members plan for tomorrow, today.

Respectfully submitted,

Patricia S. Bishop
Director



Barry C. Faison
Chief Financial Officer

Virginia Retirement System
80
YEARS
Since 1942

80 Years of Serving
Those Who Serve Others

Financial Section

Financial Section

Independent Auditor's Report

Management's Discussion and Analysis

Basic Financial Statements:

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

Notes to Financial Statements

- Schedule of Employers' Net Pension Liability by System and Plan
- Schedule of Actuarial Methods and Significant Assumptions: Pension Plans
- Schedule of Impact of Changes in Discount Rate: Pension Plans
- Schedule of Participating Employers: OPEB Plans
- Schedule of Employers' Net OPEB Liability by Program and Plan
- Schedule of Actuarial Methods and Significant Assumptions: OPEB Plans
- Schedule of Impact of Changes in Discount Rate: LODA Plan
- Schedule of Impact of Changes in Health Care Trend Rate: LODA Plan
- Schedule of Impact of Changes in Discount Rate: Non-LODA OPEB Plans

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

Commonwealth of Virginia

Auditor of Public Accounts

Staci A. Henshaw, CPA
Auditor of Public Accounts

P.O. Box 1295
Richmond, Virginia 23218

December 7, 2022

The Honorable Glenn Youngkin
Governor of Virginia

Joint Legislative Audit
and Review Commission

Board of Trustees
Virginia Retirement System

INDEPENDENT AUDITOR'S REPORT

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Virginia Retirement System (System) as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of June 30, 2022, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matters

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, 2022, 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.

Investments with Values that are not Readily Determined

As discussed in Note 5 on page 97, the basic financial statements include investments valued at approximately $46.2 billion as of June 30, 2022 (41.9 percent of the System's total assets), whose fair values have been estimated by management using a roll-forward process in the absence of readily determinable fair values. Our opinion is not modified with respect to this matter.

Other Matters

Report on Summarized Comparative Information

We have previously audited the System's 2021 financial statements, and we expressed an unmodified audit opinion on the respective financial statements in our report dated December 10, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2021, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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 Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and Government Auditing Standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit 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 System's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

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 37 through 47 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 118 through 146. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary 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, are presented for the purpose of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The 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.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Financial and Statistical Highlights for all pension trust funds and the Introductory, Investment, Actuarial, and Statistical sections but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards,* we will also issue our report dated December 7, 2022, 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. We anticipate releasing that report in January 2023. 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 778,087 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, 2022. 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 $101.1 billion at June 30, 2022, representing a decrease of $(1.4) billion, or (1.4)%, from the net position as of June 30, 2021.
- The System's time-weighted rate of return on investments during the fiscal year ended June 30, 2022, was 0.6% compared to a return of 27.5% for the fiscal year ending June 30, 2021. The decrease was due primarily to the performance of public stock and bond markets.
- The latest valuations of the pension plans were performed by Gabriel, Roeder, Smith & Company, using the GASB Statement No. 67 calculation processes. Using the June 30, 2021, data rolled forward to June 30, 2022, the plan fiduciary net position as a percentage of the total pension liability was 83.26% for the VRS state plan, 82.61% for the VRS teacher plan, 92.52% for the aggregate total of the VRS

political subdivision plans, 76.06% for SPORS, 74.41% for VaLORS and 86.42% for JRS. This compares to the June 30, 2020, data rolled forward to June 30, 2021, when 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.

- Gabriel, Roeder, Smith & Company 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, 2021, data rolled forward to June 30, 2022, the plan fiduciary net position as a percentage of the total OPEB liability was 67.21% for the Group Life Insurance Fund, 21.52% for the state employee Health Insurance Credit, 15.08% for the teacher employee Health Insurance Credit, 39.63% for the aggregate total of the VRS political subdivision plans for Health Insurance Credit, 22.44% for the state-funded Health Insurance Credit for constitutional officers, 17.17% for the state-funded Health Insurance Credit for social services employees, and 36.51% 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 195.90% for the Disability Insurance Program and 1.87% for the Line of Duty Act plan. The Virginia Local Disability Program plans for teachers and political subdivisions were 101.57% and 107.99%, respectively.
- This compares to the June 30, 2020, data rolled forward to June 30, 2021, when 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.

Overview of the Financial Statements and Accompanying Information

The pension components of the fiscal year 2022 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 2022 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, 2022, 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.

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)

	2022	Increase (Decrease)	2021	Increase (Decrease)	2020
Assets:					
Cash, Receivables and Capital Assets	$ 2,980.9	$ (366.7)	$ 3,347.6	$ 1,051.7	$ 2,295.9
Investments	102,794.0	(2,253.8)	105,047.8	21,318.4	83,729.4
Security Lending Collateral	4,639.8	(547.2)	5,187.0	1,727.8	3,459.2
Total Assets	**110,414.7**	**(3,167.7)**	**113,582.4**	**24,097.9**	**89,484.5**
Liabilities:					
Accounts Payable and Other Payables	661.5	(87.5)	749.0	49.8	699.2
Investment Purchases Payable	4,019.3	(1,117.7)	5,137.0	1,936.4	3,200.6
Obligations Under Securities Lending	4,641.2	(545.8)	5,187.0	1,727.8	3,459.2
Total Liabilities	**9,322.0**	**(1,751.0)**	**11,073.0**	**3,714.0**	**7,359.0**
Total Net Position – Restricted for Benefits	**$ 101,092.7**	**$ (1,416.7)**	**$ 102,509.4**	**$ 20,383.9**	**$ 82,125.5**

FIGURE 2.2: SUMMARY OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEARS ENDED JUNE 30

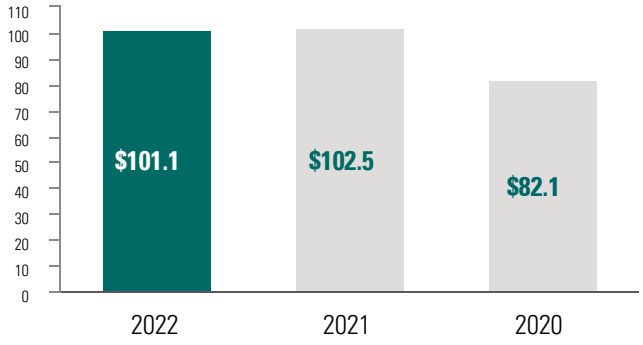
(EXPRESSED IN MILLIONS)

	2022	Increase (Decrease)	2021	Increase (Decrease)	2020
Additions:					
Member Contributions	$ 1,134.2	$ 57.6	$ 1,076.6	$ (3.3)	$ 1,079.9
Employer Contributions	3,238.6	142.8	3,095.8	183.2	2,912.6
Special Employer Contributions	274.3	235.6	38.7	38.7	—
Non-employer Contributing Entity	475.7	414.4	61.3	61.3	—
Net Investment Income	(124.3)	(22,406.6)	22,282.3	20,718.7	1,563.6
Miscellaneous Revenue & Transfers	9.0	3.7	5.3	2.3	3.0
Total Additions	**5,007.5**	**(21,552.5)**	**26,560.0**	**21,000.9**	**5,559.1**
Deductions:					
Retirement Benefits	5,729.3	207.1	5,522.2	259.9	5,262.3
Refunds of Member Contributions	131.9	15.7	116.2	8.8	107.4
Insurance Premiums and Claims	259.0	7.6	251.4	39.3	212.1
Retiree Health Insurance Credit Reimbursements	179.0	7.6	171.4	2.8	168.6
Disability Insurance Benefits	40.7	2.0	38.7	1.8	36.9
Line of Duty Act Reimbursements	14.1	1.0	13.1	0.9	12.2
Administrative and Other Expenses	70.2	7.1	63.1	(0.3)	63.4
Total Deductions	**6,424.2**	**248.1**	**6,176.1**	**313.2**	**5,862.9**
Net Increase (Decrease) in Net Position	**(1,416.7)**	**(21,800.6)**	**20,383.9**	**20,687.7**	**(303.8)**
Net Position – Beginning of Year	102,509.4	20,383.9	82,125.5	(303.8)	82,429.3
Net Position – End of Year	**$101,092.7**	**$ (1,416.7)**	**$102,509.4**	**$ 20,383.9**	**$ 82,125.5**

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 349,711 active members were employed with 832 VRS-participating employers as of June 30, 2022. The number of retirees and other annuitants totaled approximately 231,523 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

	2022		2021		2020	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
State Employees (VRS)	76,156	21.8%	76,108	22.1%	77,425	22.2%
Teachers (VRS)	153,204	43.9%	149,853	43.4%	150,073	43.0%
Political Subdivision Employees (VRS)	110,675	31.6%	108,712	31.5%	110,416	31.7%
State Police Officers (SPORS)	1,875	0.5%	1,939	0.6%	1,924	0.6%
Virginia Law Officers (VaLORS)	7,342	2.1%	7,812	2.3%	8,540	2.4%
Judges (JRS)	459	0.1%	453	0.1%	448	0.1%
Total Members	**349,711**	**100.0%**	**344,877**	**100.0%**	**348,826**	**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

	2022		2021		2020	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
State Employees (VRS)	61,651	26.6%	60,478	26.9%	59,554	27.2%
Teachers (VRS)	100,148	43.2%	97,378	43.3%	94,755	43.3%
Political Subdivision Employees (VRS)	61,994	26.8%	59,678	26.5%	57,671	26.3%
State Police Officers (SPORS)	1,511	0.7%	1,495	0.7%	1,423	0.6%
Virginia Law Officers (VaLORS)	5,673	2.5%	5,400	2.4%	5,176	2.4%
Judges (JRS)	546	0.2%	544	0.2%	534	0.2%
Total Retirees and Beneficiaries	**231,523**	**100.0%**	**224,973**	**100.0%**	**219,113**	**100.0%**

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

FIGURE 2.5: DISTRIBUTION OF EMPLOYERS

AT JUNE 30

	2022	2021	2020
Cities and Towns	162	162	162
Counties	93	93	93
School Boards*	144	144	144
Special Authorities	211	208	208
State Agencies	222	228	230
Total Employers	**832**	**835**	**837**

** 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, 2022, amounted to $4,405.5 million. This was a decrease of $20,811.0 million when compared with the activity for fiscal year 2021. It was also lower than the contributions and investments earnings of $4,992.2 million recorded in fiscal year 2020.

For fiscal year 2022, member contributions increased by $48.9 million. The increase in the member contribution level reflects an increase in total active members as well as increases in covered payroll.

For fiscal year 2022, employer contributions increased by $123.4 million, due primarily to increases in the total active members and covered payroll amounts. In addition, the Commonwealth of Virginia made a contribution of $698.6 million to reduce unfunded liabilities; $442.4 million was contributed to the teacher plan which is classified as a non-employer contribution. The remaining $256.2 million was contributed to the state ($219.1 million), SPORS ($11.0 million), JRS ($6.2 million) and VaLORS ($19.9 million) plans and was classified as special employer contributions. The total of all contributions represented an increase of $809.6 million from fiscal year 2021. Employer contributions for pensions are discussed further in Notes 2 and 12.

During fiscal year 2021, the System experienced a decrease in total member contributions of $6.0 million and an increase in employer contributions of $176.0 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 Retirement Plan members. Hybrid plan members have a lower percentage contribution to the defined benefit plan. The increase in employer contributions was due primarily to increases in the contribution rate for state, teacher and political subdivision employer groups.

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)

	2022	Increase (Decrease)	2021	Increase (Decrease)	2020
Member Contributions	$ 959.9	$ 48.9	$ 911.0	$ (6.0)	$ 917.0
Employer Contributions	2,862.4	123.4	2,739.0	176.0	2,563.0
Special Employer	256.2	256.2	—	—	—
Non-employer Contributing Entity	442.4	381.1	61.3	61.3	—
Net Investment Income	(117.5)	(21,620.8)	21,503.3	19,992.8	1,510.5
Miscellaneous Revenue and Transfers	2.1	0.2	1.9	0.2	1.7
Total Contributions, Investment Earnings and Miscellaneous Revenues	**$ 4,405.5**	**$(20,811.0)**	**$ 25,216.5**	**$ 20,224.3**	**$ 4,992.2**

As shown in Figure 2.6, net investment income for fiscal year 2022 of $(117.5) million represented a decrease of $21,620.8 million from fiscal year 2021. This compares with the net investment income increase of $19,992.8 million in fiscal year 2021. Total pension trust fund investments were $98,943.3 million at fair value at June 30, 2022. This was a decrease of $(2,331.2) million from the fair value of $101,274.4 million at June 30, 2021. The total pension trust fund investments increased in fiscal year 2021 by $20,409.1 million from their fair value of $80,865.3 million at June 30, 2020. The total return on pension trust fund investments for the year ended June 30, 2022, was 0.6%. This represents an annualized return of 9.2% over the past three years and 8.3% 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 2022 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 2022 totaled $5,920.9 million, an increase of $227.2 million, or 4%, over the 2021 period.

Benefit payments were $5,729.3 million in fiscal year 2022. This is an increase of $207.1 million compared to an increase of $260.0 million in fiscal year 2021. The increase in fiscal year 2022 was due to continued growth in the number of retirees and beneficiaries receiving benefits. The fiscal year 2022 benefit payments also reflect a cost-of-living adjustment (COLA) of 1.23% for Plan 1 retirees and 1.23% for Plan 2 and hybrid plan retirees effective July 1, 2021.

Refunds of contributions to members who terminated employment during fiscal year 2022 amounted to $130.1 million (13,466 refunds), compared with $116.2 million refunded (12,405 refunds) during fiscal year 2021 and $107.4 million refunded (11,563 refunds) during fiscal year 2020.

The change during fiscal year 2022 reflects a slight increase in the volume of refunds and in the average refund amount compared to fiscal year 2021.

Administrative and other expenses for fiscal year 2022 were $61.5 million, compared with $55.3 million for fiscal year 2021 and $55.2 million for fiscal year 2020.

Administrative and other expenses increased by $6.2 million for fiscal year 2022. This compares to an increase in fiscal year 2021 of $0.1 million. The increase for fiscal year 2022 was primarily due to an increase in personnel-related expenses. Further details are provided in the Schedule of Administrative Expenses following the Required Supplementary Schedules.

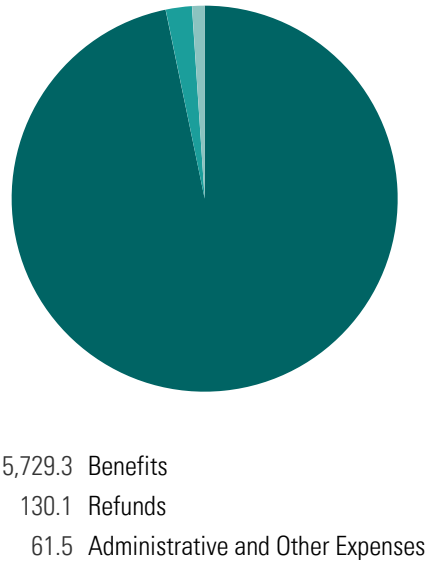
FIGURE 2.7: SUMMARY OF PENSION PLAN PRIMARY EXPENSES

FOR THE YEARS ENDED JUNE 30 (EXPRESSED IN MILLIONS)

	2022	Increase (Decrease)	2021	Increase (Decrease)	2020
Benefits	$ 5,729.3	$ 207.1	$ 5,522.2	$ 260.0	$ 5,262.2
Refunds	130.1	13.9	116.2	8.8	107.4
Administrative and Other Expenses	61.5	6.2	55.3	0.1	55.2
Total Primary Expenses	**$ 5,920.9**	**$ 227.2**	**$ 5,693.7**	**$ 268.9**	**$ 5,424.8**

PENSION PLAN ACTIVITY

FOR THE YEAR ENDED JUNE 30, 2022 (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, expenses exceeded revenue for fiscal year 2022, leading to a net decrease of $1,515.4 million in the retirement reserves held by the plans. This follows an increase of $19,522.8 million in the retirement reserves in fiscal year 2021. The decrease for fiscal year 2022 is primarily due to a decrease in investment income along with an increase in benefit expenses partially offset by a slight increase 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 Gabriel, Roeder, Smith & Company using the GASB Statement No. 67 calculation processes. Using the June 30, 2021, data rolled forward to June 30, 2022, the plan fiduciary net position as a percentage of the total pension liability was 83.26% for the VRS state plan, 82.61% for the VRS teacher plan, 92.52% for the aggregate total of the VRS political subdivision plans, 76.06% for SPORS, 74.41% for VaLORS and 86.42% 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)

	2022	Increase (Decrease)	2021	Increase (Decrease)	2020
Member Reserves	$ 15,226.7	$ 373.4	$ 14,853.3	$ 368.1	$ 14,485.2
Employer Reserves	82,138.8	(1,888.8)	84,027.6	19,154.7	64,872.9
Total	**$ 97,365.5**	**$ (1,515.4)**	**$ 98,880.9**	**$ 19,522.8**	**$ 79,358.1**

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 2022, the amount of interest credited to member accounts was $563.2 million, and the amount of member balances transferred to the Employer Reserve for retirements was $1,028.8 million. For fiscal year 2021, the interest and retirement transfers were $550.4 million and $987.5 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 2022, the System remitted $259.0 million to the insurer for claims and administrative costs. This is an increase from the $251.4 million remitted for fiscal year 2021. Approximately 336,156 active members were covered under the Group Life Insurance Program at June 30, 2022.

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 $2,468.0 million at June 30, 2022.

Investment income, including net securities lending income, was $(5.2) million during the fiscal year. For fiscal year 2021, this reserve had investment income of $534.7 million and ended the year with a reserve balance of $2,413.1 million, an increase from the balance of $1,855.1 million at June 30, 2020.

For fiscal year 2022, the increase in the reserve balance was primarily the result of contributions exceeding the net investment income and other expenses. Employer contributions for the Group Life Insurance Program are discussed further in Note 12.

Approximately 218,944 retirees were covered under the Group Life Insurance Program at June 30, 2022.

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 68,749 active members and 3,460 retirees were enrolled in the Optional Group Life Insurance Program at June 30, 2022. 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 2022, the System collected $208.0 million in retiree health insurance credit contributions from participating employers and provided reimbursements to retirees of $179.0 million. The program also received special contributions of $20.94 million from the Commonwealth of Virginia. During fiscal year 2021, the System collected $197.5 million in retiree health insurance credit contributions from participating employers and provided reimbursements of $171.4 million. The Commonwealth provided an additional $38.6 million of special contributions in 2021.

The contribution rate for the teacher employer group was the fully actuarially determined rate of 1.21% for fiscal year 2022 and 1.21% for fiscal year 2021. 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 $492.3 million at June 30, 2022. Investment income, including net securities lending income, was $(1.3) million for the fiscal year. The reserve balances at June 30, 2021, and June 30, 2020, were $444.6 million and $301.2 million, respectively. Approximately 138,662 retirees were receiving the health insurance credit at June 30, 2022. 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 2022, the System collected $28.2 million in VSDP contributions from participating employers and paid disability premiums and benefits of $36.9 million. This is an increase from the $36.0 million in benefits paid in fiscal year 2021.

Administrative expenses and other expenses decreased from fiscal year 2021. 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 $602.9 million at June 30, 2022. Investment income, including net securities lending income, was $(0.5) million during the fiscal year. The reserve balances at June 30, 2021, and June 30, 2020, were $612.0 million and $490.2 million, respectively. At June 30, 2022, approximately 79,072 active members were participating in the program and approximately 2,393 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 2022 and 2021, the System collected $13.8 million and $13.6 million in contributions, respectively. In fiscal 2022, the System paid out $14.1 million in benefits provided by this program. This is an increase in benefit costs from the $13.1 million for fiscal year 2021. This reflects the impact of continued stabilization of the program's participation and claims levels. The reserve balance at June 30, 2022, was $7.2 million, a decrease from the reserve balance of $7.6 million at June 30, 2021. 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 2022, the System collected $7.7 million in contributions and paid out $3.9 million in benefits provided by this program. During fiscal year 2021, the System collected $6.5 million in

contributions and paid out $2.8 million in benefits provided by the program. At June 30, 2022, approximately 29,064 active members were participating in the program and approximately 133 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 Gabriel, Roeder, Smith & Company using GASB Statement No. 74 calculation processes. Using the June 30, 2021, data rolled forward to June 30, 2022, the plan fiduciary net position as a percentage of the total OPEB liability was 67.21% for the Group Life Insurance Fund, 21.52% for the state employee Health Insurance Credit, 15.08% for the teacher employee Health Insurance Credit, 39.63% for the aggregate total of the political subdivision plans for Health Insurance Credit, 22.44% for the state-funded Health Insurance Credit for constitutional officers, 17.17% for the state-funded Health Insurance Credit for social services employees, and 36.51% 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 195.90% for the Disability Insurance Program and 1.87% for the Line of Duty Act Program. The Virginia Local Disability Program plans for teachers and political subdivisions were 101.57% and 107.99%, 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, 2022, was 0.6%, and there was a decrease 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, 2022, WITH COMPARATIVE INFORMATION AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

				Totals	
	Pension Trust Funds	Other Employee Benefit Trust Funds	Other Custodial Plans	2022	2021
Assets:					
Cash (Note 5)	$ 81,795	$ 3,224	$ 185	$ 85,204	$ 145,743
Receivables:					
Contributions	311,818	45,838	—	357,656	326,428
Interest and Dividends	221,298	8,293	321	229,912	287,423
Receivables for Security Transactions	2,135,672	80,020	3,098	2,218,790	2,405,859
Other Investment Receivables	24,798	929	36	25,763	119,282
Other Receivables	21,832	9,299	—	31,131	31,159
Total Receivables	**2,715,418**	**144,379**	**3,455**	**2,863,252**	**3,170,151**
Investments: (Note 5)					
Bonds and Mortgage Securities	19,170,236	718,280	27,807	19,916,323	23,065,012
Stocks	21,323,794	798,972	30,930	22,153,696	27,394,488
Fixed-Income Commingled Funds	1,370,888	51,365	1,988	1,424,241	1,482,629
Index and Pooled Funds	12,154,732	455,420	17,631	12,627,783	13,887,362
Real Estate	13,221,038	495,373	19,176	13,735,587	10,754,327
Private Equity	31,311,864	1,173,211	45,417	32,530,492	27,883,423
Short-Term Investments	390,713	14,640	566	405,919	580,564
Total Investments	**98,943,265**	**3,707,261**	**143,515**	**102,794,041**	**105,047,805**
Collateral on Loaned Securities	4,465,977	167,334	6,479	4,639,790	5,186,962
Other Capital Assets, Net (Note 6)	32,381	—	—	32,381	31,706
Total Assets	**106,238,836**	**4,022,198**	**153,634**	**110,414,668**	**113,582,367**
Liabilities:					
Retirement Benefits Payable	481,163	—	—	481,163	463,020
Refunds Payable	4,192	480	—	4,672	4,648
Accounts Payable and Accrued Expenses	31,351	19,520	33	50,904	48,610
Compensated Absences Payable	4,328	—	—	4,328	3,392
Insurance Premiums and Claims Payable	—	103,829	—	103,829	93,704
Payable for Security Transactions	3,868,753	144,955	5,612	4,019,320	5,136,965
Other Investment Payables	8,454	317	12	8,783	132,157
Lease Liabilities (Note 7)	4,336	—	—	4,336	—
Other Payables	3,437	—	—	3,437	3,523
Obligations Under Security Lending Program	4,467,345	167,385	6,480	4,641,210	5,186,962
Total Liabilities	**8,873,359**	**436,486**	**12,137**	**9,321,982**	**11,072,981**
Net Position – Restricted for Benefits (Note 4)	**$ 97,365,477**	**$ 3,585,712**	**$ 141,497**	**$101,092,686**	**$ 102,509,386**

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, 2022, WITH COMPARATIVE INFORMATION FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

				Totals	
	Pension Trust Funds	Other Employee Benefit Trust Funds	Other Custodial Plans	2022	2021
Additions:					
Contributions:					
Members	$ 959,874	$ 174,318	$ 25	$ 1,134,217	$ 1,076,649
Employers	2,862,394	375,309	896	3,238,599	3,095,828
Special Employer	256,251	18,081	—	274,332	38,656
Non-employer Contributing Entity	442,371	33,297	—	475,668	61,344
Total Contributions	**4,520,890**	**601,005**	**921**	**5,122,816**	**4,272,477**
Investment Income:					
Interest, Dividends and Other Investment Income	1,189,368	43,629	1,717	1,234,714	1,252,536
Net Appreciation/(Depreciation) in Fair Value of Investments	(736,839)	(29,494)	(870)	(767,203)	21,568,597
Securities Lending Income	25,790	953	32	26,775	18,006
Total Investment Income Before Investment Expenses	478,319	15,088	879	494,286	22,839,139
Investment Expenses:					
Direct Investment Expenses	(590,944)	(21,804)	(761)	(613,509)	(554,425)
Securities Lending Management Fees and Borrower Rebates	(4,852)	(182)	(3)	(5,037)	(2,411)
Total Investment Expenses	(595,796)	(21,986)	(764)	(618,546)	(556,836)
Net Investment Income	**(117,477)**	**(6,898)**	**115**	**(124,260)**	**22,282,303**
Miscellaneous Revenue	2,073	1,450	5,514	9,037	5,348
Total Additions	**4,405,486**	**595,557**	**6,550**	**5,007,593**	**26,560,128**
Deductions:					
Retirement Benefits	5,729,308	—	—	5,729,308	5,522,199
Refunds of Member Contributions	130,117	—	1,768	131,885	116,186
Insurance Premiums and Claims	—	258,997	—	258,997	251,382
Retiree Health Insurance Reimbursements	—	179,043	—	179,043	171,401
Disability Insurance Premiums and Benefits	—	40,733	—	40,733	38,708
Line of Duty Benefits	—	14,112	—	14,112	13,095
Administrative Expenses	60,765	3,550	—	64,315	57,603
Other Expenses	687	2,293	2,920	5,900	5,628
Total Deductions	**5,920,877**	**498,728**	**4,688**	**6,424,293**	**6,176,202**
Net Increase (Decrease)	(1,515,391)	96,829	1,862	(1,416,700)	20,383,926
Net Position – Restricted for Benefits – Beginning of Year	98,880,868	3,488,883	139,635	102,509,386	82,125,460
Net Position – Restricted for Benefits – End of Year	**$ 97,365,477**	**$ 3,585,712**	**$ 141,497**	**$ 101,092,686**	**$ 102,509,386**

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, 2022

(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)	$ 78,668	$ 914	$ 1,631	$ 582	$ 81,795
Receivables:					
Contributions	304,956	1,758	4,057	1,047	311,818
Interest and Dividends	213,257	2,350	4,194	1,497	221,298
Receivables for Security Transactions	2,058,072	22,677	40,472	14,451	2,135,672
Other Investment Receivables	23,897	263	470	168	24,798
Other Receivables	21,832	—	—	—	21,832
Total Receivables	**2,622,014**	**27,048**	**49,193**	**17,163**	**2,715,418**
Investments: (Note 5)					
Bonds and Mortgage Securities	18,473,680	203,556	363,284	129,716	19,170,236
Stocks	20,548,987	226,423	404,096	144,288	21,323,794
Fixed-Income Commingled Funds	1,321,076	14,557	25,979	9,276	1,370,888
Index and Pooled Funds	11,713,086	129,063	230,338	82,245	12,154,732
Real Estate	12,740,647	140,385	250,545	89,461	13,221,038
Private Equity	30,174,137	332,480	593,374	211,873	31,311,864
Short-Term Investments	376,516	4,149	7,404	2,644	390,713
Total Investments	**95,348,129**	**1,050,613**	**1,875,020**	**669,503**	**98,943,265**
Collateral on Loaned Securities	4,303,705	47,421	84,632	30,219	4,465,977
Other Capital Assets, Net (Note 6)	32,381	—	—	—	32,381
Total Assets	**102,384,897**	**1,125,996**	**2,010,476**	**717,467**	**106,238,836**
Liabilities:					
Retirement Benefits Payable	460,629	5,769	10,878	3,887	481,163
Refunds Payable	4,192	—	—	—	4,192
Accounts Payable and Accrued Expenses	30,537	238	424	152	31,351
Compensated Absences Payable	4,328	—	—	—	4,328
Insurance Premiums and Claims Payable	—	—	—	—	—
Payable for Security Transactions	3,728,180	41,080	73,315	26,178	3,868,753
Other Investment Payables	8,147	90	160	57	8,454
Lease Liabilities (Note 7)	4,336	—	—	—	4,336
Other Payables	3,437	—	—	—	3,437
Obligations Under Security Lending Program	4,305,023	47,436	84,658	30,228	4,467,345
Total Liabilities	**8,548,809**	**94,613**	**169,435**	**60,502**	**8,873,359**
Net Position – Restricted for Benefits (Note 4)	**$ 93,836,088**	**$ 1,031,383**	**$ 1,841,041**	**$ 656,965**	**$ 97,365,477**

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, 2022

(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	$ 933,434	$ 7,131	$ 17,276	$ 2,033	$ 959,874
Employers	2,727,924	36,494	73,960	24,016	2,862,394
Special Employer	219,156	10,958	19,887	6,250	256,251
Non-employer Contributing Entity	442,371	—	—	—	442,371
Total Contributions	**4,322,885**	**54,583**	**111,123**	**32,299**	**4,520,890**
Investment Income:					
Interest, Dividends and Other Investment Income	1,146,396	12,554	22,371	8,047	1,189,368
Net Appreciation/(Depreciation) in Fair Value of Investments	(711,381)	(7,450)	(13,331)	(4,677)	(736,839)
Securities Lending Income	24,859	272	485	174	25,790
Total Investment Income Before Investment Expenses	459,874	5,376	9,525	3,544	478,319
Investment Expenses:					
Direct Investment Expenses	(569,628)	(6,228)	(11,100)	(3,988)	(590,944)
Securities Lending Management Fees and Borrower Rebates	(4,677)	(51)	(91)	(33)	(4,852)
Total Investment Expenses	(574,305)	(6,279)	(11,191)	(4,021)	(595,796)
Net Investment Income	**(114,431)**	**(903)**	**(1,666)**	**(477)**	**(117,477)**
Miscellaneous Revenue	1,976	—	—	97	2,073
Total Additions	**4,210,430**	**53,680**	**109,457**	**31,919**	**4,405,486**
Deductions:					
Retirement Benefits	5,480,191	71,465	129,974	47,678	5,729,308
Refunds of Member Contributions	123,414	378	6,284	41	130,117
Insurance Premiums and Claims	—	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—
Administrative Expenses	58,703	602	1,074	386	60,765
Other Expenses	679	—	8	—	687
Total Deductions	**5,662,987**	**72,445**	**137,340**	**48,105**	**5,920,877**
Net Increase (Decrease)	(1,452,557)	(18,765)	(27,883)	(16,186)	(1,515,391)
Net Position – Restricted for Benefits	95,288,645	1,050,148	1,868,924	673,151	98,880,868
Net Position – Restricted for Benefits – End of Year	**$ 93,836,088**	**$ 1,031,383**	**$ 1,841,041**	**$ 656,965**	**$ 97,365,477**

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, 2022

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Total VRS Plans
Assets:				
Cash (Note 5)	$ 18,929	$ 37,904	$ 21,835	$ 78,668
Receivables:				
Contributions	52,879	182,064	70,013	304,956
Interest and Dividends	51,315	102,751	59,191	213,257
Receivables for Security Transactions	495,224	991,612	571,236	2,058,072
Other Investment Receivables	5,750	11,514	6,633	23,897
Other Receivables	5,253	10,519	6,060	21,832
Total Receivables	**610,421**	**1,298,460**	**713,133**	**2,622,014**
Investments: (Note 5)				
Bonds and Mortgage Securities	4,445,233	8,900,915	5,127,532	18,473,680
Stocks	4,944,604	9,900,831	5,703,552	20,548,987
Fixed-Income Commingled Funds	317,884	636,516	366,676	1,321,076
Index and Pooled Funds	2,818,463	5,643,553	3,251,070	11,713,086
Real Estate	3,065,720	6,138,648	3,536,279	12,740,647
Private Equity	7,260,657	14,538,383	8,375,097	30,174,137
Short-Term Investments	90,600	181,411	104,505	376,516
Total Investments	**22,943,161**	**45,940,257**	**26,464,711**	**95,348,129**
Collateral on Loaned Securities	1,056,084	2,038,460	1,209,161	4,303,705
Other Capital Assets, Net (Note 6)	7,791	15,602	8,988	32,381
Total Assets	**24,636,386**	**49,330,683**	**28,417,828**	**102,384,897**
Liabilities:				
Retirement Benefits Payable	110,839	221,938	127,852	460,629
Refunds Payable	1,008	2,020	1,164	4,192
Accounts Payable and Accrued Expenses	7,348	14,713	8,476	30,537
Compensated Absences Payable	1,042	2,085	1,201	4,328
Insurance Premiums and Claims Payable	—	—	—	—
Payable for Security Transactions	897,094	1,796,297	1,034,789	3,728,180
Other Investment Payables	1,961	3,925	2,261	8,147
Lease Liabilities (Note 7)	1,044	2,089	1,203	4,336
Other Payables	827	1,656	954	3,437
Obligations Under Security Lending Program	1,035,897	2,074,229	1,194,897	4,305,023
Total Liabilities	**2,057,060**	**4,118,952**	**2,372,797**	**8,548,809**
Net Position – Restricted for Benefits (Note 4)	**$ 22,579,326**	**$ 45,211,731**	**$ 26,045,031**	**$ 93,836,088**

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, 2022

(EXPRESSED IN THOUSANDS)

	State Employee Plan	Teacher Employee Plan	Political Subdivision Plans	Total VRS Plans
Additions:				
Contributions:				
Members	$ 217,945	$ 439,139	$ 276,350	$ 933,434
Employers	633,738	1,485,307	608,879	2,727,924
Special Employer	219,156	—	—	219,156
Non-employer Contributing Entity	—	442,371	—	442,371
Total Contributions	**1,070,839**	**2,366,817**	**885,229**	**4,322,885**
Investment Income:				
Interest, Dividends and Other Investment Income	181,968	727,817	236,611	1,146,396
Net Appreciation/(Depreciation) in Fair Value of Investments	(115,941)	(446,330)	(149,110)	(711,381)
Securities Lending Income	4,069	15,551	5,239	24,859
Total Investment Income Before Investment Expenses	70,096	297,038	92,740	459,874
Investment Expenses:				
Direct Investment Expenses	(90,902)	(360,735)	(117,991)	(569,628)
Securities Lending Management Fees and Borrower Rebates	(773)	(2,912)	(992)	(4,677)
Total Investment Expenses	(91,675)	(363,647)	(118,983)	(574,305)
Net Investment Income	**(21,579)**	**(66,609)**	**(26,243)**	**(114,431)**
Miscellaneous Revenue	425	1,065	486	1,976
Total Additions	**1,049,685**	**2,301,273**	**859,472**	**4,210,430**
Deductions:				
Retirement Benefits	1,536,665	2,635,945	1,307,581	5,480,191
Refunds of Member Contributions	31,680	43,437	48,297	123,414
Insurance Premiums and Claims	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—
Line of Duty Benefits	—	—	—	—
Administrative Expenses	14,302	27,876	16,525	58,703
Other Expenses	129	328	222	679
Total Deductions	**1,582,776**	**2,707,586**	**1,372,625**	**5,662,987**
Net Increase (Decrease)	(533,091)	(406,313)	(513,153)	(1,452,557)
Net Position – Restricted for Benefits – Beginning of Year*	23,112,417	45,618,044	26,558,184	95,288,645
Net Position – Restricted for Benefits – End of Year	**$ 22,579,326**	**$ 45,211,731**	**$ 26,045,031**	**$ 93,836,088**

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

** Teacher and Political Subdivision beginning year balances adjusted from prior year.*

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

AS OF JUNE 30, 2022

(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)	$ 2,248	$ 432	$ 525	$ 6	$ 13	$ 3,224
Receivables:						
Contributions	25,075	18,224	1,680	—	859	45,838
Interest and Dividends	5,781	1,111	1,351	16	34	8,293
Receivables for Security Transactions	55,787	10,718	13,034	158	323	80,020
Other Investment Receivables	648	124	151	2	4	929
Other Receivables	—	73	9,206	8	12	9,299
Total Receivables	**87,291**	**30,250**	**25,422**	**184**	**1,232**	**144,379**
Investments: (Note 5)						
Bonds and Mortgage Securities	500,755	96,210	116,996	1,416	2,903	718,280
Stocks	557,009	107,018	130,139	1,576	3,230	798,972
Fixed-Income Commingled Funds	35,810	6,879	8,367	101	208	51,365
Index and Pooled Funds	317,500	61,001	74,180	898	1,841	455,420
Real Estate	345,353	66,352	80,688	977	2,003	495,373
Private Equity	817,913	157,145	191,096	2,314	4,743	1,173,211
Short-Term Investments	10,206	1,961	2,385	29	59	14,640
Total Investments	**2,584,546**	**496,566**	**603,851**	**7,311**	**14,987**	**3,707,261**
Collateral on Loaned Securities	116,658	22,413	27,256	331	676	167,334
Other Capital Assets, Net (Note 6)	—	—	—	—	—	—
Total Assets	**2,790,743**	**549,661**	**657,054**	**7,832**	**16,908**	**4,022,198**
Liabilities:						
Retirement Benefits Payable	—	—	—	—	—	—
Refunds Payable	—	480	—	—	—	480
Accounts Payable and Accrued Expenses	953	14,978	3,211	2	376	19,520
Compensated Absences Payable	—	—	—	—	—	—
Insurance Premiums and Claims Payable	103,829	—	—	—	—	103,829
Payable for Security Transactions	101,057	19,416	23,611	285	586	144,955
Other Investment Payables	221	42	52	1	1	317
Lease Liabilities (Note 7)	—	—	—	—	—	—
Other Payables	—	—	—	—	—	—
Obligations Under Security Lending Program	116,694	22,420	27,264	330	677	167,385
Total Liabilities	**322,754**	**57,336**	**54,138**	**618**	**1,640**	**436,486**
Net Position – Restricted for Benefits (Note 4)	**$ 2,467,989**	**$ 492,325**	**$ 602,916**	**$ 7,214**	**$ 15,268**	**$ 3,585,712**

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, 2022

(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	$ 174,318	$ —	$ —	$ —	$ —	$ 174,318
Employers	117,664	207,955	28,249	13,770	7,671	375,309
Special Employer	9,154	8,927	—	—	—	18,081
Non-employer Contributing Entity	21,284	12,013	—	—	—	33,297
Total Contributions	**322,420**	**228,895**	**28,249**	**13,770**	**7,671**	**601,005**
Investment Income:						
Interest, Dividends and Other Investment Income	30,785	5,205	7,302	178	159	43,629
Net Appreciation/(Depreciation) in Fair Value of Investments	(21,172)	(3,989)	(4,310)	169	(192)	(29,494)
Securities Lending Income	671	116	158	4	4	953
Total Investment Income Before Investment Expenses	10,284	1,332	3,150	351	(29)	15,088
Investment Expenses:						
Direct Investment Expenses	(15,392)	(2,615)	(3,627)	(88)	(82)	(21,804)
Securities Lending Management Fees and Borrower Rebates	(127)	(23)	(30)	(1)	(1)	(182)
Total Investment Expenses	(15,519)	(2,638)	(3,657)	(89)	(83)	(21,986)
Net Investment Income	**(5,235)**	**(1,306)**	**(507)**	**262**	**(112)**	**(6,898)**
Miscellaneous Revenue	—	—	798	652	—	1,450
Total Additions	**317,185**	**227,589**	**28,540**	**14,684**	**7,559**	**595,557**
Deductions:						
Retirement Benefits	—	—	—	—	—	—
Refunds of Member Contributions	—	—	—	—	—	—
Insurance Premiums and Claims	258,997	—	—	—	—	258,997
Retiree Health Insurance Reimbursements	—	179,043	—	—	—	179,043
Disability Insurance Premiums and Benefits	—	—	36,872	—	3,861	40,733
Line of Duty Benefits	—	—	—	14,112	—	14,112
Administrative Expenses	1,184	786	483	911	186	3,550
Other Expenses	2,089	16	188	—	—	2,293
Total Deductions	**262,270**	**179,845**	**37,543**	**15,023**	**4,047**	**498,728**
Net Increase (Decrease)	54,915	47,744	(9,003)	(339)	3,512	96,829
Net Position – Restricted for Benefits – Beginning of Year	2,413,074	444,581	611,919	7,553	11,756	3,488,883
Net Position – Restricted for Benefits – End of Year	**$ 2,467,989**	**$ 492,325**	**$ 602,916**	**$ 7,214**	**$ 15,268**	**$ 3,585,712**

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, 2022

(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)	$ 197	$ 195	$ 31	$ 7	$ 2	$ —	$ 432
Receivables:							
Contributions	6,197	11,204	470	149	197	7	18,224
Interest and Dividends	507	501	80	17	6	—	1,111
Receivables for Security Transactions	4,888	4,830	774	166	56	4	10,718
Other Investment Receivables	56	56	9	2	1	—	124
Other Receivables	34	33	5	1	—	—	73
Total Receivables	**11,682**	**16,624**	**1,338**	**335**	**260**	**11**	**30,250**
Investments: (Note 5)							
Bonds and Mortgage Securities	43,886	43,353	6,945	1,486	500	40	96,210
Stocks	48,817	48,223	7,725	1,653	556	44	107,018
Fixed-Income Commingled Funds	3,137	3,100	497	106	36	3	6,879
Index and Pooled Funds	27,826	27,487	4,404	942	317	25	61,001
Real Estate	30,266	29,899	4,790	1,025	345	27	66,352
Private Equity	71,682	70,811	11,344	2,427	816	65	157,145
Short-Term Investments	894	884	142	30	10	1	1,961
Total Investments	**226,508**	**223,757**	**35,847**	**7,669**	**2,580**	**205**	**496,566**
Collateral on Loaned Securities	12,344	7,105	2,463	478	13	10	22,413
Other Capital Assets, Net (Note 6)	—	—	—	—	—	—	—
Total Assets	**250,731**	**247,681**	**39,679**	**8,489**	**2,855**	**226**	**549,661**
Liabilities:							
Retirement Benefits Payable	—	—	—	—	—	—	—
Refunds Payable	220	216	35	7	2	—	480
Accounts Payable and Accrued Expenses	6,833	6,749	1,081	231	78	6	14,978
Compensated Absences Payable	—	—	—	—	—	—	—
Insurance Premiums and Claims Payable	—	—	—	—	—	—	—
Payable for Security Transactions	8,856	8,749	1,402	300	101	8	19,416
Other Investment Payables	19	19	3	1	—	—	42
Other Payables	—	—	—	—	—	—	—
Obligations Under Security Lending Program	10,228	10,103	1,618	346	116	9	22,420
Total Liabilities	**26,156**	**25,836**	**4,139**	**885**	**297**	**23**	**57,336**
Net Position – Restricted for Benefits (Note 4)	**$ 224,575**	**$ 221,845**	**$ 35,540**	**$ 7,604**	**$ 2,558**	**$ 203**	**$ 492,325**

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, 2022

(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	85,324	112,832	5,683	2,836	1,212	68	207,955
Special Employer	8,523	—	—	276	122	6	8,927
Non-employer Contributing Entity	—	12,013	—	—	—	—	12,013
Total Contributions	**93,847**	**124,845**	**5,683**	**3,112**	**1,334**	**74**	**228,895**
Investment Income:							
Interest, Dividends and Other Investment Income	1,607	3,159	285	131	17	6	5,205
Net Appreciation/(Depreciation) in Fair Value of Investments	(1,187)	(2,548)	(145)	(92)	(13)	(4)	(3,989)
Securities Lending Income	38	69	6	3	—	—	116
Total Investment Income Before Investment Expenses	458	680	146	42	4	2	1,332
Investment Expenses:							
Direct Investment Expenses	(808)	(1,586)	(142)	(68)	(8)	(3)	(2,615)
Securities Lending Management Fees and Borrower Rebates	(8)	(13)	(1)	(1)	—	—	(23)
Total Investment Expenses	(816)	(1,599)	(143)	(69)	(8)	(3)	(2,638)
Net Investment Income	**(358)**	**(919)**	**3**	**(27)**	**(4)**	**(1)**	**(1,306)**
Miscellaneous Revenue	—	—	—	—	—	—	—
Total Additions	**93,489**	**123,926**	**5,686**	**3,085**	**1,330**	**73**	**227,589**
Deductions:							
Retirement Benefits	—	—	—	—	—	—	—
Refunds of Member Contributions	—	—	—	—	—	—	—
Insurance Premiums and Claims	—	—	—	—	—	—	—
Retiree Health Insurance Reimbursements	76,023	95,289	4,460	2,121	1,113	37	179,043
Disability Insurance Premiums and Benefits	—	—	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—	—	—
Administrative Expenses	357	334	62	27	5	1	786
Transfers	387	755	(1,142)				—
Other Expenses	7	8	—	1	—	—	16
Total Deductions	**76,774**	**96,386**	**3,380**	**2,149**	**1,118**	**38**	**179,845**
Net Increase (Decrease)	16,715	27,540	2,306	936	212	35	47,744
Net Position – Restricted for Benefits – Beginning of Year	207,860	194,305	33,234	6,668	2,346	168	444,581
Net Position – Restricted for Benefits – End of Year	**$ 224,575**	**$ 221,845**	**$ 35,540**	**$ 7,604**	**$ 2,558**	**$ 203**	**$ 492,325**

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, 2022

(EXPRESSED IN THOUSANDS)

	Teacher Employee Plan	Political Subdivision Plan	Total VLDP Plans
Assets:			
Cash (Note 5)	$ 6	$ 7	$ 13
Receivables:			
Contributions	511	348	859
Interest and Dividends	16	18	34
Receivables for Security Transactions	155	168	323
Other Investment Receivables	2	2	4
Other Receivables	6	6	12
Total Receivables	**690**	**542**	**1,232**
Investments: (Note 5)			
Bonds and Mortgage Securities	1,392	1,511	2,903
Stocks	1,549	1,681	3,230
Fixed-Income Commingled Funds	100	108	208
Index and Pooled Funds	883	958	1,841
Real Estate	960	1,043	2,003
Private Equity	2,274	2,469	4,743
Short-Term Investments	28	31	59
Total Investments	**7,186**	**7,801**	**14,987**
Collateral on Loaned Securities	224	452	676
Other Capital Assets, Net (Note 6)	—	—	—
Total Assets	**8,106**	**8,802**	**16,908**
Liabilities:			
Retirement Benefits Payable	—	—	—
Refunds Payable	—	—	—
Accounts Payable and Accrued Expenses	180	196	376
Compensated Absences Payable	—	—	—
Insurance Premiums and Claims Payable	—	—	—
Payable for Security Transactions	281	305	586
Other Investment Payables	—	1	1
Other Payables	—	—	—
Obligations Under Security Lending Program	325	352	677
Total Liabilities	**786**	**854**	**1,640**
Net Position – Restricted for Benefits (Note 4)	**$ 7,320**	**$ 7,948**	**$ 15,268**

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, 2022

(EXPRESSED IN THOUSANDS)

	Teacher Employee Plan	Political Subdivision Plan	Total VLDP Plans
Additions:			
Contributions:			
Members	$ —	$ —	$ —
Employers	3,783	3,888	7,671
Special Employer	—	—	—
Non-employer Contributing Entity	—	—	—
Total Contributions	**3,783**	**3,888**	**7,671**
Investment Income:			
Interest, Dividends and Other Investment Income	78	81	159
Net Appreciation/(Depreciation) in Fair Value of Investments	(95)	(97)	(192)
Securities Lending Income	2	2	4
Total Investment Income Before Investment Expenses	(15)	(14)	(29)
Investment Expenses:			
Direct Investment Expenses	(40)	(42)	(82)
Securities Lending Management Fees and Borrower Rebates	(1)	—	(1)
Total Investment Expenses	(41)	(42)	(83)
Net Investment Income	**(56)**	**(56)**	**(112)**
Miscellaneous Revenue	—	—	—
Total Additions	**3,727**	**3,832**	**7,559**
Deductions:			
Retirement Benefits	—	—	—
Refunds of Member Contributions	—	—	—
Insurance Premiums and Claims	—	—	—
Retiree Health Insurance Reimbursements	—	—	—
Disability Insurance Premiums and Benefits	788	811	1,599
Line of Duty Benefits	—	—	—
Administrative Expenses	93	93	186
Third Party Administrative Expenses	1,116	1,146	2,262
Other Expenses	—	—	—
Total Deductions	**1,997**	**2,050**	**4,047**
Net Increase (Decrease)	1,730	1,782	3,512
Net Position – Restricted for Benefits – Beginning of Year	5,590	6,166	11,756
Net Position – Restricted for Benefits – End of Year	**$ 7,320**	**$ 7,948**	**$ 15,268**

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, 2022

(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)	$ 56	$ 41	$ 65	$ 23	$ 185
Receivables:					
Contributions	—	—	—	—	—
Interest and Dividends	145	106	11	59	321
Receivables for Security Transactions	1,394	1,020	119	565	3,098
Other Investment Receivables	16	12	1	7	36
Other Receivables	—	—	—	—	—
Total Receivables	**1,555**	**1,138**	**131**	**631**	**3,455**
Investments: (Note 5)					
Bonds and Mortgage Securities	12,515	9,160	1,064	5,068	27,807
Stocks	13,920	10,189	1,184	5,637	30,930
Fixed-Income Commingled Funds	895	655	76	362	1,988
Index and Pooled Funds	7,935	5,808	675	3,213	17,631
Real Estate	8,631	6,317	733	3,495	19,176
Private Equity	20,441	14,961	1,738	8,277	45,417
Short-Term Investments	255	187	22	102	566
Total Investments	**64,592**	**47,277**	**5,492**	**26,154**	**143,515**
Collateral on Loaned Securities	2,915	2,135	248	1,181	6,479
Other Capital Assets, Net (Note 6)	—	—	—	—	—
Total Assets	**69,118**	**50,591**	**5,936**	**27,989**	**153,634**
Liabilities:					
Retirement Benefits Payable	—	—	—	—	—
Refunds Payable	—	—	—	—	—
Accounts Payable and Accrued Expenses	15	11	1	6	33
Compensated Absences Payable	—	—	—	—	—
Insurance Premiums and Claims Payable	—	—	—	—	—
Payable for Security Transactions	2,525	1,849	215	1,023	5,612
Other Investment Payables	6	4	—	2	12
Lease Liabilities (Note 7)	—	—	—	—	—
Other Payables	—	—	—	—	—
Obligations Under Security Lending Program	2,916	2,135	248	1,181	6,480
Total Liabilities	**5,462**	**3,999**	**464**	**2,212**	**12,137**
Net Position – Restricted for Benefits (Note 4)	**$ 63,656**	**$ 46,592**	**$ 5,472**	**$ 25,777**	**$ 141,497**

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, 2022

(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	$ —	$ —	$ 25	$ —	$ 25
Employers	807	—	89	—	896
Special Employer	—	—	—	—	—
Non-employer Contributing Entity	—	—	—	—	—
Total Contributions	**807**	**—**	**114**	**—**	**921**
Investment Income:					
Interest, Dividends and Other Investment Income	760	569	67	321	1,717
Net Appreciation/(Depreciation) in Fair Value of Investments	(305)	(361)	(42)	(162)	(870)
Securities Lending Income	11	12	1	8	32
Total Investment Income Before Investment Expenses	466	220	26	167	**879**
Investment Expenses:					
Direct Investment Expenses	(287)	(282)	(33)	(159)	(761)
Securities Lending Management Fees and Borrower Rebates	—	(2)	—	(1)	(3)
Total Investment Expenses	(287)	(284)	(33)	(160)	(764)
Net Investment Income	**179**	**(64)**	**(7)**	**7**	**115**
Miscellaneous Revenue	5,514	—	—	—	5,514
Total Additions	**6,500**	**(64)**	**107**	**7**	**6,550**
Deductions:					
Retirement Benefits	—	—	—	—	—
Refunds of Member Contributions	1,768	—	—	—	1,768
Insurance Premiums and Claims	—	—	—	—	—
Retiree Health Insurance Reimbursements	—	—	—	—	—
Disability Insurance Premiums and Benefits	—	—	—	—	—
Line of Duty Benefits	—	—	—	—	—
Administrative Expenses	—	—	—	—	—
Other Expenses	—	1,734	91	1,095	2,920
Total Deductions	**1,768**	**1,734**	**91**	**1,095**	**4,688**
Net Increase (Decrease)	4,732	(1,798)	16	(1,088)	1,862
Net Position – Restricted for Benefits – Beginning of Year	58,924	48,390	5,456	26,865	139,635
Net Position – Restricted for Benefits – End of Year	**$ 63,656**	**$ 46,592**	**$ 5,472**	**$ 25,777**	**$ 141,497**

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

Notes to Financial Statements

JUNE 30, 2022 AND 2021

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 (UAAL), 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.
- GASB Statement No. 87, *Leases.* The statement became effective for fiscal years starting after June 15, 2021. A single model approach to lease classification was adopted and leases are no longer classified as operating and capital leases. Under this statement, all leases over 12 months require a recognition of a right-to-use asset and a lease liability on the financial statements. This information is presented in Figure 2.29 and Note 7.

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, 2022, the annual money-weighted rate of return for the Pooled Assets portfolio, net of investment expenses, was 0.7%. 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 2022 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. Intangible right to use assets are capitalized for a present value greater than $50,000.

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, 2022 and 2021, 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. See footnote 5B2 for additional information.

Investment rate of returns for the real assets and private equity programs, as well as the private investment partnerships portfolio, do not reflect managers' actual valuations of these investments as of June 30, 2022, because valuations of private assets have a timing lag behind other assets. Instead, investment rate of returns are based on valuations as of March 31, 2022, adjusted for cash flows during the quarter that ended June 30, 2022.

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, 2021, from which the summarized information was derived.

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 (466 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	2022 Total	2021 Total
Retirees and Beneficiaries Receiving Benefits	61,651	100,148	61,994	1,511	5,673	546	231,523	224,973
Terminated Employees Entitled to Benefits But Not Receiving Them	13,599	30,142	16,063	162	887	3	60,856	59,458
Total	**75,250**	**130,290**	**78,057**	**1,673**	**6,560**	**549**	**292,379**	**284,431**
Active Members:								
Vested	50,790	107,945	67,532	1,521	4,089	372	232,249	235,280
Non-Vested	25,366	45,259	43,143	354	3,253	87	117,462	109,597
Total	**76,156**	**153,204**	**110,675**	**1,875**	**7,342**	**459**	**349,711**	**344,877**

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
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.	**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.	**About the Hybrid Retirement Plan** The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan. • 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.
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.	**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. 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.	**Eligible Members** Members are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes: • 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. *** Non-Eligible Members** Some members are not eligible to participate in the Hybrid Retirement Plan. They include: • 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 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.

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
Retirement Contributions Members, excluding state elected officials, judges in Plan 1 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 payments.	**Retirement Contributions** Same as Plan 1.* ** Plan 2 judges and elected officials pay their own member contributions.*	**Retirement Contributions** *Defined Benefit Component:* Members contribute 4% of their compensation each month to their member contribution account through a pretax salary reduction. *Defined Contribution Component:* 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.
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. ** JRS members in Plan 1, Plan 2 and the Hybrid Retirement Plan earn more than one month for each month they are employed in a covered position.*	**Service Credit** Same as Plan 1.	**Service Credit** *Defined Benefit Component:* 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. *Defined Contribution Component:* Under the defined contribution component, service credit is used to determine vesting for the employer contribution portion of the plan.
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.	**Vesting** Same as Plan 1.	**Vesting** *Defined Benefit Component:* 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.)*

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
		Vesting, cont. *Defined Contribution Component:* 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. • 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. Distribution is not required by law until age 72.
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. 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.	**Calculating the Benefit** Same as Plan 1.	**Calculating the Benefit** *Defined Benefit Component:* Same as Plan 1. *Defined Contribution Component:* 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.
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.	**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.	**Average Final Compensation** Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
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%. SPORS, sheriffs and regional jail superintendents: The retirement multiplier is 1.85%. VaLORS: The retirement multiplier is 1.70% or 2.00%. • 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 or rehired on or after July 1, 2001, have 2.00% applied to hazardous duty service and 1.70% applied to non-hazardous duty service and no supplement. 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. JRS Plan 1: If appointed or elected to an original term prior to January 1, 2013, the retirement multiplier is 1.70%. 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.	**Service Retirement Multiplier** VRS Plan 2: Same as Plan 1 for service earned, purchased or granted prior to January 1, 2013. For non-hazardous duty members, the retirement multiplier is 1.65% for service credit earned, purchased or granted on or after January 1, 2013. SPORS, sheriffs and regional jail superintendents: Same as Plan 1. VaLORS: The retirement multiplier is 2.00% applied to hazardous duty service and 1.70% applied to non-hazardous duty service and no supplement. Political subdivision hazardous duty employees: Same as Plan 1. JRS Plan 2: Same as Plan 1.	**Service Retirement Multiplier** *Defined Benefit Component:* VRS: The retirement multiplier for the defined benefit component is 1.00%. 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. SPORS, sheriffs and regional jail superintendents: Not applicable. VaLORS: Not applicable. Political subdivision hazardous duty employees: Not applicable. 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. *Defined Contribution Component:* Not applicable.
Normal Retirement Age VRS: Age 65. SPORS, VaLORS and political subdivision hazardous duty employees: Age 60. JRS: Age 65; mandatory retirement age is 73.	**Normal Retirement Age** VRS: Normal Social Security retirement age. SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1. JRS: Same as Plan 1.	**Normal Retirement Age** *Defined Benefit Component:* VRS: Same as Plan 2. SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable. JRS: Same as Plan 1. *Defined Contribution Component:* Members are eligible to receive distributions upon leaving employment, subject to restrictions.

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
Earliest Unreduced Retirement Eligibility 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.* 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. 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. Service earned under JRS is weighted. The weighting factors for a judge appointed prior to July 1, 2010, are as follows: • 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. For members appointed or elected to an original term between July 1, 2010, and December 31, 2013, the weighting factors are: • 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. ** 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.*	**Earliest Unreduced Retirement Eligibility** VRS: Normal Social Security retirement age with at least five years (60 months) of service credit or when their age and service equal 90. SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1. JRS: Age 65, with at least five years of weighted service credit, or age 60 with at least 30 years of weighted service credit. Service earned under JRS is weighted. The weighting factors under Plan 2 are: • 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.	**Earliest Unreduced Retirement Eligibility** *Defined Benefit Component:* VRS: Same as Plan 2. SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable. JRS: Same as Plan 2. *Defined Contribution Component:* Members are eligible to receive distributions upon leaving employment, subject to restrictions.
Earliest Reduced Retirement Eligibility VRS: Age 55 with at least five years (60 months) of service credit or age 50 with at least 10 years of service credit. SPORS, VaLORS and political subdivision hazardous duty employees: Age 50 with at least five years of service credit. JRS: Age 55, with at least five years of service credit.	**Earliest Reduced Retirement Eligibility** VRS: Age 60 with at least five years (60 months) of service credit. SPORS, VaLORS and political subdivision hazardous duty employees: Same as Plan 1. JRS: Same as Plan 1.	**Earliest Reduced Retirement Eligibility** *Defined Benefit Component:* VRS: Same as Plan 2. SPORS, VaLORS and political subdivision hazardous duty employees: Not applicable. JRS: Same as Plan 1. *Defined Contribution Component:* Members are eligible to receive distributions upon leaving employment, subject to restrictions.

FIGURE 2.10 : RETIREMENT PLAN PROVISIONS, cont.

PLAN 1	PLAN 2	HYBRID RETIREMENT PLAN
Cost-of-Living Adjustment (COLA) in Retirement 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%. *Eligibility:* 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. 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. *Exceptions to COLA Effective Dates:* 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: • 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.	**Cost-of-Living Adjustment (COLA) in Retirement** 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%. *Eligibility:* Same as Plan 1. *Exceptions to COLA Effective Dates:* Same as Plan 1.	**Cost-of-Living Adjustment (COLA) in Retirement** *Defined Benefit Component:* Same as Plan 2. *Defined Contribution Component:* Not applicable. *Eligibility:* Same as Plan 1. *Exceptions to COLA Effective Dates:* 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: • 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.
Disability Coverage 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. Most state employees are covered under the Virginia Sickness and Disability Program (VSDP) and are not eligible for disability retirement. VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.	**Disability Coverage** 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. Most state employees are covered under the Virginia Sickness and Disability Program (VSDP) and are not eligible for disability retirement. VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.	**Disability Coverage** 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. 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. 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.

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** *Defined Benefit Component:* Same as Plan 1, with the following exception: Hybrid Retirement Plan members are ineligible for ported service. *Defined Contribution Component:* 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 2022 and 2021 were based on the actuary's valuation as of June 30, 2019.

As shown in Figure 2.11, contributions to the pension plans for the fiscal years ended June 30, 2022 and 2021, totaled $4,520.9 million and $3,711.3 million, respectively, in accordance with statutory requirements.

In June 2022, the Commonwealth made a special contribution of approximately $698.6 million of which $219.1 million was allocated to the VRS State plan, $442.4 million to the VRS Teacher plan, $6.2 million to JRS, $11.0 million to SPORS, and $19.9 million to VaLORS. This special payment was authorized by a Budget Amendment included in Chapter 1 of the 2022 Appropriation Act, and is classified as a non-employer contribution for the VRS Teacher plan and a special employer contribution for the other plans.

Employer contributions to the VRS cost-sharing pool for teachers in the fiscal year ended June 30, 2022, represented 16.62% of covered payrolls. This was the full actuarial cost and was the same as the 16.62% contributed in the fiscal year ended June 20, 2021. Employer contributions for state employees represented 14.46% of covered payrolls. Each political subdivision's contributions ranged from zero (0.00%) to 40.89% 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	Special Employer	Non-employer Contributing Entity	Total
2022	VRS – State	$ 217,945	$ 633,738	$ 219,156	$ —	$ 1,070,839
	VRS – Teacher	439,139	1,485,307	—	442,371	2,366,817
	VRS – Political Subdivisions	276,350	608,879	—	—	885,229
	Total VRS	**933,434**	**2,727,924**	**219,156**	**442,371**	**4,322,885**
	JRS	2,033	24,016	6,250	—	32,299
	SPORS	7,131	36,494	10,958	—	54,583
	VaLORS	17,276	73,960	19,887	—	111,123
	Total	**$ 959,874**	**$ 2,862,394**	**$ 256,251**	**$ 442,371**	**$ 4,520,890**
2021	**Total**	**$ 910,989**	**$ 2,738,973**	**$ —**	**$ 61,344**	**$ 3,711,306**

C. EMPLOYERS' NET PENSION LIABILITY: PENSION PLANS

The net pension liabilities for the VRS pension plans were measured as of June 30, 2022. The total pension liability was determined based on an actuarial valuation as of June 30, 2021, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2022. The actuarial assumptions include an update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020. This change is based on plan experience for the four-year period July 1, 2016, through June 30, 2020, and is reflected in the development of the June 30, 2022, total pension liability.

SCHEDULE OF EMPLOYERS' NET PENSION LIABILITY BY SYSTEM AND PLAN

AS OF JUNE 30, 2022

(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	$ 27,117,746	$22,579,326	$ 4,538,420	83.26%	$ 4,661,991	97.35%
Teacher	54,732,329	45,211,731	9,520,598	82.61%	9,319,260	102.16%
Political Subdivisions*	28,149,356	26,045,031	2,104,325	92.52%	5,699,596	36.92%
Total Virginia Retirement System	**109,999,431**	**93,836,088**	**16,163,343**		**19,680,847**	
State Police Officers' Retirement System	1,355,956	1,031,383	324,573	76.06%	138,644	234.11%
Virginia Law Officers' Retirement System	2,474,069	1,841,041	633,028	74.41%	338,768	186.86%
Judicial Retirement System	760,193	656,965	103,228	86.42%	79,540	129.78%
Grand Total	**$114,589,649**	**$97,365,477**	**$ 17,224,172**		**$ 20,237,797**	

** Political subdivision data is from the consolidated report provided by Gabriel, Roeder, Smith and Company.*

SCHEDULE OF ACTUARIAL METHODS AND SIGNIFICANT ASSUMPTIONS – PENSION PLANS

	VRS					
	State	Teacher	Political Subdivisions	SPORS	VaLORS	JRS
Valuation Date	June 30, 2021	June 30, 2021	June 30, 2021	June 30, 2021	June 30, 2021	June 30, 2021
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%	4.00%
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, 2016, through June 30, 2020, and were used for the June 30, 2021, valuation. The mortality rates used are based on the PUB2010 table projected with a modified mortality improvement scale MP-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, 2022

(EXPRESSED IN THOUSANDS)

	Net Pension Liability		
System/Plan	1.00% Decrease (5.75%)	Current Discount Rate (6.75%)	1.00% Increase (7.75%)
Virginia Retirement System			
State	$ 7,756,280	$ 4,538,420	$ 1,871,370
Teacher	17,004,518	9,520,598	3,427,043
Political Subdivisions	5,821,436	2,104,325	(935,101)
Total Virginia Retirement System	**$ 30,582,234**	**$ 16,163,343**	**$ 4,363,312**
State Police Officers' Retirement System	495,276	324,573	182,452
Virginia Law Officers' Retirement System	963,219	633,028	363,834
Judicial Retirement System	179,396	103,228	39,020
Grand Total	**$ 32,220,125**	**$ 17,224,172**	**$ 4,948,618**

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 336,156 active members and 218,944 retirees were covered under the Basic Group Life Insurance Program at June 30, 2022.

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 68,749 active members and 3,460 retirees were covered under the Optional Group Life Insurance Program at June 30, 2022.

In June 2022, the Commonwealth made a special contribution of approximately $30.4 million to the Group Life Insurance plan. This special payment was authorized by a Budget Amendment included in House Bill 29, Item 277 during the 2022 session.

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 2022, the Commonwealth made a special contribution of approximately $20.9 million to the Health Insurance Credit Plans of which $8.9 million was applied to the VRS State, Constitutional Officers, Social Services, and Registrars plan. $12.0 million was applied to the VRS Teacher plan. This special payment was authorized by a Budget Amendment included in House Bill 29, Item 277 during the 2022 session of the Virginia General Assembly.

There were approximately 317,809 active members in the program and 138,662 retirees receiving benefits under the program at June 30, 2022.

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 79,072 members were covered under VSDP at June 30, 2022, and approximately 2,393 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 29,064 members were covered under VLDP at June 30, 2022, and 133 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 14,288 members, retirees and their eligible family members were covered under the program at June 30, 2022.

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 27,402 members in the Line of Duty Act Program at June 30, 2022. Benefit payments were made to 791 beneficiaries during the fiscal year.

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

AT JUNE 30, 2022

	Number of Participating Employers			
OPEB Plan	State	Teachers	Political Subdivisions	Total
Group Life Insurance	221	144	551*	916
Retiree Health Insurance Credit	222	144	234*	600
Disability Insurance Trust Fund	222	—	—	222
Virginia Local Disability Program	—	35	209*	244
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	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. 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.	• 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. 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. If a member has at least 30 years of service credit, coverage cannot reduce below $8,722. 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.
Optional Group Life Insurance Program	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. 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. Coverage continues for dependent unmarried children who are disabled. Employees who meet qualifications for retirement may continue a portion of their coverage upon leaving employment.	The program provides natural death and accidental death or dismemberment coverage: • 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.

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)	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. Eligible employees are enrolled automatically upon employment. They include: • 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.	• 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)	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: • 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.	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. • 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	The following members and retirees between the ages of 18 and 75 are eligible to apply: • 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.	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.

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.	Coverage provides death and health insurance benefits. The LODA death benefit is a one-time payment made to the beneficiary or beneficiaries. Amounts vary as follows: • $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. The System is responsible for managing the assets of the Line of Duty Act Fund.
Cost-of-Living Adjustments (COLA) for OPEB Plans	• **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):** ◦ 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, 2022. The total OPEB liability was determined based on an actuarial valuation as of June 30, 2021, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2022. The updated actuarial assumptions include an update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020. This change is based on plan experience for the four-year period July 1, 2016, through June 30, 2020, and is reflected in the development of the June 30, 2022, 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, 2022

(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	**$ 3,672,085**	**$ 2,467,989**	**$ 1,204,096**	67.21%	**$ 21,787,891**	5.53%
Health Insurance Credit Fund:						
State	1,043,748	224,575	819,173	21.52%	7,612,495	10.76%
Teacher	1,470,891	221,845	1,249,046	15.08%	9,320,159	13.40%
Political Subdivisions*	89,673	35,540	54,133	39.63%	$ 1,574,328	3.44%
Constitutional Officers	33,889	7,604	26,285	22.44%	774,013	3.40%
Social Services Employees	14,899	2,558	12,341	17.17%	314,734	3.92%
Registrars	556	203	353	36.51%	17,043	2.07%
Total Health Insurance Credit	**$ 2,653,656**	**$ 492,325**	**$ 2,161,331**		**$ 19,612,772**	
Disability Insurance Trust Fund	**$ 307,764**	**$ 602,916**	**$ (295,152)**	195.90%	**$ 4,637,755**	(6.36%)
Virginia Local Disability Program:						
Teacher	7,207	7,320	(113)	101.57%	$ 804,858	(0.01%)
Political Subdivisions	7,360	7,948	(588)	107.99%	468,489	(0.13%)
Total Virginia Local Disability Program	**$ 14,567**	**$ 15,268**	**$ (701)**		**$ 1,273,347**	
Line of Duty Act Trust Fund	**$ 385,669**	**$ 7,214**	**$ 378,455**	1.87%	**	N/A
Grand Total	**$ 7,033,741**	**$ 3,585,712**	**$ 3,448,029**		**$ 47,311,765**	

** Political subdivision data is from the consolidated report provided by Gabriel, Roeder, Smith & Company.*

*** 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, 2021	June 30, 2021	June 30, 2021	June 30, 2021	June 30, 2021
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%	6.75%	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	4.00%	4.00%	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	5.25% to 4.75%	N/A
Year of Ultimate Trend Rate					
Under Age 65	N/A	N/A	N/A	2028	N/A
Ages 65 and Older	N/A	N/A	N/A	2023	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, 2016, through June 30, 2020, and were used for the June 30, 2021, valuation. The mortality rates used are based on the PUB2010 table projected with a modified mortality improvement scale MP-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 3.69%, 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, 2022.

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

AS OF JUNE 30, 2022 (EXPRESSED IN THOUSANDS)

System/Plan	1.00% Decrease (2.69%)	Current Discount Rate (3.69%)	1.00% Increase (4.69%)
Net LODA OPEB Liability	$432,003	$378,455	$334,647

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

AS OF JUNE 30, 2022 (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	$318,931	$378,455	$453,168

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

AS OF JUNE 30, 2022 (EXPRESSED IN THOUSANDS)

System/Plan	Net OPEB Liability/(Asset) 1.00% Decrease (5.75%)	Current Discount Rate (6.75%)	1.00% Increase (7.75%)
Group Life Insurance Fund	$ 1,752,101	$ 1,204,096	$ 761,234
Health Insurance Credit Fund:			
State	919,860	819,173	732,729
Teacher	1,407,690	1,249,046	1,114,569
Political Subdivisions	63,140	54,133	46,441
Constitutional Officers	29,901	26,285	23,217
Social Services Employees	13,794	12,341	11,102
Registrars	407	353	306
Total Health Insurance Credit	**2,434,792**	**2,161,331**	**1,928,364**
Disability Insurance Trust Fund	(271,661)	(295,152)	(315,793)
Virginia Local Disability Program:			
Teacher	815	(113)	(914)
Political Subdivisions	62	(588)	(1,153)
Total Virginia Local Disability Program	**877**	**(701)**	**(2,067)**
Grand Total	**$ 3,916,109**	**$ 3,069,574**	**$ 2,371,738**

4. Reserve Accounts

The reserve account balances available for benefits at June 30, 2022 and 2021, 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

AT JUNE 30 (EXPRESSED IN THOUSANDS)

	2022	2021
Virginia Retirement System		
Member Reserve	$ 14,820,774	$ 14,452,659
Employer Reserve	79,015,314	80,835,986
Total VRS	**93,836,088**	**95,288,645**
State Police Officers' Retirement System		
Member Reserve	112,775	106,923
Employer Reserve	918,608	943,225
Total SPORS	**1,031,383**	**1,050,148**
Virginia Law Officers' Retirement System		
Member Reserve	250,987	251,678
Employer Reserve	1,590,054	1,617,246
Total VaLORS	**1,841,041**	**1,868,924**
Judicial Retirement System		
Member Reserve	42,182	42,082
Employer Reserve	614,783	631,069
Total JRS	**656,965**	**673,151**
Group Life Insurance Advance Premium Deposit Reserve	**2,467,989**	**2,413,074**
Retiree Health Insurance Credit Reserve	**492,325**	**444,581**
Disability Insurance Trust Fund (VSDP)	**602,916**	**611,919**
Line of Duty Act Trust Fund	**7,214**	**7,553**
Disability Insurance Trust Fund (VLDP)	**15,268**	**11,756**
VRS Investment Portfolio DC Plans	**63,656**	**58,924**
Commonwealth Health Research Fund	**46,592**	**48,390**
Volunteer Firefighters' and Rescue Squad Workers Service Award Fund	**5,472**	**5,456**
Commonwealth's Attorneys Training Fund	**25,777**	**26,865**
Total Pension and Other Employee Benefit Reserves	**$ 101,092,686**	**$ 102,509,386**

5. Deposits and Investment Risk Disclosures

A. DEPOSITS

Deposits of the System maintained by the Treasurer of Virginia at June 30, 2022 and 2021, 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

AT JUNE 30 (EXPRESSED IN THOUSANDS)

	2022 Carrying Amount	2021 Carrying Amount
Treasurer of Virginia	$ 63,178	$ 48,494
Master Custodian	21,966	97,212
Other	60	37
Total Deposits	**$ 85,204**	**$ 145,743**

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, 2022 and 2021, is presented in Figure 2.15.

FIGURE 2.15: EQUITY INTERESTS

AT JUNE 30

Fund	2022	2021
Virginia Retirement System	92.758%	92.899%
State Police Officers' Retirement System	1.022%	1.026%
Virginia Law Officers' Retirement System	1.824%	1.826%
Judicial Retirement System	0.651%	0.658%
Group Life Insurance Fund	2.514%	2.419%
Retiree Health Insurance Credit Fund	0.483%	0.431%
Disability Insurance Trust Fund (VSDP)	0.587%	0.588%
Line of Duty Act Trust Fund	0.007%	0.007%
Virginia Local Disability Program	0.015%	0.011%
VRS Investment Portfolio	0.063%	0.057%
Commonwealth Health Research Fund	0.046%	0.047%
Volunteer Firefighters' and Rescue Squad Workers Service Award Fund	0.005%	0.005%
Commonwealth's Attorneys Training Fund	0.025%	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, 2022, and June 30, 2021.

FIGURE 2.16: INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

AS OF JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

		Fair Value Measurements Using		
	6/30/2022	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	$ 4,689,920	$ 4,284,650	$ 405,270	$ —
Agencies	2,462,947	—	2,462,947	—
Municipal Securities	76,558	—	76,558	—
Supranational and Non-U.S. Government Bonds	808,078	—	808,078	—
Asset-Backed Securities	294,736	—	294,736	—
Collateralized Mortgage Obligations	323,192	—	323,192	—
Commercial Mortgages	217,308	—	217,308	—
Corporate and Other Bonds	6,193,424	—	6,193,424	—
Mutual and Money Market Funds	93,172	93,172	—	—
Negotiable Certificates of Deposit	29,975	—	29,975	—
Term Loans	49,116	—	—	49,116
Total Debt Securities	**15,238,426**	**4,377,822**	**10,811,488**	**49,116**
Equity Securities:				
Common and Preferred Stocks	22,157,130	22,154,785	389	1,956
Total Equity Securities	**22,157,130**	**22,154,785**	**389**	**1,956**
Hedge Funds	77,565	—	—	77,565
Private Equity Funds	1,781	—	—	1,781
Real Estate and Real Asset Funds	1,051,106	—	—	1,051,106
Total Investments by Fair Value Level	**$38,526,008**	**$ 26,532,607**	**$ 10,811,877**	**$ 1,181,524**
Investments Measured at the Net Asset Value (NAV):				
Hedge Funds	$ 9,554,837			
Credit Strategies Funds	13,744,079			
Private Equity Funds	18,784,632			
Equity International Commingled Funds	2,813,735			
Fixed-Income Commingled Funds	1,473,505			
Real Estate and Real Asset Funds	12,684,481			
U.S. Equity Commingled Funds	181,646			
Total Investments Measured at the NAV	**59,236,915**			
Total Investments Measured at Fair Value	**$97,762,923**			
Investment Derivative Instruments:				
Foreign Currency Forwards	$ 6,007	$ —	$ 6,007	
Futures Contracts	(12,352)	(12,352)	—	
Credit Default Swaps	67	—	67	
Total Return Swaps	346	—	346	
Total Investment Derivative Instruments	**$ (5,932)**	**$ (12,352)**	**$ 6,420**	

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

AS OF JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

		Fair Value Measurements Using		
	6/30/2021	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	$ 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	—
Term Loans	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**	

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 bid evaluations or matrix pricing techniques. Inputs to the valuation techniques may include market participants' assumptions, quoted prices for similar assets, benchmark yield curves, market corroborated inputs and other data inputs. Debt securities classified in Level 3 include term loans, which 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 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 fiscal year end 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, currencies, 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, 2022

(EXPRESSED IN THOUSANDS)

	Fair Value	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Hedge Funds:				
Equity Long/Short Funds	$ 4,787,051	$ 216,667	Monthly, quarterly, semi-annually, annually	30-90 days
Equity Long-Only Funds	1,919,068	—	Daily, quarterly, annually	14-90 days
Credit Funds	136,014	—	Quarterly, semi-annually	90 days
Multi-Strategy Funds	2,712,704	—	Monthly, quarterly, semi-annually	5-90 days
Total Hedge Funds	**9,554,837**	**216,667**		
Credit Strategies Funds:				
Bank Loan and Direct Lending Funds	4,337,498	1,996,105		
Distressed Debt Funds	1,505,230	1,104,801		
Mezzanine Debt Funds	1,089,873	1,530,948		
Multi-Strategy Funds	2,536,687	1,027,032		
Opportunistic Funds	2,591,325	946,517		
Other Funds	1,683,466	2,351,942		
Total Credit Strategies Funds	**13,744,079**	**8,957,345**		
Private Equity Funds:				
Buyout Funds	10,309,081	2,938,122		
Energy Funds	611,650	98,317		
Growth Funds	2,992,234	704,517		
International Buyout Funds	2,190,563	800,801		
Special Situations Funds	1,763,513	1,150,943		
Subordinated Debt Funds	229,285	374,749		
Turnaround Funds	562,936	287,670		
Venture Capital Funds	125,370	5,716		
Total Private Equity Funds	**18,784,632**	**6,360,835**		
Equity International Commingled Funds	**2,813,735**	**—**	Daily, semi-monthly	None, 6 days
Fixed-Income Commingled Funds	**1,473,505**	**—**	Daily	None
Real Estate and Real Asset Funds:				
Infrastructure Funds	2,226,760	723,009		
Natural Resources Funds	1,901,699	619,993		
Private Investment Real Estate Funds	8,435,833	1,321,649		
Private Real Estate Investment Trusts	120,189	—		
Total Real Estate and Real Asset Funds	**12,684,481**	**2,664,651**		
U.S. Equity Commingled Funds	**181,646**	**—**	Daily	None
Total Investments Measured at the NAV	**$ 59,236,915**	**$ 18,199,498**		

FIGURE 2.17: INVESTMENTS MEASURED AT THE NAV, cont.

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		
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**		

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 10 hedge funds at June 30, 2022, and in 11 hedge funds at June 30, 2021, 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 25% 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, 2022.

- Equity Long-Only Hedge Funds: This type included an investment in four hedge funds at both June 30, 2022, and June 30, 2021, 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 61% 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, 2022.

- Credit Hedge Funds: This type included investments in one hedge fund at June 30, 2022, which invests 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, 2022, 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 eight hedge funds at June 30, 2022, and in six hedge funds at June 30, 2021, 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 9% 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, 2022.

- 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 eight institutional investment funds at June 30, 2022, 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 two institutional investment funds at June 30, 2022, which invest in domestic equities. The fair values of the investments in these funds have been determined using the NAV per share of the investment. Redemptions can be made from these funds, 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, 2022, 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, 2022.

FIGURE 2.18: DEBT SECURITIES SUBJECT TO INTEREST RATE RISK

AT JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

Investment Type	Weighted Average Effective Duration	Fair Value	Percent of Debt Securities
Effective Duration:			
Agencies	4.60	$ 2,864,886	13.2%
Asset-Backed Securities	2.57	282,753	1.3%
Collateralized Mortgage Obligations	4.84	304,985	1.4%
Commercial Mortgages	1.33	207,893	1.0%
Commercial Paper	0.16	2,699,531	12.4%
Corporate Bonds and Notes	5.17	6,196,628	28.6%
Fixed-Income Commingled Funds	6.13	1,473,505	6.8%
Fixed-Income Derivatives	9.66	(10,011)	—%
Municipal Securities	8.35	76,558	0.4%
Mutual & Money Market Funds	6.58	98,060	0.5%
Negotiable Certificates of Deposit	0.18	899,736	4.1%
Supranational & Non-U.S. Government Bonds	7.64	807,566	3.7%
Term Loans	0.18	46,160	0.2%
Time Deposits	—	195,000	0.9%
U.S. Government	5.77	5,043,060	23.2%
No Effective Duration:			
Mutual & Money Market Funds	N/A	367,935	1.7%
U.S. Government	N/A	61,528	0.3%
Corporate Bonds and Notes	N/A	22,631	0.1%
Collateralized Mortgage Obligations	N/A	18,207	0.1%
Asset-Backed Securities	N/A	11,983	0.1%
Agencies	N/A	10,324	—%
Commercial Mortgages	N/A	9,415	—%
Term Loans	N/A	2,956	—%
Fixed Income Derivatives	N/A	1,506	—%
Supranational & Non-U.S. Government Bonds	N/A	512	—%
Total Debt Securities	**4.43**	**$ 21,693,307**	**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, 2022, 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, 2022 (EXPRESSED IN THOUSANDS)

Investment Type	Carrying Amount	Weighted Average Effective Duration
Commercial Paper	$ 520,344	0.060
Corporate Bonds and Notes-Fixed Rate	3,147	0.036
Corporate Bonds and Notes-Floating Rate	2,069,688	0.008
Negotiable Certificates of Deposit	380,608	0.077
Repurchase Agreements	889,293	0.003
Supranational & Non-US Government Bonds	45,064	0.041
Time Deposits	731,646	0.003
Total	**$ 4,639,790**	**0.018**

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, 2022, the System's fixed-income assets that are not government-guaranteed represented 77% 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, 2022, 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, 2022

(EXPRESSED IN THOUSANDS)

	Carrying Amount by Most Conservative Credit Rating**							
	Long-Term Debt Credit Ratings				Short-Term Debt Credit Ratings			
U.S. Government and Short-Term Debt	Aaa/AAA	Aa/AA	A	Baa/BBB	P-1, P-2/ A-1, A-2, AAAm/ F1, F2	Less than Investment Grade	Unrated	Totals
U.S. Government Agencies:								
FHLB	$ —	$ 15,003	$ —	$ —	$ —	$ —	$ 412,263	$ 427,266
FHLMC	13,821	—	—	—	—	—	458,234	472,055
FNMA	—	4,761	—	—	—	—	1,975,890	1,980,651
Other Agencies	—	42,040	—	—	—	—	—	42,040
Short-Term Debt:								
Commercial Paper	—	—	237,616	—	2,411,915	—	50,000	2,699,531
Mutual and Money Market Funds	1,819	—	1,477	—	352,866	66,671	43,162	465,995
Negotiable Certificates of Deposit	—	—	195,100	—	524,661	—	179,975	899,736
Time Deposits	—	—	—	—	—	—	195,000	195,000
Total U.S. Government and Short-Term Debt	**15,640**	**61,804**	**434,193**	**—**	**3,289,442**	**66,671**	**3,314,524**	**7,182,274**

	Long-Term Debt Credit Ratings				Short-Term Debt Credit Ratings			
Long-Term Debt	Aaa/AAA	Aa/AA	A	Baa/BBB	P-1, P-2/ A-1, A-2, AAAm/ F1, F2	Less than Investment Grade	Unrated	Totals
Asset-Backed Securities	100,492	31,996	105,949	21,264	—	12,306	22,729	294,736
Collateralized Mortgage Obligations	179,639	10,316	10,544	10,472	—	22,262	73,449	306,682
Commercial Mortgages	135,522	31,439	6,055	—	—	5,927	8,073	187,016
Corporate Bonds and Notes	20,508	125,255	1,570,112	1,777,355	—	2,494,887	231,142	6,219,259
Fixed-Income Commingled Funds	—	—	—	—	—	—	1,473,505	1,473,505
Fixed-Income Derivatives	—	—	—	—	—	—	(8,505)	(8,505)
Municipal Securities	324	58,390	14,061	—	—	—	3,783	76,558
Term Loans	—	—	—	—		49,116	—	49,116
Supranational and Non-U.S. Government Bonds	21,240	40,044	105,341	195,138	—	399,296	47,019	808,078
Total Long-Term Debt	**457,725**	**297,440**	**1,812,062**	**2,004,229**	**—**	**2,983,794**	**1,851,195**	**9,406,445**
Total	**$ 473,365**	**$ 359,244**	**$ 2,246,255**	**$ 2,004,229**	**$ 3,289,442**	**$ 3,050,465**	**$ 5,165,719**	**$ 16,588,719**

** 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.*

*** Credit quality ratings issued by nationally recognized statistical rating organizations as reported by the System's custodian, Bank of New York Mellon.*

FIGURE 2.21: SECURITIES LENDING COLLATERAL SUBJECT TO CREDIT RISK

AS OF JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

	Carrying Amount by Most Conservative Credit Rating**				
Investment Type	Aa/AA	A	P-1/A-1***	Unrated	Totals
Commercial Paper	$ —	$ —	$ 520,344	$ —	$ 520,344
Corporate Bonds and Notes-Fixed Rate	—	3,147	—	—	3,147
Corporate Bonds and Notes-Floating Rate	473,002	1,418,523	178,163	—	2,069,688
Negotiable Certificates of Deposits	—	—	380,608	—	380,608
Repurchase Agreements	115,533	79,639	—	—	195,172
Supranational & Non-U.S. Government Bonds	—	—	45,064	—	45,064
Time Deposits	—	—	731,646	—	731,646
Total*	**$ 588,535**	**$ 1,501,309**	**$ 1,855,825**	**$ —**	**$ 3,945,669**

** This figure does not include $694,121 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 $4,639,790.*

*** Credit quality ratings issued by nationally recognized statistical rating organizations as reported by the System's custodian, Bank of New York Mellon.*

**** Investment-grade short-term credit quality 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, 2022, 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 foreign currency risk of invested cash collateral in the Securities Lending program consisted of $1,358,152,000 in cash equivalents and short-term investments denominated in euros. The System's other exposure to foreign currency risk as of June 30, 2022, is highlighted in Figure 2.22. The net realized gains and losses resulting from the settlement of foreign currency transactions and unrealized gains and losses associated with unsettled transactions are recorded in Investment Income in the Statement of Changes in Fiduciary Net Position.

FIGURE 2.22: CURRENCY EXPOSURES BY ASSET CLASS

AS OF JUNE 30, 2022 (EXPRESSED IN THOUSANDS)

Currency	Cash and Short-term Investments	Equity	Fixed Income	Private Equity	Real Assets	International Funds	Forward Contracts	Total
U.S. Dollar	$ —	$ —	$ —	$ —	$ —	$ 2,462,062	$ —	$ 2,462,062
Euro Currency Unit	27,758	1,641,483	82,625	1,191,918	452,112	—	185,819	3,581,715
Japanese Yen	17,244	1,207,154	14,244	—	132,537	294,535	(290,172)	1,375,542
Pound Sterling	5,232	975,823	2,851	—	82,111	—	21,660	1,087,677
Hong Kong Dollar	7,349	808,452	16,435	—	61,257	—	(51,205)	842,288
Canadian Dollar	4,230	612,614	—	—	62,487	—	112,053	791,384
Australian Dollar	1,367	351,755	—	—	69,096	—	(10,155)	412,063
South Korean Won	1,170	332,336	—	—	1,234	—	(40)	334,700
New Taiwan Dollar	2,782	317,192	—	—	—	—	(11,321)	308,653
Swedish Krona	2,936	151,136	—	—	19,531	—	103,112	276,715
Indian Rupee	1,051	208,369	—	—	—	—	(4,533)	204,887
Brazil Real	2,274	166,273	3,226	—	25,680	—	4,152	201,605
Swiss Franc	7,205	459,350	1,587	—	13,179	—	(344,626)	136,695
Danish Krone	3,371	122,156	—	—	—	—	(17,477)	108,050
Chinese Yuan Renminbi	1,524	123,966	29,815	—	—	—	(61,066)	94,239
Singapore Dollar	728	108,469	744	—	44,407	—	(78,414)	75,934
South African Rand	375	58,505	4,126	—	11,268	—	(2,529)	71,745
Norwegian Krone	1,098	86,860	—	—	528	—	(19,479)	69,007
Indonesian Rupiah	1,874	62,298	—	—	—	—	(2,061)	62,111
Thailand Baht	46	43,084	—	—	—	—	4,429	47,559
Mexican Peso	(2,982)	31,406	361	—	12,070	—	728	41,583
Saudi Arabia Riyal	399	39,214	—	—	—	—	—	39,613
Israeli Shekel	290	57,493	—	—	2,737	—	(25,075)	35,445
Polish Zloty	(573)	24,764	—	—	—	—	3,780	27,971
Turkish Lira	9	22,901	—	—	1,480	—	(1,510)	22,880
Qatari Riyal	214	16,921	—	—	—	—	—	17,135
Chilean Peso	242	12,234	2,304	—	530	—	1,528	16,838
Hungarian Forint	279	12,916	—	—	—	—	1,945	15,140
Malaysian Ringgit	614	11,758	—	—	—	—	1,298	13,670
UAE Dirham	5	8,704	—	—	—	—	—	8,709
Uruguayan Peso	—	—	4,311	—	—	—	—	4,311
Philippines Peso	22	4,173	—	—	—	—	(609)	3,586
Colombian Peso	229	270	3,360	—	—	—	(1,380)	2,479
Ukraine Hryvana	—	—	1,789	—	—	—	—	1,789
Argentina Peso	1,556	—	—	—	—	—	—	1,556
Kenyan Shilling	—	1,417	—	—	—	—	—	1,417
Kazakhstan Tenge	—	—	1,118	—	—	—	—	1,118
Russian Ruble (New)	41	45	708	—	—	—	—	794
Peruvian Sol	2	—	5,184	—	—	—	(4,610)	576
Egyptian Pound	10	456	—	—	—	—	—	466
Romanian Leu	—	—	—	—	—	—	(1,161)	(1,161)
Czech Koruna	1,010	572	—	—	—	—	(4,048)	(2,466)
New Zealand Dollar	96	6,509	—	—	4,176	—	(68,129)	(57,348)
Total	**$ 91,077**	**$ 8,089,028**	**$ 174,788**	**$1,191,918**	**$ 996,420**	**$ 2,756,597**	**$ (559,096)**	**$12,740,732**

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 6.61 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, 2022 and 2021, was $8,018,930,000 and $7,492,582,000, respectively. The June 30, 2022 and 2021, balances were composed of U.S. government and agency securities of $3,066,664,000 and $1,581,915,000, respectively; corporate and other bonds of $1,240,479,000 and $2,203,393,000, respectively; common and preferred stocks of $3,662,554,000 and $3,662,281,000, respectively; and supranational and non-U.S. government bonds of $49,233,000 and $44,993,000, respectively.

The value of collateral (cash and non-cash) at June 30, 2022 and 2021, was $8,599,601,000 and $7,889,386,000, respectively. Securities on loan are included with investments on the Statement of Fiduciary Net Position. The invested cash collateral is included in the Statement of Fiduciary Net Position as an asset and corresponding liability.

At June 30, 2022, the invested cash collateral had a fair value of $4,639,790,000 and was composed of negotiable certificates of deposit of $380,608,000, floating rate notes of $2,069,688,000, commercial paper of $520,344,000, time deposits of $731,646,000, supranational and non-U.S. government bonds of $45,064,000, fixed-rate corporate and other bonds of $3,147,000 and repurchase agreements of $889,293,000.

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, 2022 and 2021, included (1) receivables for deposits with brokers for securities sold short of $533,748,000 and $749,314,000, respectively; and (2) payables for securities sold short and not covered with fair values of $518,411,000 and $753,127,000, 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, 2022, 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, 2022		Fair Value June 30, 2022	
Derivatives (by Type)	Amount	Classification	Amount	Notional (Dollars)
Commodity Futures Long	$ 965	Equity Securities	$ 172	$ 3,748
Commodity Futures Short	(142)	Debt Securities	—	—
Credit Default Swaps Bought	98	Debt Securities	67	400
Credit Default Swaps Written	(1,676)	Debt Securities	—	—
Currency Futures Short	144	Debt Securities	144	(1,407)
Fixed-Income Futures Long	(55,544)	Debt Securities	(17,751)	2,611,818
Fixed-Income Futures Short	21,401	Debt Securities	8,416	(1,401,158)
FX Forwards	14,891	Investment Sales/Purchases	6,007	566,991
Index Futures Long	(2,821)	Equity Securities	(4,248)	1,430,485
Index Futures Short	4,159	Equity Securities	915	(62,907)
Pay Fixed-Inflation Swaps	(2,197)	Debt Securities	—	—
Receive Fixed-Inflation Swaps	(14)	Debt Securities	—	—
Receive Fixed-Interest Rate Swaps	109	Debt Securities	—	—
Total Return Bond Index Swaps	(1,798)	Equity Securities	—	—
Total Return Equity Index Swaps	(32,071)	Equity Securities	346	50,839
Total	**$ (54,496)**		**$ (5,932)**	

FIGURE 2.24: DERIVATIVE INSTRUMENTS SUBJECT TO INTEREST RATE RISK

(EXPRESSED IN THOUSANDS)

Investment Type	Fair Value June 30, 2022	Investment Maturities (in years) Under-1	1-5	6-10	Greater than 10
Credit Default Swaps Bought	$ 67	$ —	$ 67	$ —	$ —
Total Return Equity Index Swaps	446	446	—	—	—
Total	**$ 513**	**$ 446**	**$ 67**	**$ —**	**$ —**

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, 2022, 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, 2022, 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 2022	Fair Value 2021
Australian Dollar	(8,161)	87,984	(95,953)	(7,969)	(155,793)
Brazilian Real	4,439	4,734	(378)	4,356	(11,793)
British Pound Sterling	16,703	201,963	(185,622)	16,341	(111,688)
Canadian Dollar	116,117	213,796	(102,005)	111,791	424,312
Chilean Peso	1,649	3,917	(2,389)	1,528	(3,027)
Chinese Yuan Renminbi	(61,059)	3,660	(64,621)	(60,961)	(41,882)
Chinese Yuan Renminbi HK	—	—	—	—	1,530
Colombian Peso	(1,494)	1,052	(2,432)	(1,380)	(3,795)
Czech Koruna	(4,030)	1,302	(5,350)	(4,048)	1,020
Danish Krone	(17,875)	—	(17,753)	(17,753)	(11,629)
Egyptian Pound	—	—	—	—	2,662
Euro Currency Unit	181,386	688,497	(508,646)	179,851	357,089
Hong Kong Dollar	(55,328)	—	(55,356)	(55,356)	(68,242)
Hungarian Forint	1,958	1,945	—	1,945	451
Indian Rupee	(4,592)	717	(5,250)	(4,533)	6,109
Indonesian Rupiah	(1,723)	592	(2,287)	(1,695)	(850)
Israeli Shekel	(26,327)	31	(26,100)	(26,069)	(2,808)
Japanese Yen	(300,574)	109,800	(395,960)	(286,160)	(17,821)
Malaysian Ringgit	1,300	1,298	—	1,298	—
Mexican Peso	1,080	13,785	(12,723)	1,062	3,789
New Taiwan Dollar	(11,321)	10,387	(21,585)	(11,198)	(110)
New Zealand Dollar	(71,365)	52,232	(120,628)	(68,396)	(222,072)
Norwegian Krone	(22,268)	52,537	(73,992)	(21,455)	75,398
Peruvian Sol	(4,682)	1,779	(6,390)	(4,611)	(944)
Philippines Peso	(632)	2,777	(3,384)	(607)	(5,071)
Polish Zloty	3,803	5,857	(2,078)	3,779	431
Romanian Leu	(1,157)	—	(1,161)	(1,161)	—
Russian Ruble (New)	—	—	—	—	191
Singapore Dollar	(76,501)	46,134	(122,085)	(75,951)	(25,574)
South African Rand	(2,638)	2,838	(5,246)	(2,408)	(5,129)
South Korean Won	34	597	(579)	18	670
Swedish Krona	100,541	123,807	(26,391)	97,416	398,542
Swiss Franc	(339,186)	77,342	(420,850)	(343,508)	131,888
Thai Baht	5,037	19,942	(14,997)	4,945	491
Turkish Lira	(1,491)	299	(1,760)	(1,461)	1,391
Ukrainian Hryvnia	—	—	—	—	963
U.S. Dollar	578,357	2,278,569	(1,700,212)	578,357	(727,583)
Total Forwards Subject to Foreign Currency Risk				**$ 6,007**	**$ (8,884)**

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 2022, the System had activity in credit default, total return, inflation, and interest 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, 2022, 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, 2022	Notional Amount
Total Return Equity Index Swaps	Receive Variable BNPUSBNK Index, Pay Variable 3-month LIBOR + 40 bps	$ —	$ 850
Total Return Equity Index Swaps	Receive Variable BNPUSBNK Index, Pay Variable 3-month LIBOR + 40 bps	—	1
Total Return Equity Index Swaps	Receive Variable MXBR0BK Index, Pay Variable 1-day SOFR Cmpd + 10 bps	(122)	937
Total Return Equity Index Swaps	Receive Variable BNPUSBNK Index, Pay Variable 1-day SOFR Cmpd + 40 bps	—	1,932
Total Return Equity Index Swaps	Receive Variable BNPUSBNK Index, Pay Variable 1-day SOFR Cmpd + 40 bps	1	2,659
Total Return Equity Index Swaps	Receive Variable MXBR0BK Index, Pay Variable 1-day SOFR Cmpd + 10 bps	(253)	1,470
Total Return Equity Index Swaps	Receive Variable MIMUUSAG Index, Pay Variable 1-day SOFR Cmpd + 36 bps	273	39,783
Total Return Equity Index Swaps	Receive Variable 1-day SOFR Cmpd + 43 bps, Pay Variable BNPUSCLD Index	447	3,207
Subtotal Total Return Swaps		**$ 346**	**$ 50,839**
Total		**$ 346**	**$ 50,839**

FIGURE 2.27: DERIVATIVE INSTRUMENTS SUBJECT TO COUNTERPARTY CREDIT RISK

AT JUNE 30, 2022

Counterparty	Percentage of Net Exposure	Moody's Ratings	S&P Ratings	Fitch Ratings
BNP Paribas Securities Corp.	36.09%	—	A+	—
UBS AG/Stamford CT	29.10%	Aa3	A+	AA-
Credit Suisse AG	19.57%	A1	A+	A-
Bank of New York Mellon Corp.-London	5.80%	—	—	—
JPMorgan Chase Bank NA	5.37%	Aa2	A+	AA
Morgan Stanley & Co. International PLC	2.48%	Aa3	A+	—
Morgan Stanley Capital Services LLC	1.22%	Aa3	A+	—
Goldman Sachs Bank USA-New York	0.37%	A1	A+	A+
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, 2022. See the Investments Section for more detailed asset allocation and performance information.

FIGURE 2.28: ASSET ALLOCATION

FOR THE YEAR ENDED JUNE 30, 2022

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%	5.71%	1.94%
Fixed Income	15.00%	2.04%	0.31%
Credit Strategies	14.00%	4.78%	0.67%
Real Assets	14.00%	4.47%	0.63%
Private Equity	14.00%	9.73%	1.36%
MAPS – Multi-Asset Public Strategies	6.00%	3.73%	0.22%
PIP – Private Investment Partnerships	3.00%	6.55%	0.2%
Total	**100.00%**		**5.33%**
		Inflation	2.50%
		* Expected arithmetic nominal return	**7.83%**

** The above allocation provides a one-year expected return of 7.83%. 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 6.72%, 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, 2022, and the changes by category from the prior fiscal year-end are presented in Figure 2.29. Right-to-use intangible assets included long term leases in the equipment and building categories.

FIGURE 2.29: CAPITAL ASSETS

FOR THE YEAR ENDED JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

	Balance June 30, 2021	Increases	Decreases	Balance June 30, 2022
Non-Depreciable Capital Assets:				
Land	$ 1,368	$ —	$ —	$ 1,368
Construction in progress	—	2,864	—	2,864
Total Non-Depreciable Capital Assets	**1,368**	**2,864**	**—**	**4,232**
Depreciable Capital and Intangible Assets:				
Building	4,632	—	—	4,632
Furniture and Equipment	7,133	—	—	7,133
Intangible Assets	72,385	—	—	72,385
Right-to-Use Intangible Assets	—	6,212	—	6,212
Total Depreciable Capital Assets	**84,150**	**6,212**	**—**	**90,362**
Less Accumulated Depreciation:				
Building	2,663	116	—	2,779
Furniture and Equipment	6,098	434	—	6,532
Intangible Assets	45,051	5,976	—	51,027
Right-to-Use Intangible Assets	—	1,875	—	1,875
Total Accumulated Depreciation	**53,812**	**8,401**	**—**	**62,213**
Total Depreciable Capital Assets – Net	**30,338**	**(2,189)**	**—**	**28,149**
Total Net Capital Assets	**$ 31,706**	**$ 675**	**$ —**	**$ 32,381**

Depreciation expense amounted to $8,401,000 and $5,754,000 in 2022 and 2021, respectively.

7. Lease Liabilities

Due to the implementation of GASB No. 87, the System has recorded liabilities related to long-term lease activity. In most cases, the System expects that in the normal course of business, these leases will be replaced by similar leases. The System's future lease activity as of June 30, 2022, is presented in Figure 2.30.

FIGURE 2.30: LONG-TERM LEASE LIABILITIES

AS OF JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

Fiscal Year	Principal	Interest	Total
2023	$ 2,021	$ 111	$ 2,132
2024	1,863	47	1,910
2025	78	14	92
2026	80	11	91
2027	83	8	91
2028-2032	211	9	220
Total	**$ 4,336**	**$ 200**	**$ 4,536**

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, 2022, and 14.46% for fiscal year ended 2021.

There were approximately 61,651 state retirees, including System retirees, at June 30, 2022. Note 2.B provides information on the state's contribution toward funding the defined benefit plan for state employees for fiscal year 2022 and fiscal year 2021. The System's contribution requirement for its employees for fiscal year 2022 and fiscal year 2021 was $5,071,000 and $4,819,000, respectively, of which $4,718,000 related to the defined benefit plan and $353,000 related to the hybrid defined contribution plan for fiscal year 2022. For fiscal year 2021, $4,505,000 related to the defined benefit plan and $314,000 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, 2022, and 1.34% for the year ended June 30, 2021. There were approximately 85,832 active state employees, 14,618 inactive vested participants and 63,999 state retirees, including System employees and retirees, eligible for group life insurance coverage at June 30, 2022. The System's contribution requirement for its employees and retirees for fiscal year 2022 and fiscal year 2021 was $474,000 and $447,000, respectively.

- The state's contribution requirement for the Retiree Health Insurance Credit Program for the years ended June 30, 2022 and 2021, was 1.12% and 1.12% of covered payroll, respectively. There were approximately 47,403 state retirees, including System retirees, receiving the health insurance credit at June 30, 2022. The System's contribution requirement for its employees for fiscal year 2022 and fiscal year 2021 was $396,000 and $376,000, respectively.

- The state's contribution requirement for the Virginia Sickness and Disability Program (VSDP) for the years ended June 30, 2022, and June 30, 2021, was 0.61% and 0.61%, respectively. There were approximately 79,072 state employees, including System employees, enrolled in VSDP at June 30, 2022. The System's contribution requirement for its employees for fiscal year 2022 and fiscal year 2021 was $213,000 and $202,000, 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, 2022. 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 2022 and the three preceding fiscal years.

11. Commitments

The System extends investment commitments in the normal course of business. At June 30, 2022 and 2021, these commitments amounted to $20,128,834,000 and $19,087,195,000, respectively.

12. Statutory Contribution Adjustment

For fiscal year 2022, 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 2022, 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 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 year 2021, other post-employment benefit plan contributions due or required also were based on the June 30, 2021, 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 0.41% and 0.72% of covered payroll, respectively.

The Board approved Pay-As-You-Go contribution rate for fiscal years 2022 and 2021 for employer groups participating in Line of Duty Act Program were $722.55 and $717.31, 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 2022, 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 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. 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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 413,902	$ 404,703	$ 406,776	$ 379,359
Interest	1,779,933	1,704,842	1,666,047	1,627,637
Benefit changes	—	—	—	—
Difference between actual and expected experience	(247,391)	(281,382)	(12,440)	181,189
Assumption changes	—	412,575	—	663,566
Benefit payments	(1,536,665)	(1,486,951)	(1,427,873)	(1,360,833)
Refunds of contributions	(31,680)	(29,065)	(27,427)	(26,897)
Net change in total pension liability	378,099	724,722	605,083	1,464,021
Total pension liability – beginning	**26,739,647**	**26,014,925**	**25,409,842**	**23,945,821**
Total pension liability – ending (a)	**$ 27,117,746**	**$ 26,739,647**	**$ 26,014,925**	**$ 25,409,842**
Plan fiduciary net position:				
Contributions – employer	$ 633,738	$ 609,778	$ 576,443	$ 545,584
Contributions – member	217,945	207,065	210,896	201,481
Contributions – employer special	219,156	—	—	—
Net investment income	(21,579)	5,055,163	361,061	1,211,722
Benefit payments	(1,536,665)	(1,486,951)	(1,427,873)	(1,360,833)
Refunds of contributions	(31,680)	(29,065)	(27,427)	(26,897)
Administrative expense	(14,302)	(12,904)	(12,603)	(12,374)
Other	296	(737)	(539)	(762)
Net change in plan fiduciary net position	(533,091)	4,342,349	(320,042)	557,921
Plan fiduciary net position – beginning	**23,112,417**	**18,770,068**	**19,090,110**	**18,532,189**
Plan fiduciary net position – ending	**22,579,326**	**$ 23,112,417**	**$ 18,770,068**	**$ 19,090,110**
Net pension liability – ending (a-b)	**4,538,420**	**$ 3,627,230**	**$ 7,244,857**	**$ 6,319,732**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	83.26%	86.44%	72.15%	75.13%
Covered payroll (c)	$ 4,661,991	$ 4,399,969	$ 4,440,135	$ 4,197,484
Net pension liability as a percentage of covered payroll ((a-b)/c)	97.35%	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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 823,885	$ 948,915	$ 938,143	$ 889,003
Interest	3,568,410	3,355,158	3,269,776	3,184,697
Benefit changes	—	—	—	—
Difference between actual and expected experience	(361,725)	(178,349)	(404,985)	(174,815)
Assumption changes	—	845,179	—	1,472,649
Benefit payments	(2,635,945)	(2,553,153)	(2,448,204)	(2,331,038)
Refunds of contributions	(43,437)	(38,464)	(36,211)	(36,715)
Net change in total pension liability	1,351,188	2,379,286	1,318,519	3,003,781
Total pension liability – beginning	**53,381,141**	**51,001,855**	**49,683,336**	**46,679,555**
Total pension liability – ending (a)	**$ 54,732,329**	**$ 53,381,141**	**$ 51,001,855**	**$ 49,683,336**
Plan fiduciary net position:				
Contributions – employer	$ 1,485,307	$ 1,416,135	$ 1,327,774	$ 1,280,964
Contributions – member	439,139	419,415	418,909	403,258
Contributions – non-employer	442,371	61,344	—	—
Net investment income	(66,609)	9,887,249	689,010	2,311,028
Benefit payments	(2,635,945)	(2,553,153)	(2,448,204)	(2,331,038)
Refunds of contributions	(43,437)	(38,464)	(36,211)	(36,715)
Administrative expense	(27,876)	(24,543)	(23,649)	(22,843)
Other	737	832	(1,169)	(1,448)
Net change in plan fiduciary net position	(406,313)	9,168,815	(73,540)	1,603,206
Plan fiduciary net position – beginning	**45,618,044**	**36,449,229**	**36,522,769**	**34,919,563**
Plan fiduciary net position – ending	**$ 45,211,731**	**$ 45,618,044**	**$ 36,449,229**	**$ 36,522,769**
Net pension liability – ending (a-b)	**$ 9,520,598**	**$ 7,763,097**	**$ 14,552,626**	**$ 13,160,567**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	82.61%	85.46%	71.47%	73.51%
Covered payroll (c)	$ 9,319,260	$ 8,843,887	$ 8,766,667	$ 8,387,503
Net pension liability as a percentage of covered payroll ((a-b)/c)	102.16%	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	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**
$ 34,920	**$ 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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 640,327	$ 613,227	$ 603,766	$ 556,149
Interest	1,840,834	1,674,640	1,593,594	1,535,532
Benefit changes	9,042	13,157	19,657	3,948
Difference between actual and expected experience	(294,247)	(164,895)	221,364	45,032
Assumption changes	(15)	1,003,382	—	691,407
Benefit payments	(1,307,581)	(1,237,074)	(1,157,505)	(1,082,791)
Refunds of contributions	(48,297)	(42,460)	(38,323)	(40,249)
Net change in total pension liability	840,063	1,859,977	1,242,553	1,709,028
Total pension liability – beginning	**27,309,293**	**25,449,316**	**24,206,763**	**22,497,735**
Total pension liability – ending (a)	**$ 28,149,356**	**$ 27,309,293**	**$ 25,449,316**	**$ 24,206,763**
Plan fiduciary net position:				
Contributions – employer	$ 608,879	$ 579,989	$ 521,543	$ 499,293
Contributions – member	276,350	258,562	258,408	248,421
Net investment income	(26,243)	5,779,327	405,051	1,345,759
Benefit payments	(1,307,581)	(1,237,074)	(1,157,505)	(1,082,791)
Refunds of contributions	(48,297)	(42,460)	(38,323)	(40,249)
Administrative expense	(16,525)	(14,411)	(13,842)	(13,369)
Other	264	161	(274)	(853)
Net change in plan fiduciary net position	(513,153)	5,324,094	(24,942)	956,211
Plan fiduciary net position – beginning	**26,558,184**	**21,234,090**	**21,259,032**	**20,302,821**
Plan fiduciary net position – ending	**$ 26,045,031**	**$ 26,558,184**	**$ 21,234,090**	**$ 21,259,032**
Net pension liability – ending (a-b)	**$ 2,104,325**	**$ 751,109**	**$ 4,215,226**	**$ 2,947,731**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	92.52%	97.25%	83.44%	87.82%
Covered payroll (c)	$ 5,699,596	$ 5,403,267	$ 5,368,250	$ 5,118,622
Net pension liability as a percentage of covered payroll ((a-b)/c)	36.92%	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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 23,688	$ 22,042	$ 22,167	$ 20,079
Interest	86,396	79,549	77,231	72,715
Benefit changes	—	—	—	—
Difference between actual and expected experience	25,538	(9,431)	4,466	45,330
Assumption changes	—	58,257	—	31,773
Benefit payments	(71,466)	(73,227)	(64,991)	(62,683)
Refunds of contributions	(378)	(271)	(552)	(805)
Net change in total pension liability	63,778	76,919	38,321	106,409
Total pension liability – beginning	**1,292,177**	**1,215,258**	**1,176,937**	**1,070,528**
Total pension liability – ending (a)	**$ 1,355,955**	**$ 1,292,177**	**$ 1,215,258**	**$ 1,176,937**
Plan fiduciary net position:				
Contributions – employer	$ 36,494	$ 33,788	$ 32,497	$ 31,437
Contributions – member	7,131	6,489	6,600	6,379
Contributions – employer special	10,958	—	—	—
Net investment income	(902)	229,138	16,333	54,792
Benefit payments	(71,466)	(73,227)	(64,991)	(62,683)
Refunds of contributions	(378)	(271)	(552)	(805)
Administrative expense	(602)	(531)	(360)	(488)
Other	—	—	(38)	(61)
Net change in plan fiduciary net position	(18,765)	195,386	(10,511)	28,571
Plan fiduciary net position – beginning	**1,050,148**	**854,762**	**865,273**	**836,702**
Plan fiduciary net position – ending (b)	**$ 1,031,383**	**$ 1,050,148**	**$ 854,762**	**$ 865,273**
Net pension liability – ending (a-b)	**$ 324,572**	**$ 242,029**	**$ 360,496**	**$ 311,664**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	76.06%	81.27%	70.34%	73.52%
Covered payroll (c)	$ 138,644	$ 128,252	$ 130,759	$ 126,483
Net pension liability as a percentage of covered payroll ((a-b)/c)	234.11%	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.

(EXPRESSED IN THOUSANDS)

SPORS

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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 44,326	$ 47,606	$ 48,003	$ 44,526
Interest	159,759	149,677	143,708	139,307
Benefit changes	—	—	—	—
Difference between actual and expected experience	15,632	(25,405)	22,645	11,067
Assumption changes	—	66,216	—	62,090
Benefit payments	(129,974)	(124,045)	(117,137)	(109,193)
Refunds of contributions	(6,284)	(5,791)	(4,893)	(4,933)
Net change in total pension liability	83,459	108,258	92,326	142,864
Total pension liability – beginning	**2,390,609**	**2,282,351**	**2,190,025**	**2,047,161**
Total pension liability – ending (a)	**$ 2,474,068**	**$ 2,390,609**	**$ 2,282,351**	**$ 2,190,025**
Plan fiduciary net position:				
Contributions – employer	$ 73,960	$ 76,415	$ 79,914	$ 75,327
Contributions – member	17,276	17,602	18,712	17,871
Contributions – employer special	19,887	—	—	—
Net investment income	(1,666)	405,217	28,579	93,872
Benefit payments	(129,974)	(124,045)	(117,137)	(109,193)
Refunds of contributions	(6,284)	(5,791)	(4,893)	(4,933)
Administrative expense	(1,074)	(943)	(623)	(831)
Other	(8)	—	(73)	(103)
Net change in plan fiduciary net position	(27,883)	368,455	4,479	72,010
Plan fiduciary net position – beginning	**1,868,924**	**1,500,469**	**1,495,990**	**1,423,980**
Plan fiduciary net position – ending (b)	**$ 1,841,041**	**$ 1,868,924**	**$ 1,500,469**	**$ 1,495,990**
Net pension liability – ending (a-b)	**$ 633,027**	**$ 521,685**	**$ 781,882**	**$ 694,035**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	74.41%	78.18%	65.74%	68.31%
Covered payroll (c)	$ 338,768	$ 348,650	$ 369,996	$ 349,998
Net pension liability as a percentage of covered payroll ((a-b)/c)	186.86%	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.

(EXPRESSED IN THOUSANDS)

VaLORS

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			
	2022	2021	2020	2019
Total pension liability:				
Service cost	$ 18,630	$ 19,335	$ 20,650	$ 18,767
Interest	50,036	44,788	44,234	44,139
Benefit changes	—	—	—	—
Difference between actual and expected experience	(7,256)	(10,245)	(9,446)	(7,158)
Assumption changes	—	53,040	—	14,077
Benefit payments	(47,679)	(47,750)	(46,546)	(43,587)
Refunds of contributions	(41)	(135)	(12)	—
Net change in total pension liability	13,690	59,033	8,880	26,238
Total pension liability – beginning	**746,502**	**687,469**	**678,589**	**652,351**
Total pension liability – ending (a)	**$ 760,192**	**$ 746,502**	**$ 687,469**	**$ 678,589**
Plan fiduciary net position:				
Contributions – employer	$ 24,016	$ 22,856	$ 24,819	$ 22,893
Contributions – member	2,033	1,868	3,436	3,208
Contributions – employer special	6,250	—	—	—
Net investment income	(477)	147,200	10,491	35,372
Benefit payments	(47,678)	(47,750)	(46,546)	(43,587)
Refunds of contributions	(41)	(135)	(12)	—
Administrative expense	(386)	(343)	(232)	(315)
Other	97	—	(42)	(39)
Net change in plan fiduciary net position	(16,186)	123,696	(8,086)	17,532
Plan fiduciary net position – beginning	**673,151**	**549,455**	**557,541**	**540,009**
Plan fiduciary net position – ending (b)	**$ 656,965**	**$ 673,151**	**$ 549,455**	**$ 557,541**
Net pension liability – ending (a-b)	**$ 103,227**	**$ 73,351**	**$ 138,014**	**$ 121,048**
Plan fiduciary net position as a percentage of the total pension liability (b/a)	86.42%	90.17%	79.92%	82.16%
Covered payroll (c)	$ 79,540	$ 79,540	$ 74,769	$ 68,330
Net pension liability as a percentage of covered payroll ((a-b)/c)	129.78%	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.

(EXPRESSED IN THOUSANDS)

JRS				
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					
2022	$ 674,124	$ 674,124	$ —	$ 4,661,991	14.46%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER					
2022	$ 1,548,861	$ 1,548,861	$ —	$ 9,319,260	16.62%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS					
2022	$ 643,826	$ 643,826	$ —	$ 5,699,596	11.30%
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%

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)					
2022	$ 36,505	$ 36,505	$ —	$ 138,644	26.33%
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%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)					
2022	$ 74,190	$ 74,190	$ —	$ 338,768	21.90%
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%
JUDICIAL RETIREMENT SYSTEM (JRS)					
2022	$ 23,735	$ 23,735	$ —	$ 79,540	29.84%
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%

REQUIRED SUPPLEMENTARY SCHEDULE OF INVESTMENT RETURNS

FOR THE PLAN YEARS ENDED JUNE 30	VRS Pooled Asset Portfolio*								
	2022	2021	2020	2019	2018	2017	2016	2015	2014**
Annual money-weighted rate of return, net of investment expense	0.70%	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)

Change in the Net OPEB Liability	Group Life Insurance Fund 2022	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
Total OPEB liability:						
Service cost	$ 79,890	$ 96,894	$ 98,367	$ 86,912	$ 84,355	$ 81,479
Interest	241,074	232,052	221,684	210,950	198,960	201,770
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected	(54,700)	63,189	25,709	56,736	88,052	(39,461)
Changes of assumptions	—	(166,464)	—	122,011	—	(91,738)
Benefit payments	(171,525)	(172,263)	(212,060)	(199,879)	(200,285)	(184,092)
Net change in total OPEB liability	94,739	53,408	133,700	276,730	171,082	(32,042)
Total OPEB liability – beginning	**3,577,346**	**3,523,938**	**3,390,238**	**3,113,508**	**2,942,426**	**2,974,468**
Total OPEB liability – ending (a)	**$ 3,672,085**	**$ 3,577,346**	**$ 3,523,938**	**$ 3,390,238**	**$ 3,113,508**	**$ 2,942,426**
Plan fiduciary net position:						
Contributions – employer	$ 117,664	$ 111,797	$ 107,252	$ 102,175	$ 98,530	$ 94,082
Contributions – member	86,846	86,509	162,925	155,153	150,402	146,002
Contributions – special employer	9,154	—	—	—	—	—
Contributions – non-employer contributing entity	21,284	—	—	—	—	—
Net investment income	(5,235)	534,709	36,276	113,440	110,917	158,430
Benefit payments	(171,525)	(172,263)	(212,060)	(199,879)	(200,285)	(184,092)
Administrative expense	(1,184)	(862)	(824)	(709)	(664)	(31)
Other	(2,089)	(1,918)	(1,439)	(1,981)	(1,713)	(1,731)
Net change in plan fiduciary net position	54,915	557,972	92,130	168,199	157,187	212,660
Plan fiduciary net position – beginning	**2,413,074**	**1,855,102**	**1,762,972**	**1,594,773**	**1,437,586**	**1,224,926**
Plan fiduciary net position – ending (b)	**$ 2,467,989**	**$ 2,413,074**	**$ 1,855,102**	**$ 1,762,972**	**$ 1,594,773**	**$ 1,437,586**
Net OPEB liability – ending (a-b)	**$ 1,204,096**	**$ 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)	67.21%	67.45%	52.64%	52.00%	51.22%	48.86%
Covered payroll (c)	$ 21,787,891	$ 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)	5.53%	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)

Change in the Net OPEB Liability	Disability Insurance Trust Fund 2022	Disability Insurance Trust Fund 2021	Disability Insurance Trust Fund 2020	Disability Insurance Trust Fund 2019	Disability Insurance Trust Fund 2018	Disability Insurance Trust Fund 2017
Total OPEB liability:						
Service cost	$ 30,802	$ 32,679	$ 32,988	$ 29,232	$ 27,527	$ 27,884
Interest	19,115	17,222	18,774	15,788	15,503	15,810
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	20,274	(22,057)	(46,473)	29,489	(11,237)	—
Changes of assumptions	—	(1,387)	—	4,180	—	(17,511)
Benefit payments	(29,625)	(28,790)	(27,804)	(24,376)	(31,073)	(30,056)
Net change in total OPEB liability	40,566	(2,333)	(22,515)	54,313	720	(3,873)
Total OPEB liability – beginning	**267,198**	**269,531**	**292,046**	**237,733**	**237,013**	**240,886**
Total OPEB liability – ending (a)	**$ 307,764**	**$ 267,198**	**$ 269,531**	**$ 292,046**	**$ 237,733**	**$ 237,013**
Plan fiduciary net position:						
Contributions – employer	$ 28,249	$ 26,542	$ 26,994	$ 25,263	$ 27,260	$ 24,130
Contributions – member	—	—	—	—	—	—
Contributions – special employer	—	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(507)	131,373	9,445	30,494	32,073	48,206
Benefit payments	(29,625)	(28,790)	(27,804)	(24,376)	(31,073)	(30,056)
Third-party administrator charges	(7,247)	(7,137)	(6,611)	(6,431)	(6,637)	(7,001)
Administrative expense	(483)	(600)	(631)	(787)	(961)	(717)
Other	610	311	586	1,117	(35)	(54)
Net change in plan fiduciary net position	(9,003)	121,699	1,979	25,280	20,627	34,508
Plan fiduciary net position – beginning	**611,919**	**490,220**	**488,241**	**462,961**	**442,334**	**407,826**
Plan fiduciary net position – ending (b)	**$ 602,916**	**$ 611,919**	**$ 490,220**	**$ 488,241**	**$ 462,961**	**$ 442,334**
Net OPEB liability – ending (a-b)	**$ (295,152)**	**$ (344,721)**	**$ (220,689)**	**$ (196,195)**	**$ (225,228)**	**$ (205,321)**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	195.90%	229.01%	181.88%	167.18%	194.74%	186.63%
Covered payroll (c)	$ 4,637,755	$ 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)	(6.36)%	(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					
Change in the Net OPEB Liability	Teachers 2022	Teachers 2021	Teachers 2020	Teachers 2019	Teachers 2018	Teachers 2017
Total OPEB liability:						
Service cost	$ 1,598	$ 1,366	$ 1,109	$ 871	$ 668	$ 389
Interest	411	237	144	92	57	29
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	1,102	(379)	406	(19)	(66)	—
Changes of assumptions	—	339	—	63	—	53
Benefit payments	(788)	(366)	(213)	(167)	(131)	(36)
Net change in total OPEB liability	2,323	1,197	1,446	840	528	435
Total OPEB liability – beginning	**4,884**	**3,687**	**2,241**	**1,401**	**873**	**438**
Total OPEB liability – ending (a)	**$ 7,207**	**$ 4,884**	**$ 3,687**	**$ 2,241**	**$ 1,401**	**$ 873**
Plan fiduciary net position:						
Contributions – employer	$ 3,783	$ 3,166	$ 2,426	$ 1,966	$ 1,160	$ 589
Contributions – member	—	—	—	—	—	—
Contributions – special employer	—	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(56)	1,031	45	83	29	—
Benefit payments	(788)	(366)	(213)	(167)	(131)	(36)
Third-party administrator charges	(1,116)	(988)	(935)	(829)	(794)	(484)
Administrative expense	(93)	(140)	(97)	(39)	(76)	(84)
Other	—	—	—	—	180	294
Net change in plan fiduciary net position	1,730	2,703	1,226	1,014	368	279
Plan fiduciary net position – beginning	**5,590**	**2,887**	**1,661**	**647**	**279**	**—**
Plan fiduciary net position – ending (b)	**$ 7,320**	**$ 5,590**	**$ 2,887**	**$ 1,661**	**$ 647**	**$ 279**
Net OPEB liability – ending (a-b)	**$ (113)**	**$ (706)**	**$ 800**	**$ 580**	**$ 754**	**$ 594**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	101.57%	114.46%	78.30%	74.12%	46.18%	31.96%
Covered payroll (c)	$ 804,858	$ 672,908	$ 591,499	$ 479,535	$ 372,869	$ 282,200
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	(0.01%)	(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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Virginia Local Disability Program					
Change in the Net OPEB Liability	Political Subdivisions 2022	Political Subdivisions 2021	Political Subdivisions 2020	Political Subdivisions 2019	Political Subdivisions 2018	Political Subdivisions 2017
Total OPEB liability:						
Service cost	$ 2,039	$ 1,820	$ 1,553	$ 1,191	$ 876	$ 664
Interest	458	278	261	105	58	25
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	517	(603)	(1,250)	1,224	(95)	—
Changes of assumptions	—	(271)	—	69	—	(110)
Benefit payments	(810)	(385)	(236)	(188)	(165)	(44)
Net change in total OPEB liability	2,204	839	328	2,401	674	535
Total OPEB liability – beginning	**5,156**	**4,317**	**3,989**	**1,588**	**914**	**379**
Total OPEB liability – ending (a)	**$ 7,360**	**$ 5,156**	**$ 4,317**	**$ 3,989**	**$ 1,588**	**$ 914**
Plan fiduciary net position:						
Contributions – employer	$ 3,888	$ 3,338	$ 2,684	$ 2,226	$ 1,463	$ 740
Contributions – member	—	—	—	—	—	—
Contributions – special employer	0	—	—	—	—	—
Contributions – non-employer contributing entity	0	—	—	—	—	—
Net investment income	(56)	1,086	48	93	36	—
Benefit payments	(811)	(385)	(236)	(188)	(165)	(44)
Third-party administrator charges	(1,146)	(1,042)	(1,034)	(940)	(1,000)	(609)
Administrative expense	(93)	(148)	(107)	(45)	(96)	(106)
Other	—	—	—	—	227	370
Net change in plan fiduciary net position	1,782	2,849	1,355	1,146	465	351
Plan fiduciary net position – beginning	**6,166**	**3,317**	**1,962**	**816**	**351**	**—**
Plan fiduciary net position – ending (b)	**$ 7,948**	**$ 6,166**	**$ 3,317**	**$ 1,962**	**$ 816**	**$ 351**
Net OPEB liability – ending (a-b)	**$ (588)**	**$ (1,010)**	**$ 1,000**	**$ 2,027**	**$ 772**	**$ 563**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	107.99%	119.59%	76.84%	49.19%	51.39%	38.40%
Covered payroll (c)	$ 468,489	$ 401,715	$ 372,635	$ 309,020	$ 242,807	$ 183,629
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	(0.13%)	(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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

Change in the Net OPEB Liability	Line of Duty Trust Fund 2022	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
Total OPEB liability:						
Service cost	$ 40,357	$ 21,241	$ 16,019	$ 13,292	$ 15,197	$ 17,648
Interest	10,413	9,207	12,443	12,019	9,258	8,305
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	(14,082)	(18,371)	(64,121)	14,833	51,048	—
Changes of assumptions	(85,924)	26,413	109,371	18,941	(13,962)	(30,500)
Benefit payments	(13,637)	(13,095)	(12,191)	(12,854)	(12,398)	(10,255)
Net change in total OPEB liability	(62,873)	25,395	61,521	46,231	49,143	(14,802)
Total OPEB liability – beginning	**448,542**	**423,147**	**361,626**	**315,395**	**266,252**	**281,054**
Total OPEB liability – ending (a)	**$ 385,669**	**$ 448,542**	**$ 423,147**	**$ 361,626**	**$ 315,395**	**$ 266,252**
Plan fiduciary net position:						
Contributions – employer	$ 13,770	$ 13,633	$ 13,567	$ 13,377	$ 10,035	$ 11,024
Contributions – member	—	—	—	—	—	—
Contributions – special employer	—	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	262	3,031	346	277	678	683
Benefit payments	(13,638)	(13,095)	(12,191)	(12,854)	(12,398)	(10,255)
Administrative expense	(911)	(979)	(810)	(508)	(742)	(1,283)
Other	178	630	581	659	855	584
Net change in plan fiduciary net position	(339)	3,220	1,493	951	(1,572)	753
Plan fiduciary net position – beginning	**7,553**	**4,333**	**2,840**	**1,889**	**3,461**	**2,708**
Plan fiduciary net position – ending (b)	**$ 7,214**	**$ 7,553**	**$ 4,333**	**$ 2,840**	**$ 1,889**	**$ 3,461**
Net OPEB liability – ending (a-b)	**$ 378,455**	**$ 440,989**	**$ 418,814**	**$ 358,786**	**$ 313,506**	**$ 262,791**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	1.87%	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	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					
Change in the Net OPEB Liability	State 2022	State 2021	State 2020	State 2019	State 2018	State 2017
Total OPEB liability:						
Service cost	$ 18,311	$ 20,432	$ 20,143	$ 19,446	$ 19,645	$ 19,231
Interest	69,707	68,014	67,289	68,023	66,883	66,641
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	(34,169)	(20,219)	(5,703)	(13,402)	745	—
Changes of assumptions	13,522	12,326	—	22,700	—	(12,229)
Benefit payments	(76,023)	(71,536)	(70,440)	(72,857)	(69,117)	(71,256)
Net change in total OPEB liability	(8,652)	9,017	11,289	23,910	18,156	2,387
Total OPEB liability – beginning	**1,052,400**	**1,043,383**	**1,032,094**	**1,008,184**	**990,028**	**987,641**
Total OPEB liability – ending (a)	**$ 1,043,748**	**$ 1,052,400**	**$ 1,043,383**	**$ 1,032,094**	**$ 1,008,184**	**$ 990,028**
Plan fiduciary net position:						
Contributions – employer	85,324	81,191	84,849	$ 79,926	$ 79,416	$ 75,058
Contributions – special employer	8,523	38,656	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(358)	34,790	2,185	6,189	5,706	7,706
Benefit payments	(76,023)	(71,536)	(70,440)	(72,857)	(69,117)	(71,256)
Administrative expense	(357)	(589)	(230)	(135)	(149)	(131)
Transfers	(387)	—	—	—	—	—
Other	(7)	(30)	(9)	(8)	536	(546)
Net change in plan fiduciary net position	16,715	82,482	16,355	13,115	16,392	10,831
Plan fiduciary net position – beginning	**207,860**	**125,378**	**109,023**	**95,908**	**79,516**	**68,685**
Plan fiduciary net position – ending (b)	**$ 224,575**	**$ 207,860**	**$ 125,378**	**$ 109,023**	**$ 95,908**	**$ 79,516**
Net OPEB liability – ending (a-b)	**$ 819,173**	**$ 844,540**	**$ 918,005**	**$ 923,071**	**$ 912,276**	**$ 910,512**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	21.52%	19.75%	12.02%	10.56%	9.51%	8.03%
Covered payroll (c)	$ 7,612,495	$ 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)	10.76%	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					
Change in the Net OPEB Liability	Teacher 2022	Teacher 2021	Teacher 2020	Teacher 2019	Teacher 2018	Teacher 2017
Total OPEB liability:						
Service cost	$ 18,621	$ 21,713	$ 21,738	$ 20,979	$ 20,887	$ 20,351
Interest	97,797	94,626	93,964	93,526	92,399	91,661
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	(38,198)	(9,325)	(13,054)	(2,398)	(7,255)	—
Changes of assumptions	10,085	15,792	—	35,149	—	(15,003)
Benefit payments	(95,288)	(93,607)	(92,086)	(90,456)	(89,420)	(83,510)
Net change in total OPEB liability	(6,983)	29,199	10,562	56,800	16,611	13,499
Total OPEB liability – beginning	**1,477,874**	**1,448,675**	**1,438,113**	**1,381,313**	**1,364,702**	**1,351,203**
Total OPEB liability – ending (a)	**$ 1,470,891**	**$ 1,477,874**	**$ 1,448,675**	**$ 1,438,113**	**$ 1,381,313**	**$ 1,364,702**
Plan fiduciary net position:						
Contributions – employer	112,832	107,172	105,210	100,643	99,469	87,613
Contributions – special employer	—	—	—	—	—	—
Contributions – non-employer contributing entity	12,013	—	—	—	—	—
Net investment income	(919)	37,093	2,291	7,350	6,097	8,818
Benefit payments	(95,289)	(93,607)	(92,086)	(90,455)	(89,420)	(83,510)
Administrative expense	(334)	(501)	(258)	(152)	(152)	(120)
Transfers	(755)	—	—	—	—	—
Other	(8)	(13)	(12)	(9)	(446)	436
Net change in plan fiduciary net position	27,540	50,144	15,145	17,377	15,548	13,237
Plan fiduciary net position – beginning	**194,305**	**144,161**	**129,016**	**$ 111,639**	**$ 96,091**	**$ 82,854**
Plan fiduciary net position – ending (b)	**$ 221,845**	**$ 194,305**	**$ 144,161**	**$ 129,016**	**$ 111,639**	**$ 96,091**
Net OPEB liability – ending (a-b)	**$ 1,249,046**	**$ 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)	15.08%	13.15%	9.95%	8.97%	8.08%	7.04%
Covered payroll (c)	$ 9,320,159	$ 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)	13.40%	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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit					
	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions	Political Subdivisions
Change in the Net OPEB Liability	2022	2021	2020	2019	2018	2017
Total OPEB liability:						
Service cost	$ 1,545	$ 1,532	$ 1,063	$ 997	$ 960	$ 972
Interest	5,468	5,113	2,797	2,721	2,644	2,618
Changes in benefit terms	1,513	—	32,238	—	—	—
Difference between actual and expected experience	(2,642)	(669)	624	964	339	—
Changes of assumptions	6,225	1,656	220	1,066	—	(1,015)
Benefit payments	(4,460)	(3,098)	(2,996)	(2,564)	(2,707)	(1,676)
Net change in total OPEB liability	7,649	4,534	33,946	3,184	1,236	899
Total OPEB liability – beginning	**82,024**	**77,490**	**43,544**	**40,360**	**39,124**	**38,225**
Total OPEB liability – ending (a)	**$ 89,673**	**$ 82,024**	**$ 77,490**	**$ 43,544**	**$ 40,360**	**$ 39,124**
Plan fiduciary net position:						
Contributions – employer	5,683	5,239	2,553	$ 2,406	$ 2,291	$ 2,164
Contributions – special employer	—	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	3	6,711	490	1,490	1,570	2,273
Benefit payments	(4,460)	(3,098)	(2,996)	(2,564)	(2,707)	(1,676)
Administrative expense	(62)	(86)	(47)	(32)	(37)	(37)
Transfers		—	—	—	—	—
Other	1,142	2	(2)	(2)	(103)	111
Net change in plan fiduciary net position	2,306	8,768	(2)	1,298	1,014	2,835
Plan fiduciary net position – beginning	**33,234**	**24,466**	**24,468**	**23,170**	**22,156**	**19,321**
Plan fiduciary net position – ending (b)	**$ 35,540**	**$ 33,234**	**$ 24,466**	**$ 24,468**	**$ 23,170**	**$ 22,156**
Net OPEB liability – ending (a-b)	**$ 54,133**	**$ 48,790**	**$ 53,024**	**$ 19,076**	**$ 17,190**	**$ 16,968**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	39.63%	40.52%	31.57%	56.19%	57.41%	56.63%
Covered payroll (c)	$ 1,574,328	$ 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)	3.44 %	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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit					
Change in the Net OPEB Liability	Constitutional Officers 2022	Constitutional Officers 2021	Constitutional Officers 2020	Constitutional Officers 2019	Constitutional Officers 2018	Constitutional Officers 2017
Total OPEB liability:						
Service cost	$ 920	$ 776	$ 746	$ 687	$ 677	$ 671
Interest	2,257	2,118	2,050	2,010	1,913	1,890
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	(1,240)	(241)	223	97	569	—
Changes of assumptions	492	567	—	759	—	(578)
Benefit payments	(2,121)	(2,047)	(1,969)	(1,824)	(1,723)	(1,568)
Net change in total OPEB liability	308	1,173	1,050	1,729	1,436	415
Total OPEB liability – beginning	**33,581**	**32,408**	**31,358**	**29,629**	**28,193**	**27,778**
Total OPEB liability – ending (a)	**$ 33,889**	**$ 33,581**	**$ 32,408**	**$ 31,358**	**$ 29,629**	**$ 28,193**
Plan fiduciary net position:						
Contributions – employer	2,836	2,666	2,526	$ 2,794	$ 2,378	$ 2,320
Contributions – special employer	276	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(27)	954	87	238	183	215
Benefit payments	(2,121)	(2,047)	(1,970)	(1,825)	(1,723)	(1,568)
Administrative expense	(27)	(16)	(9)	(6)	(4)	(4)
Transfers	—	—	—	—	—	—
Other	(1)	(1)	—	—	17	(15)
Net change in plan fiduciary net position	936	1,556	634	1,201	851	948
Plan fiduciary net position – beginning	**6,668**	**5,112**	**4,479**	**3,278**	**2,427**	**1,479**
Plan fiduciary net position – ending (b)	**$ 7,604**	**$ 6,668**	**$ 5,113**	**$ 4,479**	**$ 3,278**	**$ 2,427**
Net OPEB liability – ending (a-b)	**$ 26,285**	**$ 26,913**	**$ 27,295**	**$ 26,879**	**$ 26,351**	**$ 25,766**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	22.44%	19.86%	15.78%	14.28%	11.06%	8.61%
Covered payroll (c)	$ 774,013	$ 733,933	$ 719,390	$ 682,376	$ 655,995	$ 633,397
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	3.40%	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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit					
	Social Services Employees	Social Services Employees	Social Services Employees	Social Services Employees	Social Services Employees	Social Services Employees
Change in the Net OPEB Liability	2022	2021	2020	2019	2018	2017
Total OPEB liability:						
Service cost	$ 290	$ 301	$ 291	$ 260	$ 257	$ 263
Interest	993	964	958	960	933	928
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected experience	(524)	(254)	(106)	(27)	186	—
Changes of assumptions	276	229	—	327	—	(162)
Benefit payments	(1,113)	(1,078)	(1,058)	(1,012)	(970)	(928)
Net change in total OPEB liability	(78)	162	85	508	406	101
Total OPEB liability – beginning	**14,977**	**14,815**	**14,730**	**14,222**	**13,816**	**13,715**
Total OPEB liability – ending (a)	**$ 14,899**	**$ 14,977**	**$ 14,815**	**$ 14,730**	**$ 14,222**	**$ 13,816**
Plan fiduciary net position:						
Contributions – employer	1,212	1,160	689	$ 1,847	$ 1,120	$ 1,069
Contributions – special employer	122	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(4)	335	34	122	72	98
Benefit payments	(1,113)	(1,078)	(1,058)	(1,012)	(970)	(928)
Administrative expense	(5)	(6)	(3)	(3)	(1)	(2)
Transfers	—	—	—	—	—	—
Other	—	—	—	—	7	(7)
Net change in plan fiduciary net position	212	411	(338)	954	228	230
Plan fiduciary net position – beginning	**2,346**	**1,935**	**2,273**	**1,319**	**1,091**	**861**
Plan fiduciary net position – ending (b)	**$ 2,558**	**$ 2,346**	**$ 1,935**	**$ 2,273**	**$ 1,319**	**$ 1,091**
Net OPEB liability – ending (a-b)	**$ 12,341**	**$ 12,631**	**$ 12,880**	**$ 12,457**	**$ 12,903**	**$ 12,725**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	17.17%	15.66%	13.06%	15.43%	9.27%	7.90%
Covered payroll (c)	$ 314,734	$ 300,727	$ 298,257	$ 279,503	$ 263,298	$ 251,084
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	3.92 %	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.

FOR THE PLAN YEARS ENDED JUNE 30

(EXPRESSED IN THOUSANDS)

	Health Insurance Credit					
Change in the Net OPEB Liability	Registrars 2022	Registrars 2021	Registrars 2020	Registrars 2019	Registrars 2018	Registrars 2017
Total OPEB liability:						
Service cost	$ 20	$ 18	$ 16	$ 16	$ 12	$ 12
Interest	41	39	40	39	36	35
Changes in benefit terms	—	—	—	—	—	—
Difference between actual and expected	(16)	(21)	(44)	(22)	1	—
Changes of assumptions	(54)	7	—	12	—	(10)
Benefit payments	(38)	(35)	(7)	(12)	(12)	(27)
Net change in total OPEB liability	(47)	8	5	33	37	10
Total OPEB liability – beginning	**603**	**595**	**590**	**557**	**520**	**510**
Total OPEB liability – ending (a)	**$ 556**	**$ 603**	**$ 595**	**$ 590**	**$ 557**	**$ 520**
Plan fiduciary net position:						
Contributions – employer	68	54	44	$ 36	$ 32	$ 47
Contributions – special employer	6	—	—	—	—	—
Contributions – non-employer contributing entity	—	—	—	—	—	—
Net investment income	(1)	23	2	5	4	3
Benefit payments	(37)	(35)	(7)	(12)	(12)	(27)
Administrative expense	(1)	—	—	—	—	—
Transfers	—	—	—	—	—	—
Other	—	—	—	—	—	—
Net change in plan fiduciary net position	35	42	39	29	24	23
Plan fiduciary net position – beginning	**168**	**126**	**87**	**58**	**34**	**11**
Plan fiduciary net position – ending (b)	**$ 203**	**$ 168**	**$ 126**	**$ 87**	**$ 58**	**$ 34**
Net OPEB liability – ending (a-b)	**$ 353**	**$ 435**	**$ 469**	**$ 503**	**$ 499**	**$ 486**
Plan fiduciary net position as a percentage of the total OPEB liability (b/a)	36.51%	27.86%	21.18%	14.75%	10.41%	6.54%
Covered payroll (c)	$ 17,043	$ 13,391	$ 12,745	$ 11,770	$ 11,512	$ 11,047
Net OPEB liability as a percentage of covered payroll ((a-b)/c)	2.07%	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			
2022	$ 117,655	$ 117,655	$ —	$ 21,787,891	0.54%
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%
		DISABILITY INSURANCE TRUST FUND			
2022	$ 28,290	$ 28,290	$ —	$ 4,637,755	0.61%
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%
		VIRGINIA LOCAL DISABILITY PROGRAM – TEACHER			
2022	$ 3,783	$ 3,783	$ —	$ 804,858	0.47%
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			
2022	$ 3,888	$ 3,888	—	$ 468,489	0.83%
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.

FOR THE PLAN YEARS ENDED JUNE 30 (EXPRESSED IN THOUSANDS)

LINE OF DUTY TRUST FUND**

2022	$ 24,756	$ 13,773	$ 10,983	N/A	N/A
2021	24,929	13,767	11,162	N/A	N/A
2020	24,481	13,590	10,891	N/A	N/A
2019	24,176	13,421	10,755	N/A	N/A
2018	23,214	10,652	12,562	N/A	N/A
2017	23,503	10,785	12,718	N/A	N/A
2016	23,328	9,756	13,572	N/A	N/A
2015	23,847	9,974	13,873	N/A	N/A
2014	22,103	10,381	11,722	N/A	N/A
2013	21,895	9,341	12,554	N/A	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					
2022	$ 85,260	$ 85,260	$ —	$ 7,612,495	1.12%
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%
HEALTH INSURANCE CREDIT – TEACHER					
2022	$ 112,774	$ 112,774	$ —	$ 9,320,159	1.21%
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%
HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS					
2022	$ 5,501	$ 5,501	$ —	$ 1,574,328	0.35%
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%
HEALTH INSURANCE CREDIT – CONSTITUTIONAL OFFICERS					
2022	$ 2,786	$ 2,786	$ —	$ 774,013	0.36%
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%

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 – SOCIAL SERVICES EMPLOYEES					
2022	1,196	1,196	—	314,734	0.38%
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%
HEALTH INSURANCE CREDIT – REGISTRARS					
2022	$ 66	$ 66	$ —	$ 17,043	0.39%
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)

	2022	2021
Management Fees:		
Public Equity Managers	$ 54,530	$ 57,620
Fixed Income Managers	4,555	4,407
Credit Strategies Managers	99,176	78,670
Real Assets Managers	127,152	102,091
Alternative Investment Managers	146,731	151,619
Hedge Fund Managers	77,630	66,408
Dynamic Strategies Managers	7,530	5,442
Risk Based Investments Managers	14,212	12,683
Currency Managers	2,700	2,700
Total External Management Fees	**534,216**	**481,640**
Performance Fees	**29,078**	**27,180**
Miscellaneous Fees and Expenses:		
Custodial Fees	4,500	4,500
Legal Fees	1,078	913
Other Fees and Expenses	6,514	1,617
Total Miscellaneous Fees and Expenses	**12,092**	**7,030**
In-House Investment Management	**38,123**	**38,575**
Total Investment Expenses	**$ 613,509**	**$ 554,425**

SCHEDULE OF ADMINISTRATIVE EXPENSES: ACTUAL TO BUDGET

FOR THE YEARS ENDED JUNE 30, 2022 AND 2021

(EXPRESSED IN THOUSANDS)

	Totals	
	2022	2021
Personnel Services:		
Salaries and Wages	$ 46,204	$ 39,478
Per Diem Services	164	335
Retirement Contributions	4,828	4,618
Social Security	2,804	2,528
Group Life and Medical Insurance	6,152	5,573
Compensated Absences	1,096	427
Total Personnel Services	**61,248**	**52,959**
Professional Services:		
Data Processing	20,503	22,419
Actuarial and Consulting Services	2,844	2,630
Legal Services	462	431
Medical Review Services	710	671
Management Services	112	110
Personnel Development Services	592	80
Total Professional Services	**25,223**	**26,341**
Communication Services:		
Media Services	28	19
Printing	554	473
Postal and Delivery Services	736	536
Telecommunications	859	886
Total Communication Services	**2,177**	**1,914**
Rentals:		
Business Equipment	—	—
Office Space	2,236	2,081
Total Rentals	**2,236**	**2,081**
Other Services and Charges:		
Skilled and Clerical Services	221	246
Depreciation	6,525	5,754
Dues and Memberships	145	156
Equipment	5,791	5,890
Insurance	250	129
Repairs and Maintenance	720	980
Supplies and Materials	298	277
Travel and Transportation	377	178
Miscellaneous	91	188
Total Other Services and Charges	**14,418**	**13,798**
Total Administrative Expenses	**$ 105,302**	**$ 97,093**
Adjustment for Capitalization of Expenses	(2,864)	(909)
Total Administrative Expenses (GAAP basis)	**102,438**	**96,184**
Adjustments Necessary to Convert Administrative Expenses on the GAAP Basis to the Budgetary Basis at Year End (Net)	(4,553)	(5,132)
Administrative Expenses (Budgetary Basis)	**$ 97,885**	**$ 91,052**
Administrative Expenses Appropriated	**$ 106,103**	**$ 105,692**
Distribution of Administrative Expenses:		
Total Administrative Expenses	102,438	96,184
Less: In-house Investment Management	(38,123)	(38,575)
Net Administrative Expenses	**$ 64,315**	**$ 57,609**

SCHEDULE OF PROFESSIONAL AND CONSULTING SERVICES

FOR THE YEAR ENDED JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

Actuarial, Legal and Oversight Services			
Auditor of Public Accounts	Financial Reporting Auditor	$	227.2
Attorney General	Legal Services		28.5
Cavanaugh MacDonald LLC	Actuarial Services and Benefits Consulting		965
Ice Miller LLP	Legal Services		46
Joint Legislative Audit Review Commission	Oversight Responsibilities		89.2
Total Actuarial, Legal and Oversight Services		**$**	**1,355.9**
Consulting Services			
Advantage 2000 Consultants	Social Security Advocacy and Disability Tracking	$	9.4
Albourne America, LLC	Investment Consultant Services		400.0
Bishops Services Inc	Due Diligence Services		79.8
CEM Benchmarking Inc.	Benchmarking Analysis		85.0
County Court Reporters Inc	Court Reporting Services		16.9
Farnsworth & Taylor	Hearing Officer for Disability Cases		20.2
FX Transparency LLC	Investment Advisory Services		30.0
Gartner Group Inc.	Research & Advisory		77.0
Genex Services Inc	Job Analysis		0.9
Harrison & Turk, PC	Fact Finding Hearing Officer for Disability Cases		79.1
AON Hewitt Investments	Investment Consultant Services		20.0
John Frye	Fact Finding Hearing Officer for Disability Cases		59.0
Life Status 360 LLC	Location Services		5.1
McLagan Partners, Inc.	VRS Compensation Project		120.0
Michael Katzen	Fact Finding Hearing Officer for Disability Cases		186.9
MMRO	Medical Board Review and Examinations		709.2
Planet Depos	Fact Finding Hearing Officer for Disability Cases		0.4
Sagitec Solutions, LLC	VRS Modernization Project Solution Vendor		927.2
Torreycove Capital	Investment Consulting Services		37.5
Total Consulting Services		**$**	**2,863.6**
Total Professional and Consulting Services		**$**	**4,219.5**

Virginia Retirement System
80
YEARS
Since 1942

80 Years of Serving
Those Who Serve Others

Investment Section

Investment Section

Chief Investment Officer's Letter
Investment Account
Portfolio Highlights
VRS Money Managers
Public Equity Commissions
Schedule of Investment Expenses
Investment Summary
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

P.O. Box 2500 • 1200 East Main Street
Richmond, Virginia 23218-2500
Toll-free: 888-827-3847 • TDD: 804-344-3190

September 1, 2022

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

As VRS marked the end of fiscal year 2022, the investments report was mixed. The stock market, down about 16%, was certainly less robust this past fiscal year than it was at June 30, 2021. Given the exceedingly strong returns last year, the lower return this year is not unexpected, as markets often post a period of flat to negative results after skyrocketing. Bonds were also down for the year, finishing around -11% as the Federal Reserve began hiking interest rates to slow inflation.

PERFORMANCE OVERVIEW

The VRS portfolio benchmark of -5.5% was comfortably ahead of the traditional passive 60/40 stock/bond index return of around -10%, depending on the indexes used. VRS benefited from its diverse portfolio that includes assets such as real estate, infrastructure, timber and energy as well as private strategies in the equity and credit space. In addition, the portfolio was underweight in stock market exposure, which was helpful to relative performance in a year that saw the equity markets generate negative returns.

Overall, the VRS portfolio was modestly positive in the face of these negative public market benchmarks. The portfolio return of 0.6% is quite subdued compared to historical averages, as reflected in our long-term assumed rate of return of 6.75% annually. However, this year's returns relative to the benchmark were nothing short of remarkable. Because our investment professionals manage the fund using a risk-controlled approach, our normal value-add typically yields about half a percent of outperformance. Achieving approximately 6 percentage points of outperformance this year (+0.6% versus a benchmark of -5.5%) is an admirable result.

The level of outperformance in fiscal year 2022 puts an exclamation point on a decade of strong results. Staff decisions versus the benchmark have resulted in a value-add of $1 billion per year on average over the last 10 years, fortifying the trust fund's position to serve current and future retirees. Putting this in perspective, the annualized value-add is roughly equal to the entirety of VRS member contributions last year.

Annualized Return for Periods Ended June 30, 2022:

	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
VRS Total Fund	0.6%	9.2%	8.3%	8.7%	6.0%	7.7%	7.3%
Benchmark*	-5.5%	6.1%	6.6%	7.5%	5.2%	6.8%	6.5%

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.*

ASSET CLASS COMMENTARY

Public stock and bond markets were tough places to be over the last fiscal year. Stocks declined in the face of rising interest rates as investors used higher discount rates in valuing future income streams. And, though interest rate increases are good for yield, they cause currently held, lower-yielding bonds to decline in value.

- Equities returned -14.8%, eclipsing the benchmark's -16.2%. Our value and quality tilts were drivers of outperformance, reversing the trend of the 2018-2020 years that were driven by technology stocks. Good relative performance was seen across all regions as U.S., non-U.S. developed as well as emerging markets all performed well relative to the benchmark. Hedge funds had a disappointing year but have outperformed over the long run and protected well in the September 2022 quarter as the market continued to sell off.
- Fixed Income returns finished 40 basis points (bps) ahead of the -11% benchmark, continuing the extraordinarily consistent run of the bond team's outperformance. The bond portfolio outperformed in a shifting risk environment with underweight positions in high yield and investment grade credit, and a slight overweight in emerging market debt.

The private portfolios all had strong years, exceeding both the benchmark and the normally expected level of value-add. Credit and Private Equity portfolios were especially strong relative to the benchmark.

- Credit was led by the Non-Rate Sensitive Portfolio (direct and distressed lending), which was up 5.6% for the fiscal year, while the Rate Sensitive Portfolio (high yield and mezzanine) was down 6.2%. The portfolio was overweight non-rate sensitive, so the combination was a positive return of 1.5% against a benchmark of -6.5%.
- Private Equity had an extremely strong year – up over 27% – fueled by software and energy-related exposures. Purchase multiples were high but so were exit multiples, and gains on sale of our positions were strong. In most cases, the high prices paid for companies were justified by the high quality and rapid expected growth of the earnings stream the companies provided.
- Real Assets finished the year at 21.7%, ahead of the 18.0% benchmark. Though Public Real Estate Investment Trusts were below benchmark, Private Real Estate and Other Real Assets finished higher versus their respective benchmarks.

Multi-asset portfolios performed well versus their respective benchmarks overall. Private Investment Partnerships (PIP) exceeded their benchmark as did the two components of the Multi-Asset Public Strategies (MAPS) portfolio.

- PIP turned in strong performance for the year, comfortably beating the benchmark. Many areas of the portfolio did well, especially energy, as oil and gas prices spiked during the year. While all primary segments of the private markets did well for the year, private equity led the way and our overweight there was beneficial to performance.
- The Risk-Based Investment portfolio (RBI) had a strong year as the low correlation to public stocks served the strategy well in a down year for equities. Long Treasuries were a negative for the year, but the portfolio had downsized the bond position, thereby mitigating the decline.

- Dynamic Strategies (DSTRAT) finished slightly ahead of the benchmark, with overall results somewhat diluted by thematic strategies. The external managers collectively added value in tactical portfolios as did the in-house portfolio.

MARKET OUTLOOK

The stock market has generally been rebounding since the end of the fiscal year. In July and early August, VRS gained back just over half of the losses from January through June. Similarly, bond yields and risk spreads over comparable maturity Treasury Bonds have recovered somewhat, though various segments of the bond market have not moved uniformly.

There are many contrary indicators regarding inflation and GDP growth:

Positives include:

- July job creation was two times the number expected.
- Unemployment in July was down slightly from already low levels.
- Hourly wages increased.
- Trucking tonnage is up.
- The Consumer Price Index seems to have moderated as energy costs and some supply chain issues have eased.

Negatives include:

- Housing starts and existing home sales are down, which to some, is ominous given normal ripple effects.
- There has been some contraction in the Purchasing Managers Index.
- There are downward adjustments in analyst earnings projections and forward guidance by chief executives and financial officers.

Of course, there are almost always contrary economic statistics as well as a lack of consensus on consumer and investor sentiment. A typical recession is where businesses don't want to hire and consumers don't want to spend, but we have the opposite — businesses want to hire, but can't find labor, and consumers want to spend, but can't find goods.

Given current market conditions, we have continued to maintain our somewhat defensive stance. Though the stock market exposure is below policy weight, that position is largely offset by an overweight to private equity assets. Should we continue to see a strong rebound in stocks as we did in July and early August, the portfolio might struggle a bit versus its benchmark. But, if the markets trend sideways to negative, as in fiscal year 2022, VRS should perform well versus the benchmark.

Importantly, we have built up a strong reserve in the last two years with performance well above the long-term assumed rate and with very strong relative performance compared to our benchmark index. We believe VRS is well positioned to continue delivering returns that allow the Commonwealth to continue to meet its obligations.

A LAST WORD

As I approach retirement in early 2023, this will be my last annual report as Chief Investment Officer. It has truly been an honor and a privilege to work with the talented and dedicated staff at VRS over the past 11 years. Overall, the markets have been kind, and despite a number of highs and lows, the fund has nearly doubled in size from around $50 billion to over $100 billion. Thanks to the efforts of a dynamic team, performance has been strong as evidenced by the 10-year results shown in the table earlier in this letter. I'm proud to say that the VRS portfolio has beaten the assumed rate of return and outperformed its benchmark.

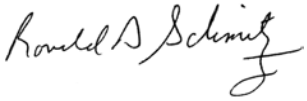
I wish to steal a quote from Coach Mike Krzyzewski after Duke lost to North Carolina in the NCAA tournament last spring. It was Coach K's final game.

> *"I've been blessed to be in the arena. And when you are in the arena, you're either going to come out feeling great or you're going to feel agony. But you will always feel great about being in the arena. And I'm sure that's the thing, when I look back, that I'll miss. I won't be in the arena anymore."*

Now to personalize Coach K's last comment with a little literary license, I was in the game for a long time, and my co-workers made my last year an amazing one.

I want to thank the Board of Trustees and the Investment Advisory Committee for their support and encouragement over the years. I am also grateful to VRS Director Patricia Bishop and my colleagues in VRS administration. Andrew Junkin will take the helm as Chief Investment Officer in early 2023. Andrew is a thoughtful investor and I know the VRS portfolio is in good hands. After all, he has, like I did, the advantage of leading a strong team of investment professionals and support staff.

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.

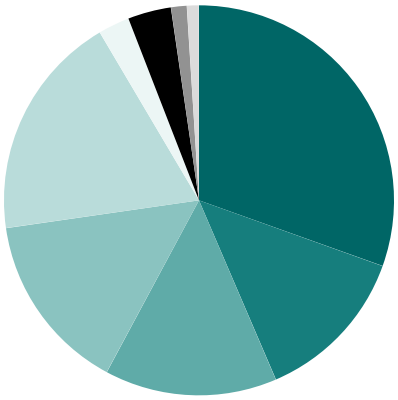
The primary risk measure used for this purpose is Total Fund Tracking Error, calculated as the standard deviation of the difference between the fund's return and the return of the Total Fund VRS Custom Benchmark. From this measure, probability estimates can be derived to help the Board estimate the risk 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, 2022, is shown in Figure 3.1.

FIGURE 3.1: ASSET ALLOCATION MIX

AS OF JUNE 30, 2022



Public Equity
30.4% Global Equity

Fixed Income
13.1% Fixed Income

Credit Strategies
14.3% Credit Strategies

Real Assets
14.9% Real Assets

Private Equity
18.8% Private Equity

Private Investment Partnerships
2.6% Private Investment Partnerships

Multi-Asset Public Strategies
3.6% Multi-Asset Public Strategies

Exposure Management Portfolio (EMP)
1.3% EMP

Cash
1.0% Cash

FIGURE 3.2: INVESTMENT PERFORMANCE SUMMARY

ANNUALIZED DATA FOR THE PERIOD ENDING JUNE 30, 2022

	1 Year	3 Years	5 Years	10 Years
1. Total Fund				
VRS	0.6%	9.2%	8.3%	8.7%
VRS Custom Benchmark[1]	-5.5%	6.1%	6.6%	7.5%
2. Total Public Equity				
VRS	-14.8%	6.1%	6.3%	9.0%
Custom Benchmark[2]	-16.2%	6.3%	6.9%	8.9%
3. Total Fixed Income				
VRS	-10.6%	0.3%	1.8%	2.3%
Custom Benchmark[3]	-11.0%	-1.1%	0.8%	1.5%
4. Total Credit Strategies				
VRS	1.5%	6.4%	6.3%	6.6%
Custom Benchmark[4]	-6.5%	1.8%	3.3%	4.7%
5. Total Real Assets				
VRS	21.7%	11.0%	10.1%	10.9%
Custom Benchmark[5]	18.0%	8.7%	8.1%	9.1%
6. Total Private Equity				
VRS	27.4%	25.5%	21.2%	17.5%
Custom Benchmark[6]	6.7%	15.7%	14.4%	13.7%
7. Total Private Investment Partnerships				
VRS	17.0%	12.7%	11.1%	N/A
Custom Benchmark[7]	6.9%	9.5%	9.2%	N/A
8. Total Multi-Asset Public Strategies				
VRS	-4.7%	3.6%	N/A	N/A
Custom Benchmark[8]	-8.2%	3.6%	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).

[6] Effective July 2020, the Private Equity Custom Benchmark is the MSCI ACWI IMI Index (net VRS tax rates) lagged by three months.

[7] Effective July 2021, 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) (33%), the NCREIF Private Real Estate Benchmark (ODCE Index (net) lagged by three months) (25%), the Other Real Assets Custom Benchmark (the CPI-U Index plus 400 basis points per annum lagged by three months) (8%), the Bloomberg Barclays U.S. HY Ba/B 2% Issuer Cap Index (17%), and the S&P Performing Loan Index (17%).

[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, 2022, was $29.9 billion, representing approximately 30% of the total fund. The program is dominated by traditional strategies valued at $23.25 billion or 77.7%. The program also employs equity-oriented hedge fund strategies valued at $6.66 billion or 22.3%. 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 59% invested in domestic equity and 41% in international equity. Internal assets are 40% of Total Public Equity.

At fiscal year-end, the ACWI IMI benchmark was comprised of 59.6% of the MSCI U.S. Investible Market Index (IMI), 28.6% of the MSCI World excluding U.S. IMI and 11.8% 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
Communication Services	8.85%	7.34%
Consumer Discretionary	10.41%	11.17%
Consumer Staples	8.23%	7.31%
Energy	4.46%	4.93%
Financials	13.61%	14.36%
Health Care	14.26%	12.65%
Industrials	9.73%	10.44%
Information Technology	18.85%	19.83%
Materials	4.43%	5.16%
Real Estate	3.15%	3.63%
Utilities	4.02%	3.18%
Total	**100.00%**	**100.00%**

Regions	VRS	ACWI IMI
North America	61.17%	62.99%
Europe/Middle East/Africa	19.84%	18.62%
Asia Pacific	17.59%	17.47%
Latin and South America	1.40%	0.92%
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 8.0% of the program at fiscal year-end.

Three companies, Berkshire Hathaway Inc., Taiwan Semiconductor Manufacturing and Meta Platforms (formerly Facebook) were replaced by Verizon Communications, Merck & Co. and Pfizer on this year's schedule.

FIGURE 3.4: PUBLIC EQUITY – TOP 10 EXPOSURES*

AS OF JUNE 30, 2022

Company	Fair Value	Shares
Microsoft	$ 524,380,341	2,041,741
Apple	406,119,651	2,970,448
Alphabet	373,436,205	171,060
Johnson & Johnson	183,004,467	1,030,953
Amazon.com	166,140,055	1,564,260
Bristol-Myers Squibb	165,524,821	2,149,673
Verizon Communications	157,078,203	3,095,137
Roche Holding	139,569,959	418,479
Merck & Co.	133,955,716	1,469,296
Pfizer	130,591,543	2,490,779

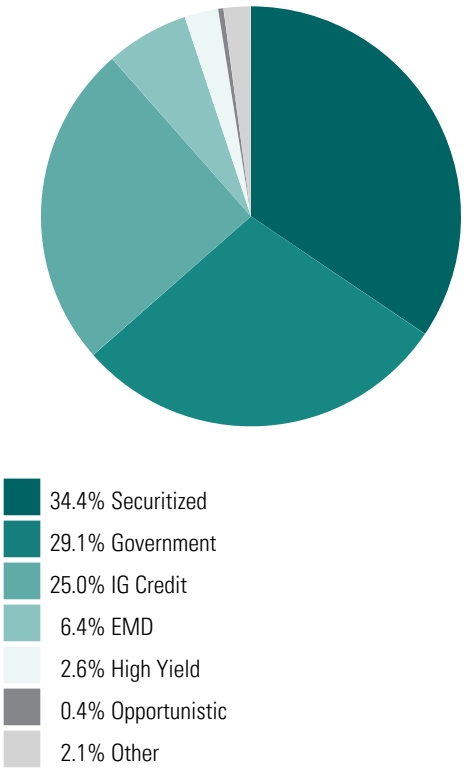
** Aggregated various share classes based on parent company. Refer to the "More Information" section on page 162 for details on how to request additional information.*

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, 2022, was $12.9 billion, representing approximately 13% of the total fund.

FIGURE 3.5: FIXED INCOME PORTFOLIO BY SECTOR ALLOCATION

AS OF JUNE 30, 2022



The Fixed Income Program is 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. Ninety-five percent of the Fixed Income Program is managed internally. For fiscal year 2022, the return of the program was -10.6% versus a return of -11.0% for the benchmark.

FIGURE 3.6: FIXED INCOME – TOP 10 HOLDINGS BY MARKET VALUE*

AS OF JUNE 30, 2022

Security	Par Value	Fair Value
FANNIE MAE/FREDDIE MAC AGENCY MBS	$590,000,000	$581,681,590
TREASURY NOTE	300,000,000	274,476,000
FANNIE MAE/FREDDIE MAC AGENCY MBS	270,000,000	270,999,000
FANNIE MAE/FREDDIE MAC AGENCY MBS	290,000,000	269,961,290
TREASURY NOTE	239,000,000	218,665,880
TREASURY NOTE	204,300,000	184,013,010
TREASURY NOTE	160,400,000	152,084,864
TREASURY NOTE	150,000,000	146,367,000
TREASURY NOTE	149,500,000	143,146,250
TREASURY NOTE	130,000,000	125,684,000

** Refer to the "More Information" section on page 162 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 synthetically replicating exposure to equity and/or fixed income.

PRIVATE EQUITY

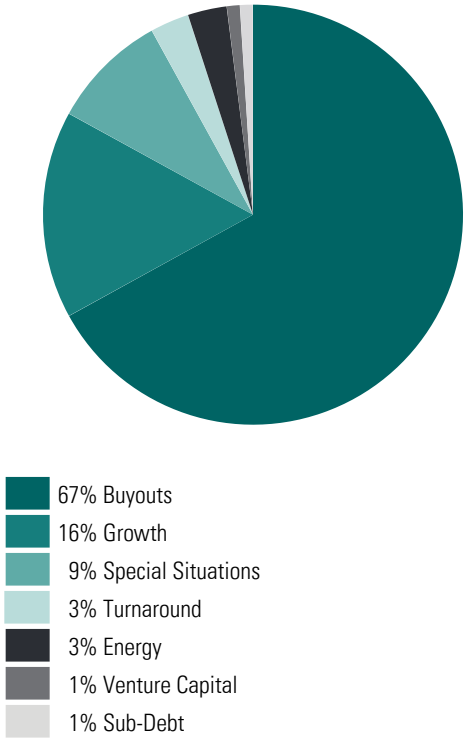
VRS invests in private equity to achieve returns greater than those available in the public equity markets. Specifically, the program seeks to outperform the Morgan Stanley Capital International All Country World Index (MSCI ACWI). Program returns are calculated on both a time-weighted basis and a dollar-weighted, or internal rate-of-return (IRR) basis. On a time-weighted basis, the program return for fiscal year 2022 was 27.4%. On a dollar-weighted, or IRR basis, the private equity one-year return was 27.9% as of March 31, 2022.

As of June 30, 2022, the carrying value of the program was approximately $19.0 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 3.7: PRIVATE EQUITY PROGRAM

AS OF JUNE 30, 2022



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 2022, producing an 21.7% return and outperforming the benchmark by 370 basis points. The private real estate portfolio delivered a 28.6% return while the real estate investment trusts (REITs) produced a total return of -12.9%. Investments in infrastructure, natural resources, timberland and farmland produced a 21.3% return for the fiscal year.

The percentage of the Total Fund represented by the Real Assets portfolio fluctuated over the course of the year increasing to 14.9% at fiscal year-end. In dollar terms, the real asset portfolio grew $2.98 billion due primarily to asset income and appreciation, with contributions to new investments outpacing distributions from existing investments by approximately $317 million.

At fiscal year-end, the portfolio strategy composition was approximately 61% private real estate, 15% infrastructure, 10% REITs, 9% energy and mining, 3% timberland and 2% farmland. Portfolio leverage as a percentage of total real assets was 27% as of June 30, 2022.

FIGURE 3.8: REAL ASSETS BY SECTOR

AS OF JUNE 30, 2022

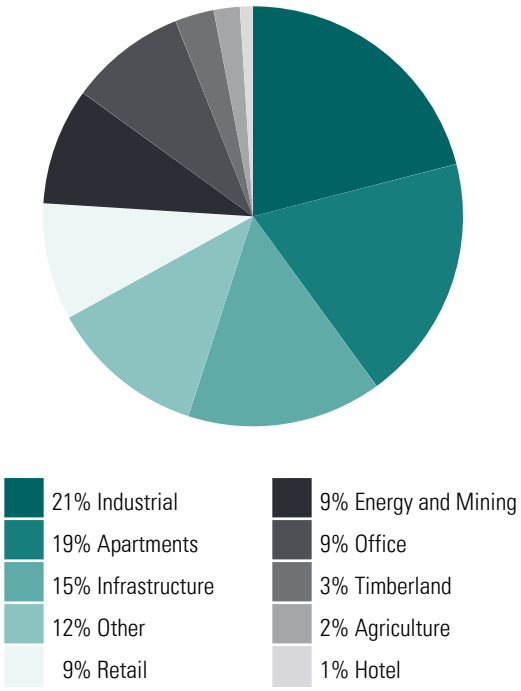
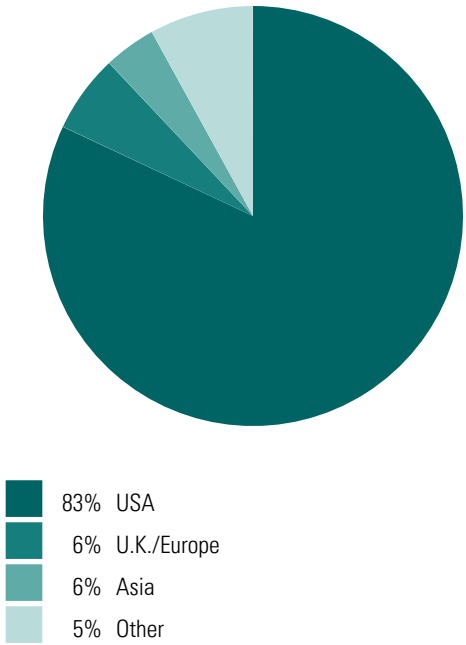


FIGURE 3.9: REAL ASSETS BY GEOGRAPHIC REGION

AS OF JUNE 30, 2022

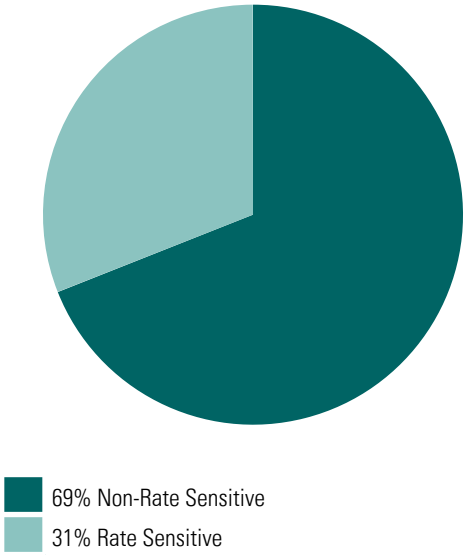


CREDIT STRATEGIES

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 1.5%, while the program's custom benchmark returned -6.5%.

FIGURE 3.10: CREDIT STRATEGIES PROGRAM

AS OF JUNE 30, 2022



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, 2022, was $1.8 billion. For the fiscal year, it returned -1.7% 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, 2022, the total program had a market value of $3.6 billion and was invested with seven multi-asset class public investments managers, three equity managers and one internally managed fixed income strategy. During the fiscal year, it returned -4.7% against the program's custom benchmark, which returned -8.2%.

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 17% while its custom benchmark returned 6.9%.

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, 2022, 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
Jackson Square	U.S. Small-Cap
J.P. Morgan	U.S. Large-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
Internal Emerging	Emerging
Matoaka	Non-U.S. Large
Mobjack	U.S. Large
Piedmont	Non-U.S. Large
Potomac	U.S. Large

Top 10 Equity Hedge Funds	Style Description
Arisaig	Long
Cevian	Activist
Eminence	Long/Short
Farallon	Multi-Strat
Maverick Capital	Long/Short
Nitorum	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)*

FIXED INCOME (cont.)

External Portfolios	Style Description
FI Payden & Rygel EMD	Emerging Market Debt
FI PIMCO EMD	Emerging Market Debt
FI Man Numeric High Yield	High-Yield Corporates

PRIVATE EQUITY – TOP 10 MANAGERS	Style Description
Apax Partners	Buyout
Bain Capital	Buyout
CVC Capital	Buyout
General Atlantic	Growth
Grosvenor	Customized Separate Account
GTCR	Buyout
Hellman and Friedman	Buyout
Stone Point	Buyout
TA Associates	Growth
Veritas	Buyout

CREDIT STRATEGIES – TOP 10 MANAGERS	Style Description
Beach Point Capital Management	Distressed, Broadly Syndicated Loans, Opportunistic
Ares Management	Direct Lending, Mezzanine, Opportunistic, Asset Based Lending
Prudential	Investment Grade, Mezzanine
J.P. Morgan	High Yield Bonds
Solus	Opportunistic, Broadly Syndicated Loans
BlackRock	Direct Lending
HPS Investment Partners	Direct Lending, Mezzanine
Pacific Investment Management Co.	High Yield Bonds
Anchorage Capital	High Yield Bonds, Opportunistic
Sixth Street Partners	Distressed, Opportunistic

PRIVATE INVESTMENT PARTNERSHIPS	Style Description
KKR	Multi-Asset Class Private Investments
Carlyle	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
Global Infrastructure Partners	Global Infrastructure
Industry Funds Management	Global Infrastructure
J.P. Morgan Asset Management Inc.	Core Real Estate
Morgan Stanley	Core Real Estate & Global Infrastructure
Pantheon Ventures	Global Infrastructure, Global Natural Resources
PGIM	Core & Enhanced Core Real Estate
Pritzker Realty Group	Enhanced Core & Opportunistic Real Estate
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
Internal Portfolio Strategy	Multi-Asset Class Public Investments
J.P. Morgan	Multi-Asset Class Public Investments
MetLife	Fixed Income
Morgan Stanley	Multi-Asset Class Public Investments
Nordea	Equities
Orchard Global	Multi-Asset Class Public Investments
Wellington	Equities

Public Equity Commissions

AS OF JUNE 30, 2022

Broker	Commission	Shares	Average Commission Per Share
National Financial Services Corp., New York	$ 1,224,424.15	97,085,517	$ 0.0126
Goldman Sachs & Co., New York	1,198,042.13	115,814,313	0.0103
Credit Suisse, New York (CSUS)	1,019,531.44	137,114,081	0.0074
Morgan Stanley & Co., LLC, New York	340,880.51	99,483,704	0.0034
Merrill Lynch International London Equities	188,367.18	271,298,924	0.0007
Sanford C. Bernstein & Co. Inc., New York	185,451.33	22,642,928	0.0082
Sanford C. Bernstein & Co. Inc., London	183,814.75	24,370,422	0.0075
Merrill Lynch Pierce Fenner Smith, Inc., New York	139,659.16	10,081,920	0.0139
UBS Securities LLC, Stamford	125,629.03	13,196,366	0.0095
Financial Brokerage Group (FBG), Cairo	89,791.30	5,899,100	0.0152
Other Brokers	1,724,193.70	1,461,349,883	0.0012
Total FY 2022	**$ 6,419,784.68**	**2,258,337,158**	**$ 0.0028**

SCHEDULE OF INVESTMENT EXPENSES

FOR THE YEAR ENDED JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

	Assets Under Management	Management Fees and Expenses
External Management:		
Public Equity Managers	$ 11,131,830	$ 54,530
Fixed Income Managers	5,670,782	4,555
Credit Strategies Managers	14,321,408	99,176
Real Assets Managers	14,693,709	156,230
Alternative Investment Managers	19,360,172	146,731
Hedge Funds Managers	6,856,567	77,630
Risk-Based Investments Managers	5,363,270	14,212
Currency Managers*	—	2,700
Dynamic Strategies Managers	1,760,883	7,530
Subtotal: External Management	**79,158,621**	**563,294**
Internal Management	**23,282,674**	**38,123**
Miscellaneous Fees and Expenses:		
Custodial Fees	—	4,500
Legal Fees	—	1,078
Other Fees and Expenses	—	6,514
Subtotal: Miscellaneous Fees and Expenses	**—**	**12,092**
Total	**$ 102,441,295**	**$ 613,509**

** The fees related to Active Currency Overlay Program are based on the managers' notional account values. The total notional value at June 30, 2022, 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, 2022 and 2021:

(EXPRESSED IN THOUSANDS)

	2022 Fair Value	Percent of Total Value	2021 Fair Value	Percent of Total Value
Bonds and Mortgage Securities:				
U.S. Government and Agencies	$ 5,103,220	4.96%	$ 4,330,230	4.12%
Mortgage Securities	3,384,999	3.29%	3,845,183	3.66%
Corporate and Other Bonds	11,428,104	11.12%	14,889,600	14.17%
Total Bonds and Mortgage Securities	**19,916,323**	**19.37%**	**23,065,013**	**21.95%**
Common and Preferred Stocks	**22,153,695**	**21.55%**	**27,394,488**	**26.08%**
Index and Pooled Funds:				
Equity Index and Pooled Funds	12,627,783	12.28%	13,887,361	13.22%
Fixed-Income Commingled Funds	1,424,241	1.39%	1,482,629	1.41%
Total Index and Pooled Funds	**14,052,024**	**13.67%**	**15,369,990**	**14.63%**
Real Assets	**13,735,587**	**13.36%**	**10,754,327**	**10.24%**
Private Equity	**32,530,492**	**31.66%**	**27,883,423**	**26.55%**
Short-Term Investments:				
Treasurer of Virginia – LGIP Investment Pool	352,743	0.34%	503,439	0.48%
Foreign Currencies	53,176	0.05%	77,125	0.07%
Total Short-Term Investments	**405,919**	**0.39%**	**580,564**	**0.55%**
Total Investments	**$ 102,794,040**	**100.00%**	**$ 105,047,805**	**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, 2022

Fund Name	Hybrid 401(a)	Hybrid 457	Total
Retirement Portfolio	$ 28,052,488	$ 14,925,029	$ 42,977,516
Target Date 2025 Portfolio	50,153,232	28,888,330	79,041,562
Target Date 2030 Portfolio	72,196,483	40,790,427	112,986,910
Target Date 2035 Portfolio	89,048,233	49,079,392	138,127,625
Target Date 2040 Portfolio	90,820,130	47,526,817	138,346,947
Target Date 2045 Portfolio	103,230,171	51,771,131	155,001,302
Target Date 2050 Portfolio	124,901,280	58,802,842	183,704,122
Target Date 2055 Portfolio	188,141,706	77,162,384	265,304,090
Target Date 2060 Portfolio	99,284,807	37,765,600	137,050,407
Target Date 2065 Portfolio	7,212,055	2,085,211	9,297,267
Money Market Fund	6,683,750	1,893,246	8,576,996
Stable Value Fund	2,994,303	5,061,209	8,055,512
Bond Fund	1,269,377	1,574,337	2,843,714
Inflation-Protected Bond Fund	848,764	1,094,023	1,942,787
High-Yield Bond Fund	1,274,775	1,685,811	2,960,586
Stock Fund	22,827,731	23,764,291	46,592,022
Small/Mid-Cap Stock Fund	6,825,697	7,530,228	14,355,925
International Stock Fund	3,339,125	3,753,868	7,092,994
Global Real Estate Fund	1,620,556	1,961,993	3,582,549
VRS Investment Portfolio – PIPVRSIP	33,314	26,713	60,027
VRS Investment Portfolio	277,558	200,033	477,591
Self-Directed Brokerage	1,302,801	1,378,512	2,681,314
Total Plan Assets	**$ 902,338,336**	**$ 458,721,430**	**$ 1,361,059,766**

** Fund totals have been rounded to the nearest dollar amount. Differences in totals are due to rounding.*

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, 2022, 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: 54.7% U.S. Large/Mid-Cap Stocks: 21.3% International Stocks: 12.3%
U.S. Inflation-Index Bonds: 5.8% U.S. Small-Cap Stocks: 2.9%
Commodities: 1.5% Developed Real Estate: 1.4%

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: 48.0% U.S. Large/Mid-Cap Stocks: 25.4% International Stocks: 15.1%
U.S. Inflation-Index Bonds: 5.4% U.S. Small-Cap Stocks: 2.7%
Developed Real Estate: 2.0% Commodities: 1.4%

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: 36.4% U.S. Large/Mid-Cap Stocks: 32.7% International Stocks: 20.2%
U.S. Inflation-Index Bonds: 4.7% Developed Real Estate: 2.6%
U.S. Small-Cap Stocks: 2.2% 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: 39.6% U.S. Bonds: 25.8% International Stocks: 25.0%
U.S. Inflation-Index Bonds: 3.7% Developed Real Estate: 3.3%
U.S. Small-Cap Stocks: 1.7% Commodities: 1.0%

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: 46,1% International Stocks: 29.7% U.S. Bonds: 15.6%
Developed Real Estate: 3.9% U.S. Inflation-Index Bonds: 2.6% U.S. Small-Cap Stocks: 1.4% Commodities: 0.7%

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: 51.7% International Stocks: 33.7% U.S. Bonds: 7.1%
Developed Real Estate: 4.4% U.S. Inflation-Index Bonds: 1.5% U.S. Small-Cap Stocks: 1.2% Commodities: 0.4%

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: 55.3% International Stocks: 36.2% Developed Real Estate: 4.7%
U.S. Bonds: 2.3% U.S. Small-Cap Stocks: 1.0% U.S. Inflation-Index Bonds: 0.5% 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: 56.2% International Stocks: 37.0% Developed Real Estate: 4.7%
U.S. Small-Cap Stocks: 1.0% U.S. Bonds: 0.8% 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: 56.2% International Stocks: 36.9% Developed Real Estate: 4.7%
U.S. Small-Cap Stocks: 1.0% U.S. Bonds: 1.0% 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: 56.2% International Stocks: 37.0% Developed Real Estate: 4.7%
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: 60.0% Certificate of Deposit: 12.7%
Asset-Backed Commercial Paper: 9.9% Non-Negotiable Time Deposit: 8.2%
U.S. Government Agency Repurchase Agreement: 5.8% Financial Company Commercial Paper: 2.2%
U.S. Treasury Repurchase Agreement: 0.8% Non-Financial Company Commercial Paper: 0.4%

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: 27.4% Asset-Backed: 18.1% Agency MBS: 17.1% U.S. Treasury/Agency: 14.8% Cash/Equivalents: 6.8%
CMBS: 6.8% Taxable Municipals: 4.8% Other U.S. Government: 3.6% Non-Agency MBS: 0.6%

Bond Fund: Seeks to track the performance of the Bloomberg 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: 40.9% Mortgages: 27.9% Industrials: 14.0% Financials: 7.9% Non-U.S. Credit: 3.3% CMBS: 2.0%
Utilities: 2.0% Agencies: 1.0% Taxable Municipals: 0.6% Asset-Backed Securities: 0.3% Cash: 0.1%

Inflation-Protected Bond Fund: Seeks to track the performance of the Bloomberg 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: 99.2% Cash: 0.8%

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.

Consumer Cyclical: 22.5% Consumer Non-Cyclical: 20.3% Communications: 19.1%
Energy: 10.7% Capital Goods: 9.3% Technology: 5.8% Basic Industry: 4.0%
Finance: 2.9% Transportation: 1.7% Other/Cash: 1.6% Other Industrial: 1.2% Utilities: 0.9%

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: 26.8% Health Care: 15.1% Financials: 10.8%
Consumer Discretionary: 10.5% Communication Services: 8.9% Industrials: 7.8% Consumer Staples: 7.0%
Energy: 4.4% Utilities: 3.1% Real Estate: 2.9% Materials: 2.6%

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.

Industrials: 16.9% Financials: 16.0% Information Technology: 14.7% Health Care: 13.0%
Consumer Discretionary: 11.1% Real Estate: 8.8% Materials: 5.6%
Energy: 4.5% Consumer Staples: 3.4% Utilities: 3.2% Communication Services: 2.8%

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: 19.0% Industrials: 12.9% Consumer Discretionary: 11.7%
Information Technology: 11.0% Health Care: 9.4% Consumer Staples: 8.6% Materials: 8.5%
Communication Services: 6.1% Energy: 5.7% Real Estate: 3.6% Utilities: 3.4%

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.

Specialized REITs: 15.4% Retail REITs: 15.2% Residential REITs: 14.7% Industrial REITs: 13.7%
Office REITs: 9.0% Real Estate Operating Companies: 8.1% Health Care REITs: 7.8% Diversified REITs: 7.5%
Diversified Real Estate Activities: 5.1% Hotel & Resort REITs: 2.4%
Real Estate Development: 1.2%

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: 30.5% Private Equity: 18.8% Fixed Income: 13.1% Credit Strategies: 14.3%
Real Assets: 14.9% MAPS: 3.6% PIP: 2.6% EMP: 1.3% Cash: 1.0%

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, 2022

(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 %	Total Annual Operating Expenses Per $1,000
Retirement Portfolio	**08/01/05**	**(11.69)%**	**2.77%**	**3.93%**	**4.57%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(11.68)%	2.72%	3.89%	4.52%		
Target Date 2025 Portfolio	**07/05/06**	**(12.10)%**	**3.48%**	**4.75%**	**5.99%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(12.11)%	3.42%	4.69%	5.93%		
Target Date 2030 Portfolio	**08/01/05**	**(12.88)%**	**4.21%**	**5.40%**	**6.70%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(12.92)%	4.14%	5.33%	6.61%		
Target Date 2035 Portfolio	**07/05/06**	**(13.64)%**	**4.90%**	**6.03%**	**7.34%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(13.71)%	4.81%	5.93%	7.24%		
Target Date 2040 Portfolio	**08/01/05**	**(14.42)%**	**5.47%**	**6.54%**	**7.90%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(14.51)%	5.36%	6.43%	7.78%		
Target Date 2045 Portfolio	**07/05/06**	**(15.12)%**	**5.93%**	**6.92%**	**8.34%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(15.25)%	5.80%	6.78%	8.20%		
Target Date 2050 Portfolio	**09/30/07**	**(15.57)%**	**6.13%**	**7.07%**	**8.60%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(15.72)%	6.00%	6.93%	8.46%		
Target Date 2055 Portfolio	**05/19/10**	**(15.68)%**	**6.15%**	**7.08%**	**8.75%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(15.86)%	6.02%	6.94%	8.61%		
Target Date 2060 Portfolio	**11/17/14**	**(15.69)%**	**6.41%**	**7.07%**	**6.74%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(15.86)%	6.02%	6.94%	6.58%		
Target Date 2065 Portfolio	**09/23/19**	**(15.71)%**	**N/A**	**N/A**	**6.19%**	**0.08%**	**$0.80**
Custom Benchmark[1]		(15.88)%	N/A	N/A	6.16%		

(Continued)

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

HELP-ME-DO-IT PATH: INDIVIDUAL OPTIONS

Investment Options	Inception Date	1 Year	3 Years	5 Years	10 Years or Since Inception	Total Annual Operating Expenses As a %	Total Annual Operating Expenses Per $1,000
Money Market Fund	**11/01/99**	**0.37%**	**0.73%**	**1.26%**	**0.74%**	**0.08%**	**$0.80**
Benchmark: FTSE 3-Month Treasury Bill Index							
Yield as of June 30, 2022, was 1.73%		0.19%	0.61%	1.09%	0.62%		
Stable Value Fund	**02/01/95**	**1.47%**	**1.93%**	**2.03%**	**1.87%**	**0.23%**	**$2.30**
Custom Benchmark[2]							
Yield as of June 30, 2022, was 1.54%		1.59%	1.14%	1.69%	1.50%		
Bond Fund	**11/01/99**	**(10.22)%**	**(0.89)%**	**0.92%**	**1.61%**	**0.03%**	**$0.30**
Benchmark: Bloomberg U.S. Aggregate Bond Index		(10.29)%	(0.93)%	0.88%	1.54%		
Inflation-Protected Bond Fund	**07/30/02**	**(5.17)%**	**3.11%**	**3.30%**	**1.81%**	**0.03%**	**$0.30**
Benchmark: Bloomberg U.S. Treasury Inflation-Protected Securities Index		(5.14)%	3.04%	3.21%	1.73%		
High-Yield Bond Fund	**05/31/04**	**(11.17)%**	**0.92%**	**2.75%**	**4.75%**	**0.39%**	**$3.90**
Benchmark: ICE BofA U.S. High-Yield BB-B Constrained Index		(12.20)%	0.04%	2.07%	4.34%		
Stock Fund	**11/01/99**	**(10.61)%**	**10.64%**	**11.35%**	**12.99%**	**0.01%**	**$0.10**
Benchmark: S&P 500 Index		(10.62)%	10.60%	11.31%	12.96%		
Small/Mid-Cap Stock Fund	**11/01/99**	**(20.93)%**	**5.96%**	**7.08%**	**10.57%**	**0.02%**	**$0.20**
Benchmark: Russell 2500 Index[3]		(21.00)%	5.91%	7.04%	10.49%		
International Stock Fund	**11/01/99**	**(19.40)%**	**1.89%**	**2.82%**	**5.66%**	**0.06%**	**$0.60**
Benchmark: MSCI ACWI ex-U.S. IMI Index[4]		(19.86)%	1.55%	2.50%	5.36%		
Global Real Estate Fund	**10/01/02**	**(12.75)%**	**(0.30)%**	**2.72%**	**5.46%**	**0.08%**	**$0.80**
Benchmark: FTSE EPRA/NAREIT Developed Index[5]		(13.44)%	(1.07)%	1.95%	4.69%		
VRS Investment Portfolio (VRSIP)	**07/01/08**	**0.65%**	**9.16%**	**8.34%**	**8.73%**	**0.59%**	**$5.90**
VRS Custom Benchmark[6]		(5.52)%	6.14%	6.59%	7.54%		

[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 Net Dividend Return Index, Bloomberg U.S. Long Credit Bond Index, Bloomberg U.S. Intermediate Credit Bond Index, Bloomberg U.S. Long Government Bond Index, Bloomberg U.S. Intermediate Government Bond Index, Bloomberg U.S Securitized: MBS, ABS, and CMBS Index, Bloomberg U.S Treasury Inflation Protection Securities(TIPS) Index (Series L), 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.

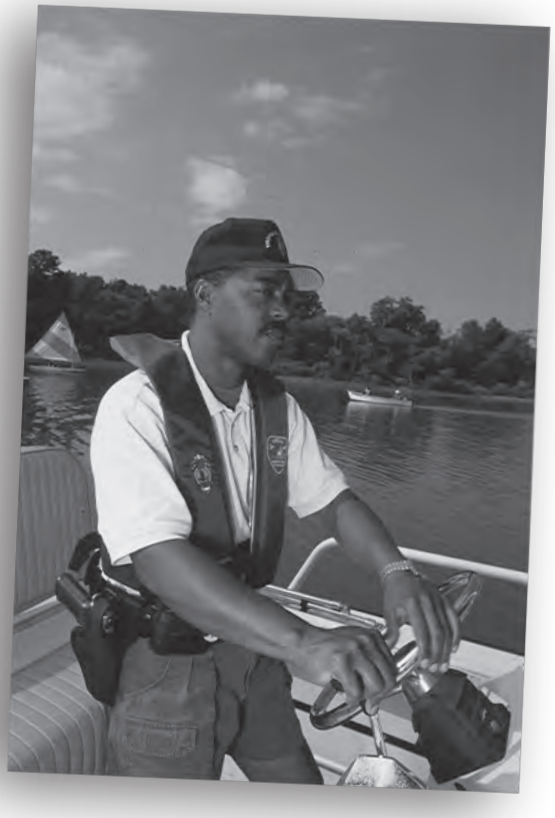
[5] Effective July 2012, the performance benchmark is the FTSE EPRA/NAREIT Developed Index. Prior to July 2012, the performance benchmark was the Dow Jones U.S. Select REIT Index. The benchmark returns are linked.

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

Virginia Retirement System
80
YEARS
Since 1942

80 Years of Serving
Those Who Serve Others

Actuarial Section



Actuarial Section

Pension Trust Funds:
- Actuary's Certification Letter: Pension Plans
- Summary of Actuarial Assumptions and Methods: Pension Plans
- Solvency Test: Pension Plans
- Solvency Test: VRS Pension Plans
- Schedule of Funding (Actuarial Value Basis): All Pension Plans
- Schedule of Funding (Actuarial Value Basis): VRS Pension Plans
- Schedule of Active Member Valuation Data: Pension Plans
- Schedule of Active Member Valuation Data: VRS Pension Plans
- Schedule of Retiree and Beneficiary Valuation Data: Pension Plans
- Schedule of Retiree and Beneficiary Valuation Data: VRS Pension Plans
- Actuarial Assumptions and Methods
- Additional Information About Actuarial Assumptions and Methods: Pension Plans
- Summary of Pension Plan Provisions
- Summary of Pension Plan Changes

Other Post-Employment Benefit (OPEB) Plan Funds:
- Actuary's Certification Letter: OPEB Plans
- Actuary's Certification Letter: OPEB Plans – Line of Duty Act Fund
- Summary of Actuarial Assumptions and Methods: OPEB Plans
- Solvency Test: OPEB Plans
- Schedule of Active Member Valuation Data: OPEB Plans
- Schedule of Retiree and Beneficiary Valuation Data: OPEB Plans
- Additional Information About Actuarial Assumptions and Methods: OPEB Plans
- Summary of OPEB Plan Provisions
- Summary of OPEB Plan Changes

Actuary's Certification Letter: Pension Plans

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

January 18, 2022

The 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, 2021.

- 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, 2021. 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, 2021 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. 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.

	Fiscal Years 2021/2022	Informational Only	Fiscal Years 2023/2024			
			Before Assumption Changes	After Assumption Changes		
	Board & General Assembly Approved	Total Employer Rate for Retirement Plans	Total Employer Rate for Retirement Plans	Actuarially Determined Employer Rate for Defined Benefit Plan	Employer Rate for Hybrid DC Component	Total Employer Rate for Retirement Plans
System	2019 Valuation	2020 Valuation	2021 Valuation			
State	14.46%	14.57%	13.24%	13.07%	1.06%	14.13%
Teachers	16.62%	16.65%	14.42%	13.95%	0.81%	14.76%
SPORS	26.33%	26.72%	25.82%	29.98%	N/A	29.98%
VaLORS	21.90%	22.13%	21.99%	24.60%	N/A	24.60%
Judicial	29.84%	29.24%	25.25%	28.81%	1.86%	30.67%
Political Subdivisions (Average Rates)	8.33%	8.42%	7.23%	7.97%	0.82%	8.79%

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. As of June 30, 2021, the Teachers balance has been paid in full. 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 22-year period and changes in the unfunded accrued liability since June 30, 2013 are amortized over layered 20-year closed periods. 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 *Annual Comprehensive 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.

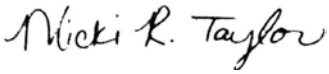
We note that as we are preparing this report, the world is in the midst of a pandemic. We have considered available information but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise the Board in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

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



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

Alisa Bennett, FSA, EA, FCA, MAAA
President

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, 2021, 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, 2016, through June 30, 2020, and were used for the June 30, 2021, valuation.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS: PENSION PLANS

	2011-2012	2013	2014-2016	2017	2018	2019	2020	2021
Investment Rate of Return	7.00%	7.00%	7.00%	7.00%	7.00%	6.75%	6.75%	6.75%
Inflation Assumption	2.50%	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%	2.50%
Plan 2	0.0225	2.25%	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%	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	Entry Age Normal
Change in Decremental Assumptions	No	Yes	No	Yes	No	No	No	No
Value of Ancillary Benefits Included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Value of Post-Retirement Adjustments to Date Included	Yes	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	5-Year Smoothed Market

SOLVENCY TEST: PENSION PLANS

(EXPRESSED IN THOUSANDS)

Valuation Date (June 30)	Aggregate Accrued Liabilities for (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members*	Valuation Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)
VIRGINIA RETIREMENT SYSTEM (VRS)							
2021	$ 14,452,659	$ 64,528,079	$ 27,662,643	$ 85,027,965	100.00%	100.00%	21.86%
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%
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)							
2021	$ 106,923	$ 782,487	$ 437,236	$ 937,332	100.00%	100.00%	10.96%
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%	—%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)							
2021	$ 251,678	$ 1,640,876	$ 514,599	$ 1,668,802	100.00%	86.36%	—%
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%	—%
JUDICIAL RETIREMENT SYSTEM (JRS)							
2021	$ 42,082	$ 498,777	$ 192,549	$ 600,670	100.00%	100.00%	31.06%
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%	—%

** 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 (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members*	Valuation Assets	Portion of Accrued Liabilities (1)	(2)	(3)
			VRS – STATE				
2021	$ 3,566,175	$ 17,161,682	$ 6,000,114	$20,615,301	100.00%	99.34%	—%
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%	—%
			VRS – TEACHER				
2021	$ 7,036,408	$ 31,496,785	$ 14,214,403	$40,725,782	100.00%	100.00%	15.43%
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%	—%
			VRS – POLITICAL SUBDIVISIONS				
2021	$ 3,850,076	$ 15,869,613	$ 7,448,126	$23,686,882	100.00%	100.00%	53.26%
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%
			VRS – TOTAL				
2021	$ 14,452,659	$ 64,528,080	$ 27,662,643	$85,027,965	100.00%	100.00%	21.86%
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%

** 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 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) **						
2021*	$ 85,027,965	$ 106,643,382	$ 21,615,417	79.7%	$ 19,060,681	113.4%
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%
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)						
2021*	$ 937,332	$ 1,326,646	$ 389,314	70.7%	$ 142,795	272.6%
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%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)						
2021*	$ 1,668,802	$ 2,407,153	$ 738,351	69.3%	$ 351,086	210.3%
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%
JUDICIAL RETIREMENT SYSTEM (JRS)						
2021*	$ 600,670	$ 733,408	$ 132,738	81.9%	$ 79,125	167.8%
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%

** 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						
2021*	$ 20,615,301	$ 26,727,971	$ 6,112,670	77.1%	$ 4,594,347	133.0%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER						
2021*	$ 40,725,782	$ 52,747,596	$ 12,021,814	77.2%	$ 8,971,605	134.0%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS						
2021*	$ 23,686,882	$ 27,167,815	$ 3,480,933	87.2%	$ 5,494,729	63.4%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – TOTAL						
2021*	$ 85,027,965	$ 106,643,382	$ 21,615,417	79.7%	$ 19,060,681	113.4%
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%

** Revised economic and demographic assumptions due to experience study.*

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: PENSION PLANS

Valuation Date (June 30)	Active Members: Number	Annual Payroll (000s)	Average Annual Pay	Annualized % Change in Average Pay	Number of Employers
VIRGINIA RETIREMENT SYSTEM (VRS)					
2021	332,092	$ 19,060,681	$ 57,396	5.4%	608
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
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)					
2021	1,947	$ 142,795	$ 73,341	7.5%	1
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
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)					
2021	7,823	$ 351,086	$ 44,879	5.5%	1
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
JUDICIAL RETIREMENT SYSTEM (JRS)					
2021	453	$ 79,125	$ 174,669	4.9%	1
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	0.0%	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

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			
2021	73,686	$ 4,594,347	$ 62,350	5.7%	1
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
		VRS – TEACHER			
2021	149,793	$ 8,971,605	$ 59,893	1.3%	144
2020	150,681	8,911,307	59,140	2.6%	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
		VRS – POLITICAL SUBDIVISIONS			
2021	108,613	$ 5,494,729	$ 50,590	3.7%	463
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
		VRS – TOTAL			
2021	332,092	$ 19,060,681	$ 57,396	5.4%	608
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

SCHEDULE OF RETIREE AND BENEFICIARY VALUATION DATA: PENSION PLANS

Valuation Date (June 30)	Retirees and Beneficiaries: Added to Rolls Number	Added to Rolls Allowances*	Removed From Rolls Number	Removed From Rolls Allowances	Rolls at End of Year Number	Rolls at End of Year Allowances	Annualized % Increase in Annual Allowances	Average Annual Allowance
VIRGINIA RETIREMENT SYSTEM (VRS)								
2021	13,241	$ 365,278,000	6,924	$ 146,446,000	222,378	$ 5,264,742,000	4.3%	$ 23,675
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
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)								
2021	110	$ 6,238,000	37	$ 1,357,000	1,554	$ 68,652,000	7.7%	$ 44,178
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
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)								
2021	366	$ 11,321,000	117	$ 3,129,000	5,510	$ 124,807,000	7.0%	$ 22,651
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
JUDICIAL RETIREMENT SYSTEM (JRS)								
2021	35	$ 3,101,000	27	$ 2,116,000	561	$ 46,397,000	2.2%	$ 82,704
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

** 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								
2021	3,318	$ 98,283,000	2,286	$ 50,665,000	61,101	$ 1,472,727,000	3.3%	$ 24,103
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
VRS – TEACHER								
2021	5,631	$ 160,425,000	2,494	$ 63,379,000	100,540	$ 2,562,291,000	3.9%	$ 25,485
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
VRS – POLITICAL SUBDIVISIONS								
2021	4,292	$ 106,570,000	2,144	$ 32,402,000	60,737	$ 1,229,724,000	6.4%	$ 20,247
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
VRS – TOTAL								
2021	13,241	$ 365,278,000	6,924	$ 146,446,000	222,378	$ 5,264,742,000	4.3%	$ 23,675
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	234,416,000	4,011	65,755,000	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

** 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, 2021

(EXPRESSED IN THOUSANDS)

	VRS	SPORS	VaLORS	JRS	Total
A. Calculation of Expected Unfunded Actuarial Accrued Liability (UAAL)					
1. UAAL as of June 30, 2020	$ 23,133,534	$ 325,590	$ 712,025	$ 111,633	$ 24,282,782
2. Normal Cost for Previous Year	1,842,478	20,648	44,596	18,113	1,925,835
3. Actual Contributions During the Year	(3,500,687)	(39,745)	(93,074)	(24,381)	(3,657,887)
4. Interest at Previous Year's Rate of 6.75%					
a. On UAAL	1,561,514	21,977	48,062	7,535	1,639,088
b. On Normal Cost	124,367	1,394	3,010	1,223	129,994
c. On contributions	(118,148)	(1,341)	(3,141)	(823)	(123,453)
d. Total	**1,567,733**	**22,030**	**47,931**	**7,935**	**1,645,629**
5. Expected UAAL as of June 30, 2021 (A1+A2+A3+A4)	23,043,058	328,523	711,478	113,300	24,196,359
6. Actual UAAL as of June 30, 2021	21,615,417	389,314	738,351	132,738	22,875,820
7. Total Gain/(Loss) (A5-A6)	**1,427,641**	**(60,791)**	**(26,873)**	**(19,438)**	**1,320,539**
B. Calculation of Asset Gain/(Loss)					
1. Actuarial Value of Assets (AVA) as of June 30, 2020	78,759,722	880,834	1,546,528	566,239	81,753,323
2. Contributions During the Year	3,500,687	39,745	93,074	24,381	3,657,887
3. Benefit Payments During the Year	(5,387,167)	(73,498)	(129,836)	(47,885)	(5,638,386)
4. Interest at Previous Year's Rate of 6.75%					
a. On AVA at Beginning of Year	5,316,281	59,456	104,391	38,221	5,518,349
b. On Contributions	118,148	1,341	3,141	823	123,453
c. On Benefit Payments	(181,817)	(2,481)	(4,382)	(1,616)	(190,296)
d. Total	**5,252,612**	**58,316**	**103,150**	**37,428**	**5,451,506**
5. Expected AVA as of June 30, 2021 (B1+B2+B3+B4)	82,125,854	905,397	1,612,916	580,163	85,224,330
6. Actual AVA as of June 30, 2021	85,027,965	937,332	1,668,802	600,670	88,234,769
7. Total Gain/(Loss) on Assets (B6-B5)	**2,902,111**	**31,935**	**55,886**	**20,507**	**3,010,439**
C. Calculation of Liability Gain/(Loss)					
1. Gain/(Loss) Due to Changes in Actuarial Assumptions	(5,078)	—	—	—	(5,078)
2. Gain/(Loss) Due to Plan Amendments	(2,221,866)	(59,081)	(67,931)	(51,439)	(2,400,317)
3. Gain/(Loss) Due to Change in Asset Method	—	—	—	—	—
4. Liability Experience Gain/(Loss) (A7-B7-C1-C2-C3)	**$ 752,474**	**$ (33,645)**	**$ (14,828)**	**$ 11,494**	**$ 715,495**

FIGURE 4.2: ANALYSIS OF ACTUARIAL GAINS AND LOSSES – VRS PENSION PLANS

FOR THE YEAR ENDED JUNE 30, 2021

(EXPRESSED IN THOUSANDS)

	State	Teacher	Political Subdivisions	Total
A. Calculation of Expected Unfunded Actuarial Accrued Liability (UAAL)				
1. UAAL as of June 30, 2020	$ 6,417,661	$ 13,278,662	$ 3,437,211	$ 23,133,534
2. Normal Cost for Previous Year	379,113	888,914	574,451	1,842,478
3. Actual Contributions During the Year	(803,203)	(1,873,018)	(824,466)	(3,500,687)
4. Interest at Previous Year's Rate of 6.75%				
a. On UAAL	433,192	896,310	232,012	1,561,514
b. On Normal Cost	25,590	60,002	38,775	124,367
c. On Contributions	(27,108)	(63,214)	(27,826)	(118,148)
d. Total	**431,674**	**893,098**	**242,961**	**1,567,733**
5. Expected UAAL as of June 30, 2021 (A1+A2+A3+A4)	6,425,245	13,187,656	3,430,157	23,043,058
6. Actual UAAL as of June 30, 2021	6,112,670	12,021,814	3,480,933	21,615,417
7. Total Gain/(Loss) (A5-A6)	**312,575**	**1,165,842**	**(50,776)**	**1,427,641**
B. Calculation of Asset Gain/(Loss)				
1. Actuarial Value of Assets (AVA) as of June 30, 2020	19,333,674	37,556,121	21,869,927	78,759,722
2. Contributions During the Year	803,203	1,873,018	824,466	3,500,687
3. Benefit Payments During the Year	(1,516,016)	(2,591,617)	(1,279,534)	(5,387,167)
4. Interest at Previous Year's Rate of 6.75%				
a. On AVA at Beginning of Year	1,305,023	2,535,038	1,476,220	5,316,281
b. On Contributions	27,108	63,214	27,826	118,148
c. On Benefit Payments	(51,166)	(87,467)	(43,184)	(181,817)
d. Total	**1,280,965**	**2,510,785**	**1,460,862**	**5,252,612**
5. Expected AVA as of June 30, 2021 (B1+B2+B3+B4)	19,901,826	39,348,307	22,875,721	82,125,854
6. Actual AVA as of June 30, 2021	20,615,301	40,725,782	23,686,882	85,027,965
7. Total Gain/(Loss) on Assets (B6-B5)	**713,475**	**1,377,475**	**811,161**	**2,902,111**
C. Calculation of Liability Gain/(Loss)				
1. Gain/(Loss) Due to Changes in Actuarial Assumptions	—	—	(5,078)	(5,078)
2. Gain/(Loss) Due to Plan Amendments	(401,835)	(876,190)	(943,841)	(2,221,866)
3. Gain/(Loss) Due to Change in Asset Method	—	—	—	—
4. Liability Experience Gain/(Loss) (A7-B7-C1-C2-C3)	**$ 935**	**$ 664,557**	**$ 86,982**	**$ 752,474**

Actuarial Assumptions and Methods

On April 26, 2021, 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, 2016, through June 30, 2020, and were used for the June 30, 2021, valuation.

ACTUARIAL ASSUMPTIONS AND METHODS: PENSION PLANS

FOR THE JUNE 30, 2021, 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: Pub-2010 Amount Weighted General Employee Rates projected generationally:

- State – Females set forward 2 years
- Teachers – Males 110% of rates
- State Police – Males 95% of rates, females 105% of rates set forward 2 years
- VaLORS – Males 95% of rates, females 105% of rates set forward 2 years
- Judicial – Males set forward 2 years
- Political subdivisions, non-hazardous duty – Males set forward 2 years, females 105% of rates set forward 3 years
- Political subdivisions, hazardous duty – Males 95% of rates, females 105% of rates set forward 2 years

Post-Retirement: Pub-2010 Amount Weighted General Healthy Retiree Rates projected generationally:

- State – Females 110% of rates
- Teachers – Males set forward 1 year, females 105% of rates
- State Police – Males 110% of rates, females 105% of rates set forward 3 years
- VaLORS – Males 110% of rates, females 105% of rates set forward 3 years
- Judicial – Males 95% of rates, females set back 2 years
- Political subdivisions, non-hazardous duty – Males 95% of rates set forward 2 years, females 95% of rates set forward 1 year
- Political subdivisions, hazardous duty – Males 110% of rates, females 105% of rates set forward 3 years

Post-Disablement: Pub-2010 Amount Weighted General Disabled Rates projected generationally:

- State – Males and females set forward 3 years
- Teachers – Males and females 110% of rates
- State Police – Males 95% of rates set back 3 years, Females 90% of rates set back 3 years
- VaLORS – Males 95% of rates set back 3 years, Females 90% of rates set back 3 years
- Political subdivisions, non-hazardous duty – Males 110% of rates set forward 3 years, females 110% of rates set forward 2 years
- Political subdivisions, hazardous duty – Males 95% of rates set back 3 years, Females 90% of rates set back 3 years:

Beneficiaries and Survivors: Pub-2010 Amount Weighted General Contingent Annuitant Rates projected generationally:

- State – 110% of rates for males and females
- State Police – Males 110% of rates, Females set forward 2 years
- VaLORS – Males 110% of rates, Females set forward 2 years
- Political subdivisions, hazardous duty – Males 110% of rates, Females set forward 2 years

Mortality Improvement: Rates projected generationally with Modified MP-2020 Improvement Scale that is 75% of the MP-2020 rates

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%
≥80	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%	12.00%	16.00%
62	10.00%	12.00%	12.00%	12.00%	22.50%	20.00%
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%	27.00%	27.00%	27.00%	27.00%	27.00%
≥80	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	8.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
62	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
64	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
≥80	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	8.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
62	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
64	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
≥80	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%	2.50%	2.50%	15.00%	15.00%
55	7.00%	7.00%	7.00%	5.00%	22.50%	15.00%
59	10.00%	7.00%	7.00%	7.00%	22.50%	15.00%
60	10.00%	7.50%	7.50%	7.50%	22.50%	17.00%
61	11.00%	12.00%	12.00%	12.00%	35.00%	23.00%
62	17.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	18.00%	15.00%	15.00%	15.00%	35.00%	25.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	34.00%
67	30.00%	34.00%	34.00%	34.00%	34.00%	34.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
≥80	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%	15.00%	15.00%
55	4.50%	4.50%	4.50%	5.00%	22.50%	16.00%
59	8.00%	7.00%	7.00%	7.00%	22.50%	17.00%
60	9.00%	8.50%	0.09%	8.50%	30.00%	20.00%
61	25.00%	11.00%	11.00%	11.00%	30.00%	25.00%
62	25.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	25.00%	20.00%	20.00%	20.00%	35.00%	28.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	40.00%
67	30.00%	32.00%	32.00%	32.00%	32.00%	32.00%
70	30.00%	32.00%	32.00%	32.00%	32.00%	32.00%
≥80	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%	9.00%	9.00%
55	0.00%	0.00%	0.00%	9.00%	9.00%	9.00%	9.00%
59	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
61	14.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
64	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
≥80	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%	9.00%	9.00%
55	0.00%	0.00%	0.00%	9.00%	9.00%	9.00%	9.00%
59	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
61	14.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
64	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
≥80	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

	Male					Female				
	Years of Service					Years of Service				
Age	5	10	11-29	30	≥31	5	10	11-29	30	≥31
50	0.00%	6.50%	6.50%	10.00%	10.00%	0.00%	5.00%	5.00%	16.00%	16.00%
55	6.50%	6.50%	5.00%	10.00%	9.00%	7.00%	7.00%	5.00%	22.00%	15.00%
59	6.50%	4.00%	4.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
60	6.50%	6.00%	6.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
61	6.50%	9.00%	9.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
62	6.50%	9.00%	9.00%	25.00%	22.00%	10.50%	13.00%	13.00%	34.50%	25.00%
64	6.50%	15.00%	15.00%	25.00%	22.50%	10.50%	17.00%	17.00%	24.00%	27.50%
65	25.00%	25.00%	25.00%	25.00%	27.00%	28.00%	28.00%	28.00%	28.00%	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%	20.00%	20.00%	20.00%	20.00%	15.00%	27.50%	27.50%	27.50%	27.50%
≥80	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

	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	20.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
64	10.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
65	25.00%	25.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥80	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.

	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	20.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
64	10.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
65	25.00%	25.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
≥80	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

	Male					Female				
	Years of Service					Years of Service				
Age	5	10	11-29	30	≥31	5	10	11-29	30	≥31
50	0.00%	6.00%	6.00%	15.00%	15.00%	0.00%	5.00%	5.00%	10.00%	10.00%
55	10.00%	10.00%	6.00%	15.00%	11.00%	7.00%	7.00%	6.00%	12.00%	10.00%
59	10.00%	5.50%	5.50%	16.00%	10.00%	6.00%	5.50%	5.50%	10.00%	10.00%
60	10.00%	5.00%	5.00%	16.00%	12.00%	6.00%	6.50%	6.50%	15.00%	10.00%
61	10.00%	8.50%	8.50%	16.00%	16.00%	6.00%	9.50%	9.50%	20.00%	16.50%
62	10.00%	15.00%	15.00%	27.00%	22.00%	6.00%	14.50%	14.50%	20.00%	20.00%
64	10.00%	15.00%	15.00%	27.00%	18.00%	6.00%	14.50%	14.50%	35.00%	20.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	28.00%	28.00%	28.00%	28.00%	35.00%
67	30.00%	22.00%	22.00%	22.00%	22.00%	28.00%	22.00%	22.00%	22.00%	22.00%
70	30.00%	22.00%	22.00%	22.00%	22.00%	28.00%	22.00%	22.00%	22.00%	22.00%
≥80	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	10.00%	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	11.00%	9.00%	11.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
62	15.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
64	13.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	22.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
70	16.00%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
≥80	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%	8.00%	8.00%
55	0.00%	0.00%	0.00%	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%
59	0.00%	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	11.00%	9.00%	11.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
62	15.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
64	13.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	22.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
70	16.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
≥80	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

	Male				Female			
	Years of Service				Years of Service			
Age	5	6-24	25	≥26	5	6-24	25	≥26
50	6.50%	6.50%	20.00%	20.00%	6.00%	6.00%	25.00%	25.00%
55	6.50%	6.00%	25.00%	24.00%	6.00%	7.50%	25.00%	40.00%
59	6.50%	10.00%	21.00%	20.00%	6.00%	14.00%	25.00%	25.00%
60	21.00%	21.00%	21.00%	23.00%	15.00%	15.00%	15.00%	25.00%
61	37.50%	23.00%	23.00%	23.00%	15.00%	15.00%	15.00%	15.00%
62	37.50%	27.00%	27.00%	27.00%	15.00%	15.00%	15.00%	15.00%
63	37.50%	27.00%	27.00%	27.00%	15.00%	15.00%	15.00%	15.00%
64	37.50%	27.00%	27.00%	27.00%	15.00%	30.00%	30.00%	30.00%
≥70	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

	Male				Female			
	Years of Service				Years of Service			
Age	5	6-24	25	≥26	5	6-24	25	≥26
50	9.00%	9.00%	27.50%	27.50%	6.00%	6.00%	30.00%	30.00%
55	7.00%	7.50%	20.00%	20.00%	10.00%	9.00%	20.00%	30.00%
59	7.00%	12.00%	20.00%	24.00%	10.00%	12.00%	20.00%	25.00%
60	15.00%	15.00%	15.00%	24.00%	15.00%	15.00%	15.00%	25.00%
61	20.00%	24.00%	24.00%	24.00%	15.00%	25.00%	25.00%	25.00%
62	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
63	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
64	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
≥70	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

State Police Officers – All Plans

	Years of Service	
Age	5-24	≥25
50	10.00%	10.00%
55	6.00%	10.00%
59	10.00%	10.00%
60	10.00%	10.00%
≥70	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	15.00%	15.00%	45.00%	45.00%
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%	30.00%
≥70	100.00%	100.00%	100.00%	100.00%
	Years of Service – Female			
Age	5	6-24	25	≥26
50	15.00%	15.00%	37.50%	37.50%
55	10.00%	9.00%	25.00%	30.00%
59	10.00%	13.00%	30.00%	20.00%
60	20.00%	20.00%	20.00%	20.00%
≥70	100.00%	100.00%	100.00%	100.00%

Judges – All Plans

Age	Rate
60	10.00%
65	10.00%
70	25.00%
≥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	23.974%	21.579%	19.409%	17.424%	15.524%	13.693%	11.975%	10.595%	9.746%	9.732%	10.701%
35	17.716%	15.218%	13.247%	11.805%	10.829%	10.087%	9.383%	8.541%	7.535%	6.447%	5.388%
45	15.975%	11.918%	9.302%	7.949%	7.467%	7.461%	7.339%	6.905%	6.126%	4.945%	3.331%
55	15.197%	11.087%	8.483%	7.159%	6.658%	6.381%	6.149%	5.872%	5.613%	5.509%	5.439%
65	15.304%	13.450%	12.193%	11.472%	11.037%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	≥10
25	27.376%	26.249%	24.118%	21.199%	18.029%	15.160%	13.004%	11.112%	9.997%	10.375%	12.876%
35	20.766%	17.777%	15.365%	13.514%	12.123%	10.996%	9.994%	9.070%	8.104%	7.066%	5.980%
45	18.340%	13.974%	10.951%	9.110%	8.142%	7.776%	7.634%	7.404%	6.888%	5.803%	4.010%
55	16.001%	12.044%	9.383%	7.856%	7.120%	6.731%	6.491%	6.383%	6.463%	6.942%	7.765%
65	14.142%	12.453%	11.513%	11.187%	11.326%	—%	—%	—%	—%	—%	—%

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	19.207%	16.728%	14.515%	12.651%	11.200%	10.027%	8.948%	7.865%	7.114%	7.386%	8.326%
35	16.839%	14.734%	13.071%	11.712%	10.510%	9.374%	8.315%	7.322%	6.329%	5.217%	4.003%
45	18.182%	15.046%	12.547%	10.682%	9.330%	8.397%	7.608%	6.863%	5.924%	4.581%	2.657%
55	21.008%	16.464%	12.933%	10.382%	8.670%	7.536%	6.833%	6.318%	5.973%	5.790%	2.260%
65	24.063%	18.847%	14.805%	11.831%	9.792%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	≥10
25	18.376%	15.481%	13.758%	12.581%	11.260%	10.133%	9.186%	8.253%	6.911%	6.524%	7.704%
35	17.757%	15.500%	13.863%	12.610%	11.452%	10.307%	9.292%	8.399%	7.473%	6.273%	4.807%
45	15.616%	13.289%	11.458%	10.011%	8.846%	7.999%	7.497%	7.203%	6.668%	5.362%	2.476%
55	15.060%	12.499%	10.614%	9.285%	8.348%	7.597%	6.925%	6.342%	6.066%	6.295%	2.476%
65	18.831%	16.489%	14.798%	13.739%	13.130%	—%	—%	—%	—%	—%	—%

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	28.989%	27.432%	26.526%	26.242%	26.375%	26.558%	26.297%	25.458%	23.734%	20.701%	15.866%
35	21.415%	19.378%	17.963%	17.076%	16.538%	16.121%	15.615%	14.808%	13.573%	11.801%	9.397%
45	17.894%	15.267%	13.230%	11.737%	10.675%	9.865%	9.232%	8.627%	7.933%	7.192%	5.296%
55	16.167%	13.384%	11.115%	9.363%	8.092%	7.311%	6.800%	6.512%	6.387%	6.264%	4.605%
65	14.654%	12.546%	10.779%	9.372%	8.367%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	≥10
25	26.948%	24.864%	23.870%	23.584%	23.500%	23.043%	22.383%	21.351%	19.968%	18.230%	16.241%
35	21.697%	18.644%	16.712%	15.790%	15.565%	15.609%	15.458%	14.802%	13.451%	11.314%	8.392%
45	19.315%	15.196%	12.534%	11.170%	10.742%	10.776%	10.785%	10.381%	9.325%	7.535%	4.936%
55	17.544%	13.552%	10.836%	9.258%	8.536%	8.303%	8.149%	7.885%	7.414%	6.668%	5.673%
65	15.252%	12.880%	11.016%	9.645%	8.728%	—%	—%	—%	—%	—%	—%

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	34.582%	30.879%	27.971%	25.872%	24.501%	23.668%	22.856%	21.758%	20.423%	18.923%	17.160%
35	26.103%	23.300%	21.169%	19.604%	18.413%	17.401%	16.467%	15.478%	14.272%	12.727%	10.921%
45	21.691%	18.002%	15.364%	13.656%	12.626%	11.997%	11.521%	11.013%	10.332%	9.373%	7.933%
55	18.678%	14.934%	12.243%	10.520%	9.586%	9.185%	9.042%	9.022%	9.123%	9.336%	9.555%
65	16.801%	14.540%	12.836%	11.667%	10.985%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	≥10
25	32.508%	30.131%	27.509%	24.836%	22.591%	21.199%	20.768%	20.326%	19.626%	18.741%	17.582%
35	25.792%	22.474%	20.062%	18.479%	17.509%	16.848%	16.228%	15.456%	14.215%	12.254%	9.510%
45	21.851%	18.237%	15.746%	14.201%	13.248%	12.573%	11.969%	11.310%	10.459%	9.194%	7.283%
55	18.709%	15.590%	13.351%	11.857%	10.862%	10.068%	9.333%	8.825%	8.825%	8.825%	8.825%
65	17.656%	15.223%	13.387%	12.121%	11.334%	—%	—%	—%	—%	—%	—%

FIGURE 4.5: TERMINATION RATES – PENSION 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	5.500%	7.000%
1	4.000%	7.000%
2	4.000%	7.000%
3	4.000%	5.000%
4	4.000%	5.000%
5	3.000%	5.000%
6	2.500%	3.000%
7	2.500%	3.000%
8	2.500%	3.500%
9	1.500%	1.500%
10	1.000%	1.500%
11	1.000%	1.500%
12	1.000%	1.500%
13	1.000%	1.500%
≥14	0.800%	1.500%

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

Terminations Per 100 Members		
Years of Service	Males	Females
0	11.000%	20.000%
1	11.000%	15.000%
2	9.500%	10.000%
3	8.500%	8.500%
4	7.500%	7.000%
5	6.500%	7.000%
6	6.500%	7.000%
7	4.000%	7.000%
8	4.000%	7.000%
9	4.000%	6.000%
10	2.500%	3.500%
11	2.500%	3.500%
12	2.500%	3.500%
13	2.500%	3.500%
14	2.500%	3.500%
15	2.000%	3.500%
≥16	2.000%	2.000%

State Police Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Service	Rate
0	8.000%
1	6.000%
2	6.000%
3	6.000%
4	4.750%
5	6.000%
6	6.000%
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	36.285%	28.479%	23.294%	20.555%	19.714%	19.438%	18.892%	17.882%	17.232%
35	29.590%	24.719%	21.139%	18.685%	16.890%	15.650%	14.654%	13.513%	11.884%
45	24.947%	20.776%	17.527%	15.163%	13.800%	12.852%	11.960%	10.962%	9.617%
55	22.917%	17.523%	13.271%	10.157%	10.390%	—%	—%	—%	—%
65	23.923%	15.385%	8.724%	3.755%	6.679%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8
25	43.786%	33.985%	27.627%	24.458%	24.051%	24.937%	26.238%	26.963%	25.996%
35	35.591%	29.532%	25.008%	21.852%	19.421%	17.876%	16.674%	15.620%	14.391%
45	29.713%	25.007%	21.104%	17.970%	16.112%	14.777%	13.695%	12.161%	10.324%
55	27.168%	21.009%	16.023%	12.279%	13.911%	—%	—%	—%	—%
65	28.529%	17.815%	9.796%	4.508%	12.790%	—%	—%	—%	—%

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%
10-19	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%
10-19	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), has been paid for all plans as June 30, 2021. 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
VRS: Age 65 with at least five years of service credit, or age 50 with at least 30 years of service credit. NOTE: Some political subdivisions require employees to reach age 55 with at least 30 years of service credit.	Normal Social Security retirement age with at least five years of service credit or when age and service equal 90. *Example:* Age 60 with 30 years of service credit.	• 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. 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.
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.	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.)	• 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. *Note:* 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. *Note:* 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.	Plan 1 and Plan 2: • 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. Hybrid Retirement Plan: • 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.	• 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. For VRS Plan 1 members, an additional reduction of 0.60% is applied for each month the member's age precedes age 55.
SPORS, VaLORS and political subdivision hazardous duty covered employees: Age 50 with at least five years of service credit.	Same as Plan 1.	
JRS: Age 55 with at least five years of weighted service credit.	Same as Plan 1.	• 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.

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%.

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
CONSULTING, LLC
The experience and dedication you deserve

February 24, 2022

The 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, 2021:

- 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, 2021. 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, 2021 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 2023 and 2024 based on the June 30, 2021 actuarial valuation and the rates for fiscal years 2021 and 2020 based on the June 30, 2019 actuarial valuation. Contribution rates for VRS employers are established every two years based on the odd year valuations. The actuarially calculated employer contribution rates based on the June 30, 2020 valuation presented in this report are for informational purposes only.

	Fiscal Years 2021/2022	Informational Only	Fiscal Years 2023/2024
	Board & General Assembly Approved		Board & General Assembly Approved
OPEB Plan	2019 Valuation	2020 Valuation	2021 Valuation
GLI*	1.34%	1.36%	1.19%
HIC – State Employees	1.12%	1.08%	1.04%
HIC – Teachers	1.21%	1.18%	1.21%
HIC – Participating Political Subdivisions**	0.59%	0.61%	0.70%
HIC – Constitutional Officers	0.36%	0.35%	0.36%
HIC – Social Service Employees	0.38%	0.39%	0.37%
HIC – Registrars	0.39%	0.37%	0.32%
VSDP	0.61%	0.56%	0.56%
VLDP – Teachers	0.47%	0.45%	0.47%
VLDP – Political Subdivisions	0.83%	0.82%	0.85%

** The contribution rate for GLI includes an adjustment for active group life insurance. The adjustment is 0.35% for fiscal years 2023 & 2024 and 0.34% for prior fiscal years. See Section I for additional detail.*

*** Average of individual employer rates and includes the impact of HB 1513. For the 2021 valuation, the average employer rate of 0.70% includes participating locations with a total calculated rate less than 0.00%. Since the actual individual employer rates will not be less than 0.00%, the average rate with this restriction is 0.70%.*

The promised postemployment 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 nonvested 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, 2021, 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 layered 20 year periods, 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 actuary is a member of the American Academy of Actuaries and has 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 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,

Alisa Bennett, FSA, EA, FCA, MAAA
President

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

Bradley R. Wild, ASA, EA, FCA, MAAA
Senior Actuary

Actuary's Certification Letter:
OPEB Plans – Line of Duty Act (LODA) Fund

January 18, 2022

The 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, 2021.

The purpose of this report is to show the Pay-As-You-Go rate based on the June 30, 2021 valuation data, which will be used for fiscal years 2023 and 2024, and to show the adjusted Board approved Pay-As-You-Go rate of contribution based on the June 30, 2019 valuation, which is used for fiscal year 2022. This report also calculates an Actuarially Determined Employer Contribution Rate (ADEC) to be used for GASB 74 purposes. 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, as well as the inclusion of additional presumptions as added by the passage of various legislative bills. 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, 2019 valuation results, the initial Board approved rate for fiscal years 2021 and 2022 was $695.18 which was later adjusted to $717.31 for fiscal year 2021 and $722.55 for fiscal year 2022. More detail regarding the adjustments can be found in the valuation report. The Board approved rate of $681.84 for fiscal years 2023 and 2024 is based upon the most recent valuation of June 30, 2021. The results of the June 30, 2020 valuation are for informational purposes only. The June 30, 2021 contribution rates assume Plan participation of 11,373.20 State Employee FTEs and 7,714.00 Political Subdivision Employee FTEs, for a total of 19,087.20 FTEs.

The promised death benefits and postemployment 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 LODA Fund is invested in the same manner as the pension funds, the valuation results provided in this report reflect a discount rate of 6.75%. 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 as well as changes in the actuarial assumptions recommended in the experience study for the four-year period ending June 30, 2020 and adopted by the Board at its April 20, 2021 meeting. The impact of the COVID-19 pandemic was considered in this valuation; however, no explicit changes were incorporated at this time other than the inclusion of COVID-19 as a presumption for certain members due to House Bills 1985 and 2207 (HB 1985, HB 2207). 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 actuary is a Member of the American Academy of Actuaries and has 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 Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of VRS.

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.

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Respectfully submitted,

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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, 2021, 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, 2016, through June 30, 2020, and were used for the June 30, 2021, valuation.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS: OTHER POST-EMPLOYMENT BENEFIT (OPEB) PLANS

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%	6.75%	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 (1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Members*	Valuation Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)
GROUP LIFE INSURANCE							
2021	N/A	$ 2,315,129	$ 1,209,335	$ 2,135,187	N/A	92.23%	—%
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%	—%
RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES**							
2021	N/A	$ 707,502	$ 337,161	$ 191,829	N/A	27.11%	—%
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%	—%
RETIREE HEALTH INSURANCE CREDIT – TEACHERS							
2021	N/A	$ 933,691	$ 537,706	$ 177,304	N/A	18.99%	—%
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%	—%
RETIREE HEALTH INSURANCE CREDIT – STATE-FUNDED LOCALITY BENEFITS							
2021	N/A	$ 31,397	$ 17,267	$ 9,183	N/A	29.25%	—%
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%	—%

** Data for prior fiscal years is unavailable.*

*** Includes Long-Term Care. Values prior to June 30, 2015, reflect Long-Term Disability only.*

SOLVENCY TEST: OPEB PLANS, cont.

(EXPRESSED IN THOUSANDS)

RETIREE HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS								
2021	N/A	$ 50,835	$ 31,956	$ 33,333	N/A	65.57%	—%	
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%	4.06%	
2017	N/A	21,326	17,974	22,167	N/A	100.00%	4.68%	
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%	0.35%	
2014	N/A	17,371	17,826	18,605	N/A	100.00%	6.92%	
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%	—%	
VIRGINIA SICKNESS AND DISABILITY PROGRAM – LONG-TERM DISABILITY (LTD) BENEFITS								
2021**	N/A	$ 170,851	$ 79,252	$ 547,379	N/A	100.00%	475.10%	
2020**	N/A	171,585	77,284	505,236	N/A	100.00%	431.72%	
2019**	N/A	170,146	78,366	484,986	N/A	100.00%	401.76%	
2018**	N/A	187,514	77,778	460,466	N/A	100.00%	350.94%	
2017**	N/A	160,283	66,229	437,372	N/A	100.00%	418.38%	
2016**	N/A	156,449	84,437	416,248	N/A	100.00%	307.68%	
2015**	N/A	156,796	78,451	398,609	N/A	100.00%	308.23%	
2014	N/A	138,511	50,027	325,354	N/A	100.00%	373.48%	
2013	N/A	132,842	50,104	313,480	N/A	100.00%	360.53%	
2012	N/A	125,578	136,151	305,170	N/A	100.00%	131.91%	
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS								
2021**	N/A	$ 1,203	$ 3,899	$ 5,028	N/A	100.00%	98.10%	
2020**	N/A	$ 639	$ 2,694	$ 2,973	N/A	100.00%	86.64%	
2019**	N/A	806	1,816	1,662	N/A	100.00%	47.14%	
2018**	N/A	271	1,112	674	N/A	100.00%	36.24%	
2017**	N/A	103	709	324	N/A	100.00%	31.17%	
2016**	N/A	132	307	57	N/A	43.18%	—%	
2015**	N/A	15	162	48	N/A	100.00%	20.37%	
2014*	N/A	N/A	N/A	N/A	N/A	—%	—%	
VIRGINIA LOCAL DISABILITY PROGRAM – POLITICAL SUBDIVISIONS								
2021**	N/A	$ 2,641	$ 2,364	$ 5,604	N/A	100.00%	100.00%	
2020**	N/A	$ 1,841	$ 1,911	$ 3,425	N/A	100.00%	82.89%	
2019**	N/A	1,511	1,306	1,971	N/A	100.00%	35.22%	
2018**	N/A	1,571	1,161	853	N/A	54.30%	—%	
2017**	N/A	361	464	413	N/A	100.00%	11.21%	
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								
2021	N/A	$ 215,991	$ 39,274	$ 7,553	N/A	3.50%	—%	
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	—%	—%	

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				
2021	358,905	$ 21,052,089	$ 58,656	3.60%
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%
RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES*				
2021	108,528	$ 7,442,699	$ 68,579	5.26%
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)%
RETIREE HEALTH INSURANCE CREDIT – TEACHERS				
2021	149,793	$ 8,971,605	$ 59,893	1.27%
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%

SCHEDULE OF ACTIVE MEMBER VALUATION DATA: OPEB PLANS, cont.

RETIREE HEALTH INSURANCE CREDIT – STATE-FUNDED LOCALITY BENEFITS				
2021	19,847	$ 1,066,874	$ 53,755	3.19%
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%
RETIREE HEALTH INSURANCE CREDIT – POLITICAL SUBDIVISIONS				
2021	36,426	$ 1,507,656	$ 41,390	4.02%
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	0.0043
VIRGINIA SICKNESS AND DISABILITY PROGRAM				
2021	76,529	$ 4,576,046	$ 59,795	6.21%
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%
VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS				
2021	14,312	$ 642,284	$ 44,877	2.32%
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				
2021	11,017	$ 423,151	$ 38,409	4.38%
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 Added to Rolls Number	Retirees Added to Rolls Amount	Retirees Removed from Rolls Number	Retirees Removed from Rolls Amount	Retirees Total	Insurance Amount	Annualized % Increase in Life Insurance Amount	Average Life Insurance Amount
2021	12,528	$ 1,457,980,000	14,919	$ 1,358,144,000	206,253	$ 8,523,862,000	1.19%	$ 41,327
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

RETIREE HEALTH INSURANCE CREDIT – STATE EMPLOYEES*

Valuation Date (June 30)	Retirees Added to Rolls Number	Retirees Added to Rolls Amount	Retirees Removed from Rolls Number	Retirees Removed from Rolls Amount	Retirees Total	Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
2021	3,025	$ 4,420,000	2,315	$ 4,301,000	52,583	$ 77,657,000	0.15%	$ 1,477
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

RETIREE HEALTH INSURANCE CREDIT – TEACHERS

Valuation Date (June 30)	Retirees Added to Rolls Number	Retirees Added to Rolls Amount	Retirees Removed from Rolls Number	Retirees Removed from Rolls Amount	Retirees Total	Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
2021	3,959	$ 5,274,000	2,085	$ 2,864,000	71,572	$ 98,057,000	2.52%	$ 1,370
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

** 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: Added to Rolls Number	Added to Rolls Amount	Removed from Rolls Number	Removed from Rolls Amount	Total	Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
2021	444	$ 221,000	216	$ 110,000	6,480	$ 3,294,000	3.49%	$ 508
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: Added to Rolls Number	Added to Rolls Amount	Removed from Rolls Number	Removed from Rolls Amount	Total	Current Total Annual Health Insurance Credit	Annualized % Increase in Health Insurance Credit	Average Annual Health Insurance Credit
2021	898	$ 440,000	524	$ 53,000	11,639	$ 5,593,000	7.43%	$ 481
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	2,515,000	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: Added to Rolls Number	Added to Rolls Amount	Removed from Rolls Number	Removed from Rolls Amount	Total	Current Total Annual LTD Payments	Annualized % Increase in LTD Payments	Average Annual LTD Payment
2021	322	$ 6,590,000	410	$ 7,003,000	2,360	$ 30,117,000	(1.35%)	$ 12,761
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

VIRGINIA LOCAL DISABILITY PROGRAM – TEACHERS

Valuation Date (June 30)	Retirees: Added to Rolls Number	Added to Rolls Amount	Removed from Rolls Number	Removed from Rolls Amount	Total	Current Total Annual LTD Payments	Annualized % Increase in LTD Payments	Average Annual LTD Payment
2021	10	$ 184,000	3	48,000	16	$ 208,000	188.89 %	$ 13,000
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					
	Number	Amount	Number	Amount	Total			
2021	34	$ 517,000	16	107,000	54	$ 672,000	156.49 %	$ 12,444
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

Plan 1 – Male

Years of Service

Age	5	6-9	10	11-29	30	>31
50	—%	—%	3.25%	3.25%	12.50%	12.50%
55	4.50%	4.50%	4.50%	3.50%	8.00%	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%	17.00%	15.00%
62	15.00%	10.00%	10.00%	10.00%	17.00%	20.00%
64	15.00%	13.50%	13.50%	13.50%	17.00%	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%
>80	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

State Employees

Plan 1 – Female

Age	Years of Service					
	5	6-9	10	11-29	30	>31
50	—%	—%	4.00%	4.00%	7.50%	7.50%
55	5.00%	5.00%	5.00%	4.00%	7.50%	8.00%
59	5.00%	5.00%	5.00%	5.00%	12.00%	9.00%
60	5.00%	5.50%	5.50%	5.50%	12.00%	12.50%
61	7.50%	8.00%	8.00%	8.00%	12.00%	16.00%
62	10.00%	12.00%	12.00%	12.00%	22.50%	20.00%
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%	27.00%	27.00%	27.00%	27.00%	27.00%
>80	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

State Employees

Plan 2 and Hybrid – Male

Age	Years of Service						
	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	8.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
62	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
64	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
>80	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.

State Employees

Plan 2 and Hybrid – Female

	Years of Service						
Age	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	8.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
62	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
64	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
>80	20.00%	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	—%	—%	2.50%	2.50%	15.00%	15.00%
55	7.00%	7.00%	7.00%	5.00%	22.50%	15.00%
59	10.00%	7.00%	7.00%	7.00%	22.50%	15.00%
60	10.00%	7.50%	7.50%	7.50%	22.50%	17.00%
61	11.00%	12.00%	12.00%	12.00%	35.00%	23.00%
62	17.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	18.00%	15.00%	15.00%	15.00%	35.00%	25.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	34.00%
67	30.00%	34.00%	34.00%	34.00%	34.00%	34.00%
70	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
>80	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

FIGURE 4.7: RETIREMENT RATES – OPEB PLANS, cont.

Teachers

Plan 1 – Female

Years of Service

Age	5	6-9	10	11-29	30	>31
50	—%	—%	3.00%	3.00%	15.00%	15.00%
55	4.50%	4.50%	4.50%	5.00%	22.50%	16.00%
59	8.00%	7.00%	7.00%	7.00%	22.50%	17.00%
60	9.00%	8.50%	8.50%	8.50%	30.00%	20.00%
61	25.00%	11.00%	11.00%	11.00%	30.00%	25.00%
62	25.00%	15.00%	15.00%	15.00%	35.00%	30.00%
64	25.00%	20.00%	20.00%	20.00%	35.00%	28.00%
65	35.00%	35.00%	35.00%	35.00%	35.00%	40.00%
67	30.00%	32.00%	32.00%	32.00%	32.00%	32.00%
70	30.00%	32.00%	32.00%	32.00%	32.00%	32.00%
>80	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	—%	—%	—%	—%	—%	9.00%	9.00%
55	—%	—%	—%	9.00%	9.00%	9.00%	9.00%
59	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
61	14.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
64	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
>80	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	—%	—%	—%	—%	—%	9.00%	9.00%
55	—%	—%	—%	9.00%	9.00%	9.00%	9.00%
59	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
60	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
61	14.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
64	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
>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	—%	6.50%	6.50%	10.00%	10.00%	—%	5.00%	5.00%	16.00%	16.00%
55	6.50%	6.50%	5.00%	10.00%	9.00%	7.00%	7.00%	5.50%	22.00%	15.00%
59	6.50%	4.00%	4.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
60	6.50%	6.00%	6.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
61	6.50%	9.00%	9.00%	10.00%	15.00%	10.50%	6.50%	6.50%	22.00%	16.00%
62	6.50%	9.00%	9.00%	25.00%	22.50%	10.50%	13.00%	13.00%	34.50%	25.00%
64	6.50%	15.00%	15.00%	25.00%	22.50%	10.50%	17.00%	17.00%	24.00%	27.50%
65	25.00%	25.00%	25.00%	25.00%	27.00%	28.00%	28.00%	28.00%	28.00%	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%	20.00%	20.00%	20.00%	20.00%	15.00%	27.50%	27.50%	27.50%	27.50%
>80	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

Male

	Years of Service								
Age	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	—%	—%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	20.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
64	10.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
65	25.00%	25.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>80	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

Female

	Years of Service								
Age	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	—%	—%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
62	20.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
64	10.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
65	25.00%	25.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
67	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
70	15.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
>80	100.00%	100.00%	20.00%	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

	Male					Female				
	Years of Service					Years of Service				
Age	5	10	11-29	30	>31	5	10	11-29	30	>31
50	—%	6.00%	6.00%	15.00%	15.00%	—%	5.00%	5.00%	10.00%	10.00%
55	10.00%	10.00%	6.00%	15.00%	11.00%	7.00%	7.00%	6.00%	12.00%	10.00%
59	10.00%	5.50%	5.50%	16.00%	10.00%	6.00%	5.50%	5.50%	10.00%	10.00%
60	10.00%	5.00%	5.00%	16.00%	12.00%	6.00%	6.50%	6.50%	15.00%	10.00%
61	10.00%	8.50%	8.50%	16.00%	16.00%	6.00%	9.50%	9.50%	20.00%	16.50%
62	10.00%	15.00%	15.00%	27.00%	22.00%	6.00%	14.50%	14.50%	20.00%	20.00%
64	10.00%	15.00%	15.00%	27.00%	18.00%	6.00%	14.50%	14.50%	35.00%	20.00%
65	30.00%	30.00%	30.00%	30.00%	30.00%	28.00%	28.00%	28.00%	28.00%	35.00%
67	30.00%	22.00%	22.00%	22.00%	22.00%	28.00%	22.00%	22.00%	22.00%	22.00%
70	30.00%	22.00%	22.00%	22.00%	22.00%	28.00%	22.00%	22.00%	22.00%	22.00%
>80	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

	Male								
	Years of Service								
Age	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	—%	—%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	11.00%	9.00%	11.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
62	15.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
64	13.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	22.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
70	16.00%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
>80	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

	Female								
	Years of Service								
Age	5	6-25	30	31	33	35	37	39	>40
50	—%	—%	—%	—%	—%	—%	—%	8.00%	8.00%
55	—%	—%	—%	—%	—%	8.00%	8.00%	8.00%	8.00%
59	—%	—%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
60	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
61	11.00%	9.00%	11.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
62	15.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
64	13.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	22.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
70	16.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
>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

	Male				Female			
	Years of Service				Years of Service			
Age	5	6-24	25	>26	5	6-24	25	>26
50	6.50%	6.50%	20.00%	20.00%	6.00%	6.00%	25.00%	25.00%
55	6.50%	6.00%	25.00%	24.00%	6.00%	7.50%	25.00%	40.00%
59	6.50%	10.00%	21.00%	20.00%	6.00%	14.00%	25.00%	25.00%
60	21.00%	21.00%	21.00%	23.00%	15.00%	15.00%	15.00%	25.00%
61	37.50%	23.00%	23.00%	23.00%	15.00%	15.00%	15.00%	15.00%
62	37.50%	27.00%	27.00%	27.00%	15.00%	15.00%	15.00%	15.00%
63	37.50%	27.00%	27.00%	27.00%	15.00%	15.00%	15.00%	15.00%
64	37.50%	27.00%	27.00%	27.00%	15.00%	30.00%	30.00%	30.00%
>70	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

	Male				Female			
	Years of Service				Years of Service			
Age	5	6-24	25	>26	5	6-24	25	>26
50	9.00%	9.00%	27.50%	27.50%	6.00%	6.00%	30.00%	30.00%
55	7.00%	7.50%	20.00%	20.00%	10.00%	9.00%	20.00%	30.00%
59	7.00%	12.00%	20.00%	24.00%	10.00%	12.00%	20.00%	25.00%
60	15.00%	15.00%	15.00%	24.00%	15.00%	15.00%	15.00%	25.00%
61	20.00%	24.00%	24.00%	24.00%	15.00%	25.00%	25.00%	25.00%
62	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
63	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
64	20.00%	27.50%	27.50%	27.50%	15.00%	25.00%	25.00%	25.00%
>70	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

	Years of Service	
Age	5-24	>25
50	10.00%	10.00%
55	6.00%	20.00%
59	10.00%	13.00%
60	10.00%	13.00%
>70	100.00%	100.00%

Virginia Law Officers – All Plans

	Years of Service – Male			
Age	5	6-24	25	>26
50	15.00%	15.00%	45.00%	45.00%
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%	30.00%
>70	100.00%	100.00%	100.00%	100.00%

	Years of Service – Female			
Age	5	6-24	25	> 26
50	15.00%	15.00%	37.50%	37.50%
55	10.00%	9.00%	25.00%	30.00%
59	10.00%	13.00%	30.00%	20.00%
60	20.00%	20.00%	20.00%	20.00%
>70	100.00%	100.00%	100.00%	100.00%

Judges – All Plans

Age	Rate
60	10.00%
65	10.00%
70	25.00%
>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

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 4.8: DISABILITY RATES – OPEB 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 4.9: 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	23.974%	21.579%	19.409%	17.424%	15.524%	13.693%	11.975%	10.595%	9.975%	9.732%	10.701%
35	17.716%	15.218%	13.247%	11.805%	10.829%	10.087%	9.383%	8.541%	7.535%	6.447%	5.388%
45	15.975%	11.918%	9.302%	7.949%	7.467%	7.461%	7.339%	6.905%	6.126%	4.945%	3.331%
55	15.197%	11.087%	8.401%	7.159%	6.658%	6.381%	6.149%	5.872%	5.613%	5.509%	5.439%
65	15.304%	13.450%	12.193%	11.472%	11.037%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	>10
25	27.376%	26.249%	24.118%	21.199%	18.029%	15.160%	13.004%	11.112%	9.997%	10.375%	12.876%
35	20.766%	17.777%	15.365%	13.514%	12.123%	10.996%	9.994%	9.070%	8.104%	7.066%	5.980%
45	18.340%	13.974%	10.951%	9.110%	8.142%	7.776%	7.634%	7.404%	6.888%	5.803%	4.010%
55	16.001%	12.044%	9.383%	7.856%	7.120%	6.731%	6.491%	6.383%	6.463%	6.942%	7.765%
65	14.142%	12.453%	11.513%	11.187%	11.326%	—%	—%	—%	—%	—%	—%

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	19.207%	16.728%	14.515%	12.651%	11.200%	10.027%	8.948%	7.865%	7.114%	7.386%	8.326%
35	16.839%	14.734%	13.071%	17.712%	10.510%	9.374%	8.315%	7.322%	6.329%	5.217%	4.003%
45	18.182%	15.046%	12.547%	10.682%	9.330%	8.397%	7.608%	6.863%	5.924%	4.581%	2.657%
55	21.008%	16.464%	12.933%	10.382%	8.670%	7.536%	6.833%	6.318%	5.973%	5.790%	2.260%
65	24.063%	18.847%	14.805%	11.831%	9.792%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	>10
25	18.376%	15.481%	13.758%	12.581%	11.260%	10.133%	9.186%	8.253%	6.911%	6.524%	7.704%
35	17.757%	15.500%	13.863%	12.610%	11.452%	10.307%	9.292%	8.399%	7.473%	6.273%	4.807%
45	15.616%	13.289%	11.458%	10.011%	8.846%	7.999%	7.497%	7.203%	6.668%	5.362%	2.476%
55	15.060%	12.499%	10.614%	9.285%	8.348%	7.597%	6.925%	6.342%	6.066%	6.295%	2.476%
65	18.831%	16.489%	14.798%	13.739%	13.130%	—%	—%	—%	—%	—%	—%

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	28.989%	27.432%	26.526%	26.242%	26.375%	26.558%	26.297%	25.458%	23.734%	20.701%	15.866%
35	21.415%	19.378%	17.963%	17.076%	16.538%	16.121%	15.615%	14.808%	13.573%	11.801%	9.397%
45	17.894%	15.267%	13.230%	11.737%	10.675%	9.865%	9.232%	8.627%	7.933%	7.192%	5.296%
55	16.167%	13.384%	11.115%	9.363%	8.092%	7.311%	6.800%	6.512%	6.387%	6.264%	4.605%
65	14.654%	12.546%	10.779%	9.372%	8.367%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	>10
25	26.948%	24.864%	23.870%	23.584%	23.500%	23.043%	22.383%	21.351%	19.968%	18.230%	16.241%
35	21.697%	18.644%	16.712%	15.790%	15.565%	15.609%	15.458%	14.802%	13.451%	11.314%	8.392%
45	19.315%	15.196%	12.534%	11.170%	10.742%	10.776%	10.785%	10.381%	9.325%	7.535%	4.936%
55	17.544%	13.552%	10.836%	9.258%	8.536%	8.303%	8.149%	7.885%	7.414%	6.668%	5.673%
65	15.252%	12.880%	11.016%	9.645%	8.728%	—%	—%	—%	—%	—%	—%

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	34.582%	30.879%	27.971%	25.872%	24.501%	23.668%	22.856%	21.758%	20.423%	18.923%	17.160%
35	26.103%	23.300%	21.169%	19.604%	18.413%	17.401%	16.467%	15.478%	14.272%	12.727%	10.921%
45	21.691%	18.002%	15.364%	13.656%	12.626%	11.997%	11.521%	11.013%	10.332%	9.373%	7.933%
55	18.678%	14.934%	12.243%	10.520%	9.586%	9.185%	9.042%	9.022%	9.123%	9.336%	9.555%
65	16.801%	14.540%	12.836%	11.667%	10.985%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	>10
25	32.508%	30.131%	27.509%	24.836%	22.591%	21.199%	20.768%	20.326%	19.626%	18.741%	17.582%
35	25.792%	22.474%	20.062%	18.479%	17.509%	16.848%	16.228%	15.456%	14.215%	12.254%	9.510%
45	21.851%	18.237%	15.746%	14.201%	13.248%	12.573%	11.969%	11.310%	10.459%	9.194%	7.283%
55	18.709%	15.590%	13.351%	11.857%	10.862%	10.068%	9.333%	8.825%	8.825%	8.825%	8.825%
65	17.656%	15.223%	13.387%	12.121%	11.334%	—%	—%	—%	—%	—%	—%

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	5.500%	7.000%
1	4.000%	7.000%
2	4.000%	7.000%
3	4.000%	5.000%
4	4.000%	5.000%
5	3.000%	5.000%
6	2.500%	3.000%
7	2.500%	3.000%
8	2.500%	3.500%
9	1.500%	1.500%
10 or more	1.000%	1.500%

Political Subdivision Employees Receiving Enhanced Hazardous Duty Benefits – All Other Employers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Terminations Per 100 Members

Years of Service	Males	Females
0	11.000%	20.000%
1	11.000%	15.000%
2	9.500%	10.000%
3	8.500%	8.500%
4	7.500%	7.000%
5	6.500%	7.000%
6	6.500%	7.000%
7	4.000%	7.000%
8	4.000%	7.000%
9	4.000%	6.000%
10 or more	2.500%	3.500%

FIGURE 4.9: TERMINATION RATES – OPEB PLANS, cont.

State Police Officers – All Plans

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Service	Rate
0	8.000%
1	6.000%
2	6.000%
3	6.000%
4	6.000%
5	6.000%
6	6.000%
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	36.285%	28.479%	23.294%	20.555%	19.714%	19.438%	18.892%	17.882%	17.232%	16.314%	17.288%
35	29.590%	24.719%	22.390%	18.685%	16.890%	15.650%	14.654%	13.513%	11.884%	10.094%	7.962%
45	24.947%	20.776%	17.527%	15.163%	13.800%	12.852%	11.960%	10.962%	9.617%	7.511%	4.653%
55	22.917%	17.523%	13.271%	10.157%	10.390%	—%	—%	—%	—%	—%	—%
65	23.923%	15.385%	8.724%	3.755%	6.679%	—%	—%	—%	—%	—%	—%

SEPARATIONS FROM ACTIVE SERVICE DUE TO TERMINATION

Years of Service – Females

Age	0	1	2	3	4	5	6	7	8	9	>10
25	43.786%	33.985%	27.627%	24.458%	24.051%	24.937%	26.238%	26.963%	25.996%	24.867%	18.991%
35	35.591%	29.532%	25.008%	21.852%	19.421%	17.876%	16.674%	15.620%	14.391%	12.349%	9.981%
45	29.713%	25.007%	21.104%	17.970%	16.112%	14.777%	13.695%	12.161%	10.324%	8.381%	4.500%
55	27.168%	21.009%	16.023%	12.279%	13.911%	—%	—%	—%	—%	—%	—%
65	28.529%	17.815%	9.796%	4.508%	12.790%	—%	—%	—%	—%	—%	—%

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%
10-19	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%
10-19	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%
10-19	0.50%	4.00%
20 or more	—%	3.50%

Judges

Salary increase rates are 4.00%.

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

	Policy Duration (in years)					
Issue Age	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: Pub-2010 Amount Weighted General Employee Rates Projected Generationally

- State – Females set forward 2 years
- Teachers – Males 110% of rates
- State Police – Males 95% of rates, females 105% of rates set forward 1 year
- VaLORS – Males 95% of rates, females 105% of rates set forward 2 years
- Judicial – Males set forward 2 years
- Political subdivisions, non-hazardous duty – Males set forward 2 years, females 105% of rates set forward 3 years
- Political subdivisions, hazardous duty – Males 95% of rates, females 105% of rates set forward 2 years

Post-Retirement: Pub-2010 Amount Weighted General Healthy Retiree Rates Projected Generationally

- State – Females 110% of rates
- Teachers – Males set forward 1 year, females 105% of rates
- State Police – Males 110% of rates, females 105% of rates set forward 3 years
- VaLORS – Males 110% of rates, females 105% of rates set forward 3 years
- Judicial – Males 95% of rates , females set back 2 years
- Political subdivisions, non-hazardous duty – Males 95% of rates set forward 2 years, females 95% of rates set forward 1 year
- Political subdivisions, hazardous duty – Males 110% of rates, females 105% of rates set forward 3 years

Post-Disablement: Pub-2010 Amount Weighted General Disabled Rates Projected Generationally

- State – Males and females set forward 3 years
- Teachers – 110% of rates for males and females
- State Police – Males 95% of rates set back 3 years, females 90% of rates set back 3 years
- VaLORS – Males 95% of rates set back 3 years, females 90% of rates set back 3 years
- Political subdivisions, non-hazardous duty – Males 110% of rates set forward 3 years, females 110% of rates set forward 2 years
- Political subdivisions, hazardous duty – Males 95% of rates set back 3 years, females 90% of rates set back 3 years

Beneficiaries and Survivors: Pub-2010 Amount Weighted General Contingent Annuitant Rates projected generationally:

- State – 110% of rates for males and females
- State Police – 110% of rates for males and females set forward 2 years
- VaLORS – 110% of rates for males and females set forward 2 years
- Political subdivisions, hazardous duty – 110% of rates for males and females set forward 2 years

Mortality Improvement: Rates projected generationally with Modified MP-2020 Improvement Scale that is 75% of the MP-2020 rates

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 $8,722 as of June 30, 2022. 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.

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
80
YEARS
Since 1942

80 Years of Serving
Those Who Serve Others

Statistical Section

Statistical Section

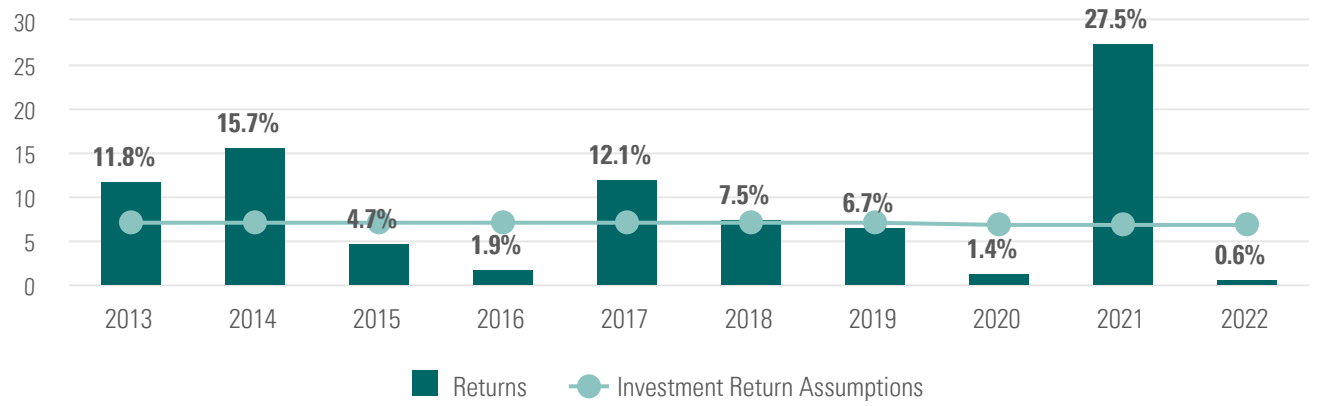
VRS Fiscal Year Returns
Pension Trust Funds:
- Schedule of Retirement Contributions by System and Plan
- Schedule of Pension Trust Fund Additions by Source
- Schedule of Pension Trust Fund Deductions by Type
- Schedule of Retirement Benefits by System and Plan
- Schedule of Retirement Benefits by Type
- 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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 52,091**	**$ 56,979**	**$ 64,521**	**$ 66,407**	**$ 66,363**	**$ 72,814**	**$ 76,556**	**$ 79,790**	**$ 79,358**	**$ 98,881**
Funding:										
Member and Employer Contributions and Other Additions	2,600	2,695	3,226	3,323	3,144	3,331	3,338	3,480	3,711	4,521
Less: Benefits and Administrative Expenses and Transfers	3,791	4,030	4,263	4,504	4,692	4,953	5,155	5,424	5,694	5,921
Net Funding	(1,191)	(1,335)	(1,037)	(1,181)	(1,548)	(1,622)	(1,817)	(1,944)	(1,983)	(1,400)
Investment Income:										
Interest, Dividends and Other Investment Income	911	986	913	907	904	926	967	804	692	622
Net Appreciation (Depreciation) in Fair Value	5,168	7,891	2,010	230	7,095	4,438	4,084	708	20,814	(737)
Net Investment Income	6,079	8,877	2,923	1,137	7,999	5,364	5,051	1,512	21,506	(115)
Net Increase (Decrease)	**4,888**	**7,542**	**1,886**	**(44)**	**6,451**	**3,742**	**3,234**	**(432)**	**19,523**	**(1,515)**
Fiduciary Net Position Restricted – End of Year	**$ 56,979**	**$ 64,521**	**$ 66,407**	**$ 66,363**	**$ 72,814**	**$ 76,556**	**$ 79,790**	**$ 79,358**	**$ 98,881**	**$ 97,366**

FIGURE 5.2: NUMBER OF ACTIVE MEMBERS

AT JUNE 30

(EXPRESSED IN THOUSANDS)

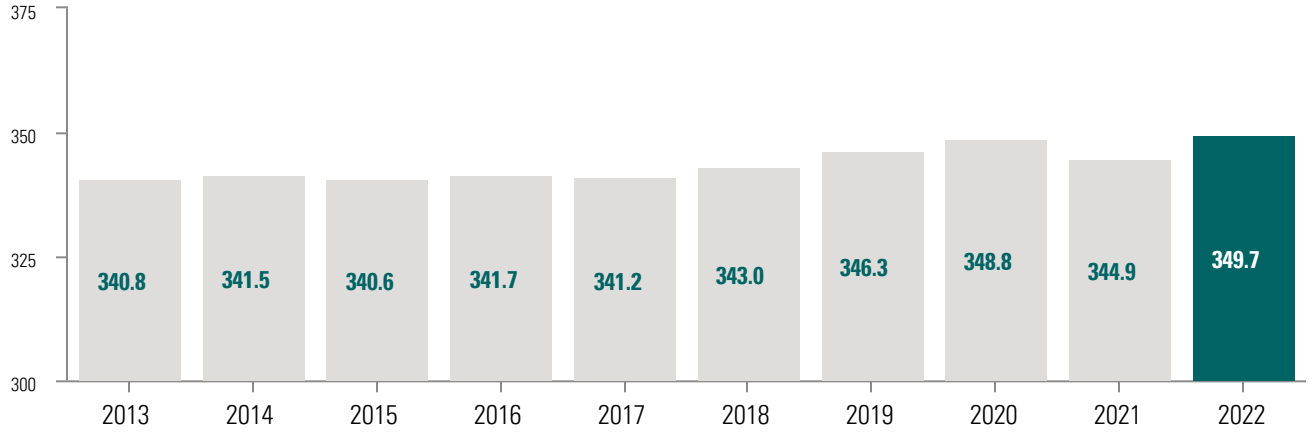


FIGURE 5.3: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – VIRGINIA RETIREMENT SYSTEM

FOR THE YEARS ENDED JUNE 30

VIRGINIA RETIREMENT SYSTEM (VRS) – STATE

(EXPRESSED IN MILLIONS)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 13,516**	**$ 14,502**	**$ 16,169**	**$ 16,399**	**$ 16,368**	**$ 17,790**	**$ 18,532**	**$ 19,090**	**$ 18,770**	**$ 23,112**
Funding:										
Member and Employer Contributions and Other Additions	520	541	676	923	737	750	747	787	817	1,071
Less: Benefits and Administrative Expenses and Transfers	1,054	1,119	1,175	1,231	1,279	1,340	1,401	1,468	1,530	1,583
Net Funding	(534)	(578)	(499)	(308)	(542)	(590)	(654)	(681)	(713)	(512)
Investment Income:										
Interest, Dividends and Other Investment Income	235	249	228	221	222	248	232	192	162	95
Net Appreciation (Depreciation) in Fair Value	1,285	1,996	501	56	1,742	1,084	980	169	4,893	(116)
Net Investment Income	1,520	2,245	729	277	1,964	1,332	1,212	361	5,055	(21)
Net Increase (Decrease)	**986**	**1,667**	**230**	**(31)**	**1,422**	**742**	**558**	**(320)**	**4,342**	**(533)**
Fiduciary Net Position Restricted – End of Year	**$ 14,502**	**$ 16,169**	**$ 16,399**	**$ 16,368**	**$ 17,790**	**$ 18,532**	**$ 19,090**	**$ 18,770**	**$ 23,112**	**$ 22,579**

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 23,928**	**$ 26,076**	**$ 29,411**	**$ 30,344**	**$ 30,168**	**$ 33,120**	**$ 34,920**	**$ 36,523**	**$ 36,449**	**$ 45,617**
Funding:										
Member and Employer Contributions and Other Additions	1,204	1,225	1,641	1,443	1,531	1,684	1,684	1,747	1,897	2,367
Less: Benefits and Administrative Expenses and Transfers	1,834	1,933	2,036	2,136	2,212	2,306	2,393	2,510	2,616	2,708
Net Funding	(630)	(708)	(395)	(693)	(681)	(622)	(709)	(763)	(719)	(341)
Investment Income:										
Interest, Dividends and Other Investment Income	415	449	415	413	412	407	443	366	317	382
Net Appreciation (Depreciation) in Fair Value	2,363	3,594	913	104	3,221	2,015	1,869	323	9,570	(446)
Net Investment Income	2,778	4,043	1,328	517	3,633	2,422	2,312	689	9,887	(64)
Net Increase (Decrease)	**2,148**	**3,335**	**933**	**(176)**	**2,952**	**1,800**	**1,603**	**(74)**	**9,168**	**(405)**
Fiduciary Net Position Restricted – End of Year	**$ 26,076**	**$ 29,411**	**$ 30,344**	**$ 30,168**	**$ 33,120**	**$ 34,920**	**$ 36,523**	**$ 36,449**	**$ 45,617**	**$ 45,212**

VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS

(EXPRESSED IN MILLIONS)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021
Fiduciary Net Position Restricted – Beginning of Year	**$ 12,823**	**$ 14,395**	**$ 16,628**	**$ 17,283**	**$ 17,418**	**$ 19,250**	**$ 20,303**	**$ 21,259**	**$ 21,234**	**$ 26,558**
Funding:										
Member and Employer Contributions and Other Additions	747	765	761	776	716	732	748	780	839	885
Less: Benefits and Administrative Expenses and Transfers	741	804	867	942	998	1,095	1,138	1,210	1,294	1,373
Net Funding	6	(39)	(106)	(166)	(282)	(363)	(390)	(430)	(455)	(488)
Investment Income:										
Interest, Dividends and Other Investment Income	228	252	237	241	239	237	258	215	185	124
Net Appreciation (Depreciation) in Fair Value	1,338	2,020	524	60	1,875	1,179	1,088	190	5,594	(149)
Net Investment Income	1,566	2,272	761	301	2,114	1,416	1,346	405	5,779	(25)
Net Increase (Decrease)	**1,572**	**2,233**	**655**	**135**	**1,832**	**1,053**	**956**	**(25)**	**5,324**	**(513)**
Fiduciary Net Position Restricted – End of Year	**$ 14,395**	**$ 16,628**	**$ 17,283**	**$ 17,418**	**$ 19,250**	**$ 20,303**	**$ 21,259**	**$ 21,234**	**$ 26,558**	**$ 26,045**

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 575**	**$ 625**	**$ 721**	**$ 733**	**$ 731**	**$ 796**	**$ 837**	**$ 865**	**$ 855**	**$ 1,050**
Funding:										
Member and Employer Contributions and Other Additions	31	48	34	39	38	42	38	39	40	55
Less: Benefits and Administrative Expenses and Transfers	49	51	54	55	59	59	64	66	74	72
Net Funding	(18)	(3)	(20)	(16)	(21)	(17)	(26)	(27)	(34)	(18)
Investment Income:										
Interest, Dividends and Other Investment Income	11	11	10	11	9	10	10	9	7	6
Net Appreciation (Depreciation) in Fair Value	57	88	22	3	77	48	44	8	222	(7)
Net Investment Income	68	99	32	14	86	58	54	17	229	(1)
Net Increase (Decrease)	**50**	**96**	**12**	**(2)**	**65**	**41**	**28**	**(10)**	**195**	**(19)**
Fiduciary Net Position Restricted – End of Year	**$ 625**	**$ 721**	**$ 733**	**$ 731**	**$ 796**	**$ 837**	**$ 865**	**$ 855**	**$ 1,050**	**$ 1,031**

VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS) PENSION TRUST FUND

(EXPRESSED IN MILLIONS)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 895**	**$ 992**	**$ 1,150**	**$ 1,191**	**$ 1,211**	**$ 1,346**	**$ 1,424**	**$ 1,496**	**$ 1,500**	**$ 1,869**
Funding:										
Member and Employer Contributions and Other Additions	68	85	79	97	91	91	93	99	94	111
Less: Benefits and Administrative Expenses and Transfers	76	84	90	98	103	111	115	123	131	137
Net Funding	(8)	1	(11)	(1)	(12)	(20)	(22)	(24)	(37)	(26)
Investment Income:										
Interest, Dividends and Other Investment Income	16	18	16	16	17	17	18	14	14	11
Net Appreciation (Depreciation) in Fair Value	89	139	36	5	130	81	76	14	392	(13)
Net Investment Income	105	157	52	21	147	98	94	28	406	(2)
Net Increase (Decrease)	**97**	**158**	**41**	**20**	**135**	**78**	**72**	**4**	**369**	**(28)**
Fiduciary Net Position Restricted – End of Year	**$ 992**	**$ 1,150**	**$ 1,191**	**$ 1,211**	**$ 1,346**	**$ 1,424**	**$ 1,496**	**$ 1,500**	**$ 1,869**	**$ 1,841**

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 354**	**$ 389**	**$ 442**	**$ 457**	**$ 467**	**$ 512**	**$ 540**	**$ 558**	**$ 549**	**$ 673**
Funding:										
Member and Employer Contributions and Other Additions	30	31	35	45	31	32	28	28	25	32
Less: Benefits and Administrative Expenses and Transfers	37	39	41	42	41	42	44	47	48	48
Net Funding	(7)	(8)	(6)	3	(10)	(10)	(16)	(19)	(23)	(16)
Investment Income:										
Interest, Dividends and Other Investment Income	6	7	7	5	5	7	6	5	5	5
Net Appreciation (Depreciation) in Fair Value	36	54	14	2	50	31	28	5	142	(5)
Net Investment Income	42	61	21	7	55	38	34	10	147	—
Net Increase (Decrease)	35	53	15	10	45	28	18	(9)	124	(16)
Fiduciary Net Position Restricted – End of Year	**$ 389**	**$ 442**	**$ 457**	**$ 467**	**$ 512**	**$ 540**	**$ 558**	**$ 549**	**$ 673**	**$ 657**

SCHEDULE OF RETIREMENT CONTRIBUTIONS BY SYSTEM AND PLAN

FISCAL YEARS 2013-2022

(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				
2022	$ 1,070,839	$ 2,366,817	$ 885,229	$ 4,322,885	$ 54,583	$ 111,123	$ 32,299	$ 4,520,890
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

FIGURE 5.4: NUMBER OF RETIREES AND BENEFICIARIES

AT JUNE 30

(EXPRESSED IN THOUSANDS)

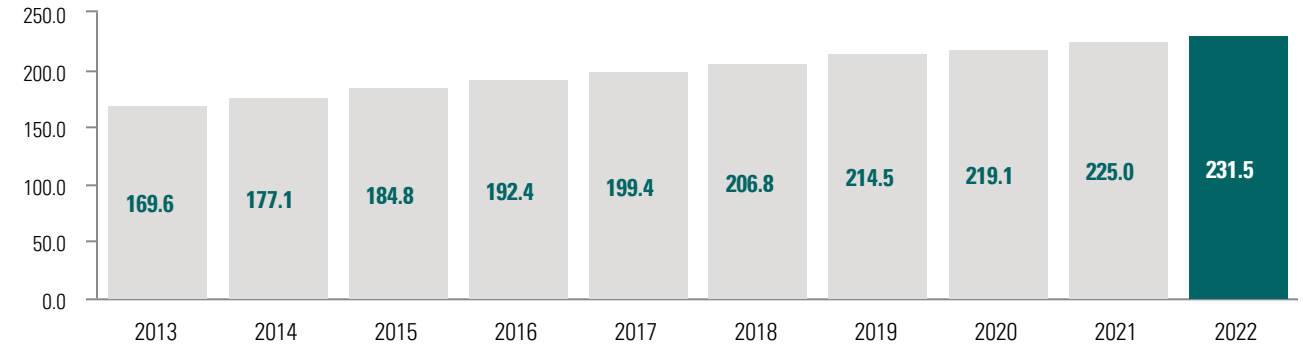
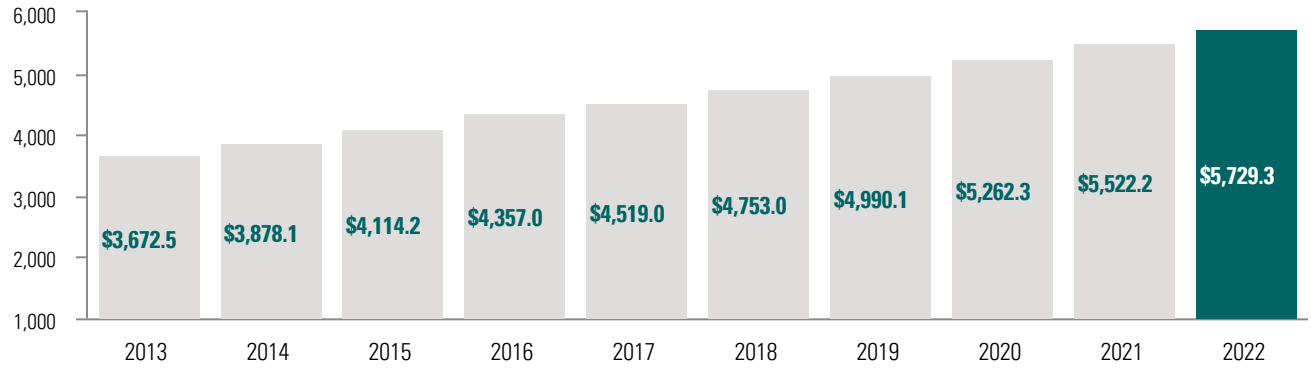


FIGURE 5.5: RETIREMENT BENEFITS PAID

FISCAL YEARS ENDED JUNE 30, 2013–2022

(EXPRESSED IN MILLIONS)



SCHEDULE OF PENSION TRUST FUND ADDITIONS BY SOURCE

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Member Contributions	Employer Contributions: For Members	Employer Contributions: Employer Share	Investment Income (Loss)	Other	Total
VIRGINIA RETIREMENT SYSTEM (VRS)						
2022	$ 933,434	$ —	$ 2,727,924	$ (114,431)	$ 444,347	$ 3,991,274
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
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)						
2022	$ 7,131	—	$ 36,494	$ (903)	—	$ 42,722
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
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)						
2022	$ 17,276	$ —	$ 73,960	$ (1,666)	$ —	$ 89,570
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
JUDICIAL RETIREMENT SYSTEM (JRS)						
2022	$ 2,033	$ —	$ 24,016	$ (477)	$ —	$ 25,572
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

** 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 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Retirement Benefits	Refunds	Administrative Expenses	Other	Total
		VIRGINIA RETIREMENT SYSTEM (VRS)			
2022	$ 5,480,191	$ 123,414	$ 58,703	$ 679	$ 5,662,987
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
		STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)			
2022	$ 71,465	$ 378	$ 602	$ —	$ 72,445
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
		VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)			
2022	$ 129,974	$ 6,284	$ 1,074	$ 8	$ 137,340
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
		JUDICIAL RETIREMENT SYSTEM (JRS)			
2022	$ 47,678	$ 41	$ 386	$ —	$ 48,105
2021	47,750	135	343	—	48,228
2020	46,546	12	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

SCHEDULE OF RETIREMENT BENEFITS BY SYSTEM AND PLAN

FISCAL YEARS 2013-2022

(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				
2022	$ 1,536,665	$ 2,635,945	$ 1,307,581	$ 5,480,191	$71,465	$129,974	$47,678	$ 5,729,308
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

SCHEDULE OF RETIREMENT BENEFITS BY TYPE

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
		STATE		
2022	$ 1,455,616	$ 61,614	$ 19,435	$ 1,536,665
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
		TEACHER		
2022	$ 2,511,192	$ 113,591	$ 11,162	$ 2,635,945
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

SCHEDULE OF RETIREMENT BENEFITS BY TYPE, cont.

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
		POLITICAL SUBDIVISIONS		
2022	$ 1,145,479	$ 150,476	$ 11,626	$ 1,307,581
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
		TOTAL VIRGINIA RETIREMENT SYSTEM (VRS)		
2022	$ 5,112,287	$ 325,681	$ 42,223	$ 5,480,191
2021	4,911,043	326,697	39,438	5,277,178
2020	4,911,043	326,697	39,438	5,277,178
2019	4,669,532	325,469	38,581	5,033,582
2018	4,417,869	320,427	36,368	4,774,664
2017	4,196,692	316,933	35,126	4,548,751
2016	3,974,970	315,315	33,740	4,324,025
2015	3,823,501	312,947	33,404	4,169,852
2014	3,601,697	303,787	30,172	3,935,656
2013	3,384,124	298,327	28,757	3,711,208
		STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)		
2022	$ 63,371	$ 7,293	$ 801	$ 71,465
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

SCHEDULE OF RETIREMENT BENEFITS BY TYPE, cont.

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Service Benefits	Disability Benefits	Survivor Benefits	Total
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)				
2022	$ 124,622	$ 4,248	$ 1,104	$ 129,974
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
JUDICIAL RETIREMENT SYSTEM (JRS)				
2022	$ 46,256	$ 273	$ 1,149	$ 47,678
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

SCHEDULE OF REFUNDS BY TYPE

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
STATE (VRS)			
2022	$ 23,233	$ 8,447	$ 31,680
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

SCHEDULE OF REFUNDS BY TYPE, cont.

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
TEACHER (VRS)			
2022	$ 36,642	$ 6,795	$ 43,437
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
POLITICAL SUBDIVISIONS (VRS)			
2022	$ 40,053	$ 8,244	$ 48,297
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
TOTAL VIRGINIA RETIREMENT SYSTEM (VRS)			
2022	$ 99,928	$ 23,486	$ 123,414
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

SCHEDULE OF REFUNDS BY TYPE, cont.

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Separation	Death	Total
STATE POLICE OFFICERS' RETIREMENT SYSTEM (SPORS)			
2022	$ 347	$ 31	$ 378
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
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)			
2022	$ 5,703	$ 581	$ 6,284
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
JUDICIAL RETIREMENT SYSTEM (JRS)			
2022	$ —	$ 41	$ 41
2021	38	97	135
2020	—	12	12
2019	—	—	—
2018	—	—	—
2017	—	—	—
2016	—	—	—
2015	—	—	—
2014	—	—	—
2013	—	—	—

SCHEDULE OF RETIREES AND BENEFICIARIES BY TYPE OF RETIREMENT

AS OF JUNE 30, 2022

Minimum Guaranteed Benefit Amount	Number of Retirees	Type of Retirement: Service Retirement	Type of Retirement: Disability Retirement	Type of Retirement: Pre-Retirement Death
$ 1-200	13,372	12,428	383	561
201-400	22,278	20,259	1,429	590
401-600	20,357	17,864	2,052	441
601-800	17,526	15,158	2,043	325
801-1,000	16,232	14,102	1,893	237
1,001-1,200	15,158	13,333	1,631	194
1,201-1,400	13,080	11,564	1,349	167
1,401-1,600	12,380	11,179	1,079	122
1,601-1,800	11,889	10,881	926	82
1,801-2,000	12,185	11,298	780	107
2,001-2,500	27,481	25,874	1,448	159
2,501-3,000	18,615	17,758	767	90
3,001-3,500	12,014	11,586	367	61
3,501-4,000	7,115	6,929	149	37
4,001-4,500	4,678	4,569	90	19
Over 4,500	7,163	7,055	68	40
Totals	**231,523**	**211,837**	**16,454**	**3,232**

SCHEDULE OF RETIREES AND BENEFICIARIES BY TYPE OF RETIREMENT AND PLAN

AS OF JUNE 30, 2022

Plan	Number of Retirees	Type of Retirement: Service Retirement	Type of Retirement: Disability Retirement	Type of Retirement: Pre-Retirement Death
VRS – State	61,651	57,152	3,198	1,301
VRS – Teacher	100,148	94,438	4,918	792
VRS – Political Subdivisions	61,994	53,118	7,926	950
SPORS	1,511	1,274	193	44
VaLORS	5,673	5,339	212	122
JRS	546	516	7	23
All Plans	**231,523**	**211,837**	**16,454**	**3,232**

SCHEDULE OF RETIREES AND BENEFICIARIES BY PAYOUT OPTION SELECTED

AS OF JUNE 30, 2022

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	10,095	2,013	337	56	214	409	5	219
201-400	17,342	3,241	653	116	302	371	2	219
401-600	15,617	3,022	707	156	247	302	2	282
601-800	13,261	2,552	731	141	260	259	5	267
801-1,000	11,849	2,392	823	180	260	331	3	343
1,001-1,200	10,569	2,296	1,119	257	309	228	—	349
1,201-1,400	8,874	1,993	1,224	257	283	157	—	259
1,401-1,600	8,047	1,852	1,599	312	220	112	—	185
1,601-1,800	7,552	1,659	1,850	362	231	81	—	110
1,801-2,000	7,591	1,561	2,217	460	196	60	—	82
2,001-2,500	15,535	3,361	6,969	1,059	404	73	—	84
2,501-3,000	10,460	2,126	5,053	683	268	33	—	41
3,001-3500	6,496	1,722	3,155	527	171	9	—	8
3,501-4,000	3,968	1,019	1,740	317	122	4	—	0
4,001-4,500	2,547	712	1,151	225	74	1	—	—
Over 4,500	3,839	1,548	1,402	408	104	2	—	4
Totals	**153,642**	**33,069**	**30,730**	**5,516**	**3,665**	**2,432**	**17**	**2,452**

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service: 1-10	11-15	16-20	21-25	26-30	Over 30
FY 2022	State	Average Monthly Benefit	$ 420.82	$ 712.67	$ 991.71	$ 1,357.33	$ 1,961.85	$ 2,671.09
		Number of Active Retirees	7,855	6,967	7,210	7,429	10,604	21,586
		Average AFC	$ 40,086.69	$ 43,592.97	$ 45,069.19	$ 47,414.84	$ 51,216.89	$ 58,871.22
	Teacher	Average Monthly Benefit	$ 383.91	$ 676.44	$ 1,019.62	$ 1,438.61	$ 2,252.09	$ 2,739.05
		Number of Active Retirees	10,697	11,329	13,205	13,525	20,902	30,490
		Average AFC	$ 38,073.22	$ 44,139.48	$ 49,118.29	$ 53,709.69	$ 58,940.23	$ 62,795.24
	Political Subdivisions	Average Monthly Benefit	$ 372.81	$ 607.27	$ 905.60	$ 1,365.26	$ 2,075.82	$ 2,672.90
		Number of Active Retirees	11,450	9,313	9,092	9,119	10,965	12,055
		Average AFC	$ 30,428.99	$ 35,166.21	$ 39,832.04	$ 46,265.40	$ 54,727.65	$ 61,565.99
	Total VRS	Average Monthly Benefit	$ 389.34	$ 662.25	$ 977.67	$ 1,396.29	$ 2,134.11	$ 2,703.74
		Number of Active Retirees	30,002	27,609	29,507	30,073	42,471	64,131
		Weighted Average AFC	$ 35,683.00	$ 40,975.00	$ 45,268.00	$ 49,897.00	$ 55,924.00	$ 61,243.00
	SPORS	Average Monthly Benefit	$ 868.79	$ 1,038.41	$ 1,427.80	$ 1,971.07	$ 2,452.52	$ 3,200.97
		Number of Active Retirees	59	24	39	119	409	861
		Average AFC	$ 35,906.19	$ 44,994.98	$ 50,739.29	$ 57,492.89	$ 61,269.99	$ 70,497.74

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2022 *(cont.)*	VaLORS	Average Monthly Benefit	$ 432.05	$ 712.51	$ 999.44	$ 1,350.58	$ 1,750.11	$ 2,353.81
		Number of Active Retirees	513	617	1,003	1,526	1,338	676
		Average AFC	$ 34,490.44	$ 36,991.31	$ 39,178.87	$ 42,248.37	$ 46,634.15	$ 54,165.40
	JRS	Average Monthly Benefit	$ 642.88	$ 1,728.93	$ 2,474.95	$ 3,261.57	$ 4,405.04	$ 6,542.36
		Number of Active Retirees	8	4	14	20	19	481
		Average AFC	$ 72,036.09	$ 142,387.23	$ 126,848.40	$ 132,852.08	$ 137,623.83	$ 134,566.78
	All Plans	Average Monthly Benefit	$ 391.05	$ 663.82	$ 979.65	$ 1,397.42	$ 2,126.42	$ 2,734.55
		Number of Active Retirees	30,582	28,254	30,563	31,738	44,237	66,149
		Weighted Average AFC	$ 35,673.00	$ 40,906.00	$ 45,112.00	$ 49,610.00	$ 55,728.00	$ 61,825.00
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 AFC	$ 32,410.22	$ 44,069.85	$ 48,891.60	$ 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 AFC	$ 25,217.70	$ 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	$ 28,943.00	$ 40,889.00	$ 44,969.00	$ 49,721.00	$ 55,325.00	$ 60,303.00
	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 AFC	$ 15,189.34	$ 43,728.94	$ 48,998.72	$ 58,868.35	$ 62,442.46	$ 71,615.72
	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 AFC	$ 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 AFC	$ 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	$ 28,834.00	$ 40,811.00	$ 44,809.00	$ 49,457.00	$ 55,170.00	$ 60,879.00
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 AFC	$ 41,230.05	$ 50,874.10	$ 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 AFC	$ 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	$ 41,997.00	$ 48,907.00	$ 53,231.00	$ 59,718.00	$ 66,639.00	$ 72,276.00
	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
		Weighted Average AFC	$ —	$ 61,959.94	$ 60,268.35	$ 74,259.53	$ 78,750.91	$ 97,682.52

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2020 *(cont.)*	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
		Weighted Average AFC	$ 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
		Weighted Average AFC	$ 154,667.00	$ 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	$ 42,030.00	$ 48,780.00	$ 52,892.00	$ 59,014.00	$ 66,361.00	$ 73,379.00
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 AFC	$ 41,487.37	$ 52,765.27	$ 66,479.20	$ 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 AFC	$ 34,890.16	$ 43,392.24	$ 59,749.44	$ 66,564.07	$ 75,715.07	$ 81,452.40
	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	—
		Weighted Average AFC	$ —	$ 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	—
		Weighted Average AFC	$ 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
		Weighted Average AFC	$ 91,640.00	$ —	$ 168,489.58	$ 162,497.43	$ 155,159.32	$ 157,977.80
	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 AFC	$ 39,946.00	$ 47,785.00	$ 55,420.00	$ 58,933.00	$ 65,809.00	$ 73,067.00
	Political Subdivisions	Average Monthly Benefit	$ 348.90	$ 619.09	$ 889.04	$ 1,452.77	$ 2,234.06	$ 2,986.58
		Number of Active Retirees	471	644	583	523	595	877
		Average AFC	$ 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

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2018 *(cont.)*	SPORS	Average Monthly Benefit	$ —	$ 467.23	$ —	$ 1,344.71	$ 2,929.29	$ 4,355.99
		Number of Active Retirees	—	2	—	4	16	22
		Weighted Average AFC	$ —	$ 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	$ 1,846.10	$ 2,624.09
		Number of Active Retirees	22	51	63	131	81	41
		Weighted Average AFC	$ 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
		Weighted Average AFC	$ —	$ 148,351.00	$ —	$ —	$ 149,709.00	$ 158,830.00
	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	$ 1,550.80	$ 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 AFC	$ 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 AFC	$ 33,216.00	$ 35,209.00	$ 41,290.00	$ 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
		Weighted Average AFC	$ 55,565.00	$ 46,014.00	$ —	$ 58,898.00	$ 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
		Weighted Average AFC	$ 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
		Weighted Average AFC	$ —	$ 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	$ 42,306.00	$ 49,610.00	$ 54,438.00	$ 58,555.00	$ 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

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2016* *(cont.)*	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
		Weighted 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
		Number of Active Retirees	29	26	48	90	79	51
		Weighted Average AFC	$ 39,019.00	$ 37,606.00	$ 39,308.00	$ 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
		Weighted Average AFC	$ —	$ —	$ —	$ 146,295.00	$ 146,294.00	$ 154,562.00
	All Plans	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	1,453
	Political Subdivisions	Average Monthly Benefit	$ 330.59	$ 513.35	$ 843.10	$ 1,254.45	$ 2,059.40	$ 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	$ 1,078.60	$ 969.65	$ —	$ 2,506.63	$ 2,539.27	$ 3,697.36
		Number of Active Retirees	1	1	—	2	16	34
	VaLORS	Average Monthly Benefit	$ 455.80	$ 585.05	$ 946.20	$ 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
FY 2014	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

SCHEDULE OF AVERAGE BENEFIT PAYMENTS

FOR RETIREMENTS EFFECTIVE JULY 1, 2013, TO JUNE 30, 2022

			Years of Credited Service					
			1-10	11-15	16-20	21-25	26-30	Over 30
FY 2014 *(cont.)*	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
	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

** Average Final Compensation (AFC) information was not available prior to fiscal year 2016.*

FIGURE 5.6: DISTRIBUTION OF RETIREES BY PAYOUT OPTION SELECTED

ALL RETIREES AT JUNE 30, 2022

	Basic Benefit	Survivor Option	PLOP with Basic Benefit	PLOP with Survivor Option	Advance Pension Option	Total
VRS – State	59.83%	18.21%	13.13%	3.21%	5.62%	100.00%
VRS – Teacher	70.67%	10.01%	14.10%	1.45%	3.77%	100.00%
VRS – Political Subdivisions	67.31%	16.41%	11.72%	2.72%	1.84%	100.00%
SPORS	40.50%	32.30%	17.34%	9.27%	0.59%	100.00%
VaLORS	61.22%	16.18%	16.13%	3.30%	3.17%	100.00%
JRS	25.64%	45.05%	13.19%	14.10%	2.02%	100.00%
All Plans	**68.00%**	**14.00%**	**13.00%**	**2.00%**	**3.00%**	**100.00%**

FISCAL YEAR 2022 RETIREES

	Basic Benefit	Survivor Option	PLOP with Basic Benefit	PLOP with Survivor Option	Advance Pension Option	Total
VRS – State	66.15%	12.13%	16.80%	3.12%	1.80%	100.00%
VRS – Teacher	72.19%	9.36%	15.43%	1.73%	1.29%	100.00%
VRS – Political Subdivisions	69.12%	11.28%	16.00%	2.53%	1.07%	100.00%
SPORS	42.50%	17.50%	30.00%	10.00%	—%	100.00%
VaLORS	70.54%	9.63%	15.01%	2.55%	2.27%	100.00%
JRS	44.00%	40.00%	12.00%	4.00%	—%	100.00%
All Plans	**72.00%**	**10.00%**	**15.00%**	**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, 2022

	1-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	Over 50 Years	Total
VRS – State	12.45%	23.00%	29.54%	29.04%	5.82%	0.15%	100.00%
VRS – Teacher	10.56%	24.50%	34.49%	28.45%	1.97%	0.03%	100.00%
VRS – Political Subdivisions	18.21%	29.69%	32.66%	17.80%	1.61%	0.03%	100.00%
SPORS	3.44%	4.17%	35.41%	50.03%	6.62%	0.33%	100.00%
VaLORS	8.57%	28.56%	50.95%	11.28%	0.62%	0.02%	100.00%
JRS	1.47%	3.30%	7.13%	12.45%	17.77%	57.88%	100.00%
All Plans	**13.00%**	**25.40%**	**33.03%**	**25.44%**	**2.93%**	**0.20%**	**100.00%**

FISCAL YEAR 2022 RETIREES

	1-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	Over 50 Years	Total
VRS – State	13.00%	26.00%	27.00%	24.00%	10.00%	—%	100.00%
VRS – Teacher	10.00%	31.00%	36.00%	19.00%	4.00%	—%	100.00%
VRS – Political Subdivisions	16.00%	31.00%	33.00%	17.00%	3.00%	—%	100.00%
SPORS	3.00%	5.00%	49.00%	35.00%	8.00%	—%	100.00%
VaLORS	5.00%	33.00%	59.00%	3.00%	—%	—%	100.00%
JRS	—%	12.00%	—%	20.00%	20.00%	48.00%	100.00%
All Plans	**13.00%**	**29.00%**	**34.00%**	**19.00%**	**5.00%**	**0.00%**	**100.00%**

FIGURE 5.8: DISTRIBUTION OF RETIREES BY AGE AT RETIREMENT

ALL RETIREES AT JUNE 30, 2022

	Under 55	55-59	60-65	Over Age 65	Total
VRS – State	15.57%	20.49%	34.20%	29.74%	100.00%
VRS – Teacher	13.65%	31.93%	34.59%	19.83%	100.00%
VRS – Political Subdivisions	23.73%	19.33%	30.54%	26.40%	100.00%
SPORS	54.67%	28.26%	12.50%	4.57%	100.00%
VaLORS	44.00%	24.70%	23.14%	8.16%	100.00%
JRS	5.49%	15.02%	30.96%	48.53%	100.00%
All Plans	**17.85%**	**25.27%**	**32.97%**	**23.91%**	**100.00%**

FISCAL YEAR 2022 RETIREES

	Under 55	55-59	60-65	Over Age 65	Total
VRS – State	4.02%	10.78%	36.36%	48.84%	100.00%
VRS – Teacher	7.27%	18.72%	39.28%	34.73%	100.00%
VRS – Political Subdivisions	14.96%	14.27%	34.07%	36.70%	100.00%
SPORS	52.50%	25.00%	20.00%	2.50%	100.00%
VaLORS	44.48%	22.95%	22.94%	9.63%	100.00%
JRS	—%	8.00%	16.00%	76.00%	100.00%
All Plans	**10.07%**	**15.45%**	**36.33%**	**38.15%**	**100.00%**

FIGURE 5.9: DISTRIBUTION OF RETIREES BY AVERAGE FINAL COMPENSATION

ALL RETIREES AT JUNE 30, 2022

	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	0.40%	5.83%	16.04%	20.41%	17.49%	12.54%	8.97%	6.12%	4.01%	2.64%	5.55%	100.00%
VRS – Teacher	0.60%	6.57%	9.29%	11.55%	17.00%	18.76%	14.24%	8.21%	5.56%	4.16%	4.06%	100.00%
VRS – Political Subdivisions	2.20%	12.92%	16.42%	18.14%	16.10%	11.37%	7.97%	5.26%	3.23%	2.17%	4.22%	100.00%
SPORS	0.79%	0.86%	3.31%	8.00%	14.76%	14.96%	16.55%	16.15%	11.58%	6.82%	6.22%	100.00%
VaLORS	—%	0.02%	5.34%	42.08%	34.32%	11.39%	3.84%	1.53%	0.67%	0.35%	0.46%	100.00%
JRS	0.92%	0.18%	—%	0.37%	0.37%	0.73%	1.10%	1.83%	3.66%	5.68%	85.16%	100.00%
All Plans	**0.96%**	**7.86%**	**12.84%**	**16.37%**	**17.26%**	**14.88%**	**10.89%**	**6.73%**	**4.44%**	**3.15%**	**4.62%**	**100.00%**

FISCAL YEAR 2022 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	—%	0.87%	5.82%	14.58%	18.80%	16.34%	12.16%	9.20%	6.82%	4.60%	10.81%	100.00%
VRS – Teacher	0.10%	3.94%	10.69%	7.75%	9.22%	15.03%	17.52%	11.53%	6.95%	7.17%	10.10%	100.00%
VRS – Political Subdivisions	0.15%	8.88%	10.29%	15.72%	17.09%	13.60%	10.87%	7.50%	4.90%	3.27%	7.73%	100.00%
SPORS	—%	—%	—%	—%	2.50%	2.50%	10.00%	10.00%	25.00%	20.00%	30.00%	100.00%
VaLORS	—%	—%	—%	16.71%	56.37%	17.28%	4.82%	1.98%	1.42%	0.57%	0.85%	100.00%
JRS	—%	—%	—%	—%	—%	—%	—%	—%	—%	—%	100.00%	100.00%
All Plans	**0.09%**	**4.60%**	**8.98%**	**12.19%**	**15.38%**	**14.90%**	**13.66%**	**9.38%**	**6.16%**	**5.14%**	**9.52%**	**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)**						
2021*	$ 95,288,645	$ 106,643,382	$ 11,354,737	89.4%	$19,060,681	59.6%
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%
STATE POLICE RETIREMENT SYSTEM						
2021*	$ 1,050,148	$ 1,326,646	$ 276,498	79.2%	$ 142,795	193.6%
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%
VIRGINIA LAW OFFICERS' RETIREMENT SYSTEM (VaLORS)						
2021*	$ 1,868,924	$ 2,407,153	$ 538,229	77.6%	$ 351,086	153.3%
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%
JUDICIAL RETIREMENT SYSTEM (JRS)						
2021*	$ 673,152	$ 733,408	$ 60,256	91.8%	$ 79,125	179.2%
2020	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%

** 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						
2021*	$ 23,112,417	$ 26,727,971	$ 3,615,554	86.5%	$ 4,594,347	78.7%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – TEACHER						
2021*	$ 45,617,878	$ 52,747,596	$ 7,129,718	86.5%	$ 8,971,605	79.5%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – POLITICAL SUBDIVISIONS						
2021*	$ 26,558,350	$ 27,167,815	$ 609,465	97.8%	$ 5,494,729	11.1%
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%
VIRGINIA RETIREMENT SYSTEM (VRS) – TOTAL						
2021*	$ 95,288,645	$ 106,643,382	$ 11,354,737	89.4%	$ 19,060,681	59.6%
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%

** 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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 747**	**$ 888**	**$ 1,079**	**$ 1,163**	**$ 1,225**	**$ 1,438**	**$ 1,595**	**$ 1,763**	**$ 1,855**	**$ 2,413**
Funding:										
Member and Employer Contributions and Other Additions	202	206	208	214	240	249	257	270	277	322
Benefits and Administrative Expenses	151	161	177	175	186	203	203	214	254	262
Net Funding	51	45	31	39	54	46	55	56	23	60
Investment Income:										
Interest, Dividends and Other Investment Income	14	17	16	17	18	19	21	18	17	16
Net Appreciation (Depreciation) in Fair Value	76	130	36	6	140	92	92	18	518	(21)
Net Investment Income	90	147	52	23	158	111	113	36	535	(5)
Net Increase (Decrease)	**141**	**192**	**83**	**62**	**213**	**157**	**168**	**92**	**558**	**55**
Fiduciary Net Position Restricted – End of Year	**$ 888**	**$ 1,079**	**$ 1,163**	**$ 1,225**	**$ 1,438**	**$ 1,595**	**$ 1,763**	**$ 1,855**	**$ 2,413**	**$ 2,468**

SCHEDULE OF GROUP LIFE INSURANCE ADDITIONS BY SOURCE

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Contributions				Investment Income (Loss)	Other	Total
	State	Teacher	Political Subdivisions	Sub-Total			
2022	$ 97,175	$ 138,505	$ 86,740	$ 322,420	$ (5,235)	$ —	$ 317,185
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

SCHEDULE OF GROUP LIFE INSURANCE DEDUCTIONS BY TYPE

FISCAL YEARS 2013–2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Group Life Claims			Administrative Expenses	Other	Total
	Active	Retired	Sub-Total			
2022	$ 87,472	$ 171,525	$ 258,997	$ 1,184	$ 2,089	$ 262,270
2021	79,119	172,263	251,382	862	1,918	254,655
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

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$127,234**	**$146,472**	**$170,048**	**$173,194**	**$173,211**	**$201,315**	**$235,372**	**$269,346**	**$301,178**	**$444,581**
Funding:										
Employer Contributions and Other Additions	145,031	146,742	144,834	151,916	168,271	184,706	187,652	195,872	236,138	228,895
Less: Reimbursements and Administrative Expenses	137,906	143,088	148,459	154,320	159,280	164,295	169,072	169,128	172,642	179,845
Net Funding	7,125	3,654	(3,625)	(2,404)	8,991	20,411	18,580	26,744	63,496	49,050
Investment Income:										
Interest, Dividends and Other Investment Income	1,856	2,226	2,140	2,098	2,168	2,343	2,785	2,576	2,465	2,683
Net Appreciation (Depreciation) in Fair Value	10,257	17,696	4,631	323	16,945	11,303	12,609	2,512	77,442	(3,989)
Net Investment Income	12,113	19,922	6,771	2,421	19,113	13,646	15,394	5,088	79,907	(1,306)
Net Increase (Decrease)	**19,238**	**23,576**	**3,146**	**17**	**28,104**	**34,057**	**33,974**	**31,832**	**143,403**	**47,744**
Fiduciary Net Position Restricted – End of Year	**$146,472**	**$170,048**	**$173,194**	**$173,211**	**$201,315**	**$235,372**	**$269,346**	**$301,178**	**$444,581**	**$492,325**

VIRGINIA RETIREMENT SYSTEM – STATE

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 54,290**	**$ 59,880**	**$ 65,202**	**$ 67,434**	**$ 68,685**	**$ 79,516**	**$ 95,908**	**$109,023**	**$125,378**	**$207,860**
Funding:										
Employer Contributions and Other Additions	60,848	59,438	63,907	66,410	74,520	79,952	79,926	84,850	119,847	93,847
Less: Reimbursements and Administrative Expenses	60,911	61,249	64,551	66,157	71,395	69,272	73,000	70,681	72,156	76,774
Net Funding	(63)	(1,811)	(644)	253	3,125	10,680	6,926	14,169	47,691	17,073
Investment Income:										
Interest, Dividends and Other Investment Income	866	941	910	864	875	981	1,121	1,136	1,069	829
Net Appreciation (Depreciation) in Fair Value	4,787	6,192	1,966	134	6,831	4,731	5,068	1,050	33,722	(1,187)
Net Investment Income	5,653	7,133	2,876	998	7,706	5,712	6,189	2,186	34,791	(358)
Net Increase (Decrease)	**5,590**	**5,322**	**2,232**	**1,251**	**10,831**	**16,392**	**13,115**	**16,355**	**82,482**	**16,715**
Fiduciary Net Position Restricted – End of Year	**$ 59,880**	**$ 65,202**	**$ 67,434**	**$ 68,685**	**$ 79,516**	**$ 95,908**	**$109,023**	**$125,378**	**$207,860**	**$224,575**

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

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 56,869**	**$ 68,955**	**$ 82,108**	**$ 84,386**	**$ 82,854**	**$ 96,091**	**$111,639**	**$129,016**	**$144,161**	**$194,305**
Funding:										
Employer Contributions and Other Additions	80,489	80,720	78,875	80,831	88,059	99,019	100,643	105,210	107,172	124,845
Less: Reimbursements and Administrative Expenses	73,147	75,033	79,670	83,510	83,640	89,578	90,616	92,356	94,121	96,386
Net Funding	7,342	5,687	(795)	(2,679)	4,419	9,441	10,027	12,854	13,051	28,459
Investment Income:										
Interest, Dividends and Other Investment Income	728	1,012	970	995	1,000	1,049	1,330	1,096	1,148	1,629
Net Appreciation (Depreciation) in Fair Value	4,016	6,454	2,103	152	7,818	5,058	6,020	1,195	35,945	(2,548)
Net Investment Income	4,744	7,466	3,073	1,147	8,818	6,107	7,350	2,291	37,093	(919)
Net Increase (Decrease)	**12,086**	**13,153**	**2,278**	**(1,532)**	**13,237**	**15,548**	**17,377**	**15,145**	**50,144**	**27,540**
Fiduciary Net Position Restricted – End of Year	**$ 68,955**	**$ 82,108**	**$ 84,386**	**$ 82,854**	**$ 96,091**	**$111,639**	**$129,016**	**$144,161**	**$194,305**	**$221,845**

VIRGINIA RETIREMENT SYSTEM – POLITICAL SUBDIVISIONS

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 14,267**	**$ 16,126**	**$ 18,592**	**$ 19,332**	**$ 19,321**	**$ 22,156**	**$ 23,170**	**$ 24,468**	**$ 24,466**	**$ 33,234**
Funding:										
Employer Contributions and Other Additions	1,945	1,876	1,933	1,991	2,278	2,179	2,406	2,553	5,239	5,683
Less: Reimbursements and Administrative Expenses	1,802	1,817	2,015	2,278	1,717	2,735	2,598	3,044	3,182	3,380
Net Funding	143	59	(82)	(287)	561	(556)	(192)	(491)	2,057	2,303
Investment Income:										
Interest, Dividends and Other Investment Income	262	273	260	239	258	270	270	281	208	148
Net Appreciation (Depreciation) in Fair Value	1,454	2,134	562	37	2,016	1,300	1,220	208	6,503	(145)
Net Investment Income	1,716	2,407	822	276	2,274	1,570	1,490	489	6,711	3
Net Increase (Decrease)	**1,859**	**2,466**	**740**	**(11)**	**2,835**	**1,014**	**1,298**	**(2)**	**8,768**	**2,306**
Fiduciary Net Position Restricted – End of Year	**$ 16,126**	**$ 18,592**	**$ 19,332**	**$ 19,321**	**$ 22,156**	**$ 23,170**	**$ 24,468**	**$ 24,466**	**$ 33,234**	**$ 35,540**

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

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 1,337**	**$ 830**	**$ 2,377**	**$ 1,120**	**$ 1,479**	**$ 2,427**	**$ 3,278**	**$ 4,479**	**$ 5,112**	**$ 6,668**
Funding:										
Employer Contributions and Other Additions	805	2,833	113	1,830	2,305	2,397	2,794	2,526	2,666	3,112
Less: Reimbursements and Administrative Expenses	1,312	3,245	1,370	1,471	1,572	1,727	1,831	1,979	2,064	2,149
Net Funding	(507)	(412)	(1,257)	359	733	670	963	547	602	963
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	24	31	41	44	30	65
Net Appreciation (Depreciation) in Fair Value	—	1,959	—	—	191	150	197	42	924	(92)
Net Investment Income	—	1,959	—	—	215	181	238	86	954	(27)
Net Increase (Decrease)	**(507)**	**1,547**	**(1,257)**	**359**	**948**	**851**	**1,201**	**633**	**1,556**	**936**
Fiduciary Net Position Restricted – End of Year	**$ 830**	**$ 2,377**	**$ 1,120**	**$ 1,479**	**$ 2,427**	**$ 3,278**	**$ 4,479**	**$ 5,112**	**$ 6,668**	**$ 7,604**

VIRGINIA RETIREMENT SYSTEM – SOCIAL SERVICES

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ 534**	**$ 683**	**$ 1,738**	**$ 915**	**$ 861**	**$ 1,091**	**$ 1,319**	**$ 2,273**	**$ 1,935**	**$ 2,346**
Funding:										
Employer Contributions and Other Additions	862	1,818	5	824	1,062	1,126	1,847	689	1,160	1,334
Less: Reimbursements and Administrative Expenses	713	1,683	828	878	929	971	1,015	1,061	1,084	1,118
Net Funding	149	135	(823)	(54)	133	155	832	(372)	76	216
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	11	12	22	18	10	9
Net Appreciation (Depreciation) in Fair Value	—	920	—	—	86	61	100	16	325	(13)
Net Investment Income	—	920	—	—	97	73	122	34	335	(4)
Net Increase (Decrease)	**149**	**1,055**	**(823)**	**(54)**	**230**	**228**	**954**	**(338)**	**411**	**212**
Fiduciary Net Position Restricted – End of Year	**$ 683**	**$ 1,738**	**$ 915**	**$ 861**	**$ 1,091**	**$ 1,319**	**$ 2,273**	**$ 1,935**	**$ 2,346**	**$ 2,558**

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										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$ (63)**	**$ (2)**	**$ 31**	**$ 7**	**$ 11**	**$ 34**	**$ 58**	**$ 87**	**$ 126**	**$ 168**
Funding:										
Employer Contributions and Other Additions	82	57	1	30	47	33	36	44	54	74
Less: Reimbursements and Administrative Expenses	21	61	25	26	27	12	12	7	35	38
Net Funding	61	(4)	(24)	4	20	21	24	37	19	36
Investment Income:										
Interest, Dividends and Other Investment Income	—	—	—	—	—	—	1	1	—	3
Net Appreciation (Depreciation) in Fair Value	—	37	—	—	3	3	4	1	23	(4)
Net Investment Income	—	37	—	—	3	3	5	2	23	(1)
Net Increase (Decrease)	**61**	**33**	**(24)**	**4**	**23**	**24**	**29**	**39**	**42**	**35**
Fiduciary Net Position Restricted – End of Year	**$ (2)**	**$ 31**	**$ 7**	**$ 11**	**$ 34**	**$ 58**	**$ 87**	**$ 126**	**$ 168**	**$ 203**

SCHEDULE OF RETIREE HEALTH INSURANCE CREDIT ADDITIONS BY SOURCE

FISCAL YEARS 2013-2022 (EXPRESSED IN THOUSANDS)

	Contributions							
Year Ended June 30	State	Teacher	Political Subdivisions	State-Funded HIC	Sub-Total	Investment Income (Loss)	Other	Total
2022	$ 93,847	$ 124,845	$ 5,683	$ 4,520	$ 228,895	$ (1,306)	$ —	$ 227,589
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

SCHEDULE OF RETIREE HEALTH INSURANCE CREDIT DEDUCTIONS BY TYPE

FISCAL YEARS 2013-2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Retiree Health Insurance Reimbursements					Administrative Expenses	Other	Total
	State	Teacher	Political Subdivisions	State-Funded HIC	Sub-Total			
2022	$ 76,023	$ 95,289	$ 4,460	$ 3,271	$ 179,043	$ 786	$ 16	$ 179,845
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

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiduciary Net Position Restricted – Beginning of Year	**$343,972**	**$370,121**	**$410,097**	**$414,518**	**$407,826**	**$442,334**	**$462,961**	**$488,241**	**$490,220**	**$611,919**
Funding:										
Employer Contributions and Other Additions	17,267	17,693	24,026	25,156	24,768	25,982	25,263	26,994	26,542	28,249
Less: Disability Insurance Benefits and Administrative Expenses	30,668	34,290	37,942	38,782	38,466	38,706	31,627	35,168	36,729	37,543
Net Funding	(13,401)	(16,597)	(13,916)	(13,626)	(13,698)	(12,724)	(6,364)	(8,174)	(10,187)	(9,294)
Investment Income:										
Interest, Dividends and Other Investment Income	5,919	6,264	5,705	5,576	5,458	6,609	6,923	5,558	4,711	4,601
Net Appreciation (Depreciation) in Fair Value	33,631	50,309	12,632	1,358	42,748	26,742	24,721	4,595	127,175	(4,310)
Net Investment Income	39,550	56,573	18,337	6,934	48,206	33,351	31,644	10,153	131,886	291
Net Increase (Decrease)	**26,149**	**39,976**	**4,421**	**(6,692)**	**34,508**	**20,627**	**25,280**	**1,979**	**121,699**	**(9,003)**
Fiduciary Net Position Restricted – End of Year	**$370,121**	**$410,097**	**$414,518**	**$407,826**	**$442,334**	**$462,961**	**$488,241**	**$490,220**	**$611,919**	**$602,916**

SCHEDULE OF DISABILITY INSURANCE TRUST FUND ADDITIONS BY SOURCE

FISCAL YEARS 2013–2022

(EXPRESSED IN THOUSANDS)

Year Ended June 30	Contributions	Investment Income	Transfers and Other Additions	Total
LONG-TERM DISABILITY PROGRAM				
2022	$ 27,322	$ (413)	$ —	$ 26,909
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
LONG-TERM CARE PROGRAM				
2022	$ 1,723	$ (92)	$ —	$ 1,631
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
TOTAL DISABILITY INSURANCE TRUST FUND				
2022	$ 29,045	$ (505)	$ —	$ 28,540
2021	27,055	131,373	—	158,428
2020	27,055	131,373	—	158,428
2019	27,702	9,445	—	37,147
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

SCHEDULE OF DISABILITY INSURANCE TRUST FUND DEDUCTIONS BY TYPE

FISCAL YEARS 2013-2022

(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						
2022	$ 29,327	$ —	$ 6,338	$ 395	$ 153	$ 36,213
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
LONG-TERM CARE PROGRAM						
2022	$ —	$ 298	$ 908	$ 89	$ 35	$ 1,330
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
TOTAL DISABILITY INSURANCE TRUST FUND						
2022	$ 29,327	$ 298	$ 7,246	$ 484	$ 188	$ 37,543
2021	28,704	86	7,137	600	202	36,729
2020	28,704	86	7,137	600	202	36,729
2019	27,162	643	6,611	631	121	35,168
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

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)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Net Position Restricted – Beginning of Year	**$ —**	**$ —**	**$ —**	**$ 728**	**$ 2,708**	**$ 3,461**	**$ 1,889**	**$ 2,839**	**$ 4,333**	**$ 7,553**
Funding:										
Employer Contributions and Other Additions	6,869	7,229	9,121	10,881	11,608	10,890	13,377	13,567	13,633	13,770
Less: Disability Insurance Benefits and Administrative Expenses	7,814	8,668	8,572	9,026	11,538	13,140	13,362	13,000	14,074	15,023
Net Funding	(945)	(1,439)	549	1,855	70	(2,250)	15	567	(441)	(1,253)
Investment Income:										
Interest, Dividends and Other Investment Income	144	157	64	62	77	96	769	681	727	745
Net Appreciation (Depreciation) in Fair Value	801	1,282	115	63	606	582	166	246	2,934	169
Net Investment Income	945	1,439	179	125	683	678	935	927	3,661	914
Net Increase (Decrease)	**—**	**—**	**728**	**1,980**	**753**	**(1,572)**	**950**	**1,494**	**3,220**	**(339)**
Net Position Restricted – End of Year	**$ —**	**$ —**	**$ 728**	**$ 2,708**	**$ 3,461**	**$ 1,889**	**$ 2,839**	**$ 4,333**	**$ 7,553**	**$ 7,214**

FIGURE 5.14: ANALYSIS OF CHANGES AND GROWTH IN FIDUCIARY NET POSITION – DISABILITY PROGRAM

FOR THE YEARS ENDED JUNE 30 (EXPRESSED IN THOUSANDS)

	2014*	2015	2016	2017	2018	2019	2020	2021	2022
Net Position Restricted – Beginning of Year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 630**	**$ 1,463**	**$ 3,623**	**$ 6,204**	**$ 11,756**
Funding:									
Employer Contributions and Other Additions	429	875	1,351	1,993	3,030	4,192	5,110	6,504	7,671
Less: Disability Insurance Benefits and Administrative Expenses	429	873	1,351	1,363	2,261	2,208	2,622	3,069	4,047
Net Funding	—	2	—	630	769	1,984	2,488	3,435	3,624
Investment Income:									
Interest, Dividends and Other Investment Income	—	—	—	—	14	26	43	62	80
Net Appreciation (Depreciation) in Fair Value	—	(2)	—	—	50	150	50	2,055	(192)
Net Investment Income	—	(2)	—	—	64	176	93	2,117	(112)
Net Increase (Decrease)	**$ —**	**—**	**—**	**630**	**833**	**2,160**	**2,581**	**5,552**	**3,512**
Net Position Restricted – End of Year	**$ —**	**$ —**	**$ —**	**$ 630**	**$ 1,463**	**$ 3,623**	**$ 6,204**	**$ 11,756**	**$ 15,268**

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	2020	2021	2022
Net Position Restricted – Beginning of Year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 279**	**$ 647**	**$ 1,661**	**$ 2,887**	**$ 5,590**
Funding:									
Employer Contributions and Other Additions	182	370	567	883	1,339	1,966	2,426	3,166	3,783
Less: Disability Insurance Benefits and Administrative Expenses	182	369	567	604	1,000	1,035	1,245	1,494	1,997
Net Funding	—	1	—	279	339	931	1,181	1,672	1,786
Investment Income:									
Interest, Dividends and Other Investment Income	—	—	—	—	7	13	22	30	39
Net Appreciation (Depreciation) in Fair Value	—	(1)	—	—	22	70	23	1,001	(95)
Net Investment Income	—	(1)	—	—	29	83	45	1,031	(56)
Net Increase (Decrease)	**$ —**	**$ —**	**$ —**	**$ 279**	**$ 368**	**$ 1,014**	**$ 1,226**	**$ 2,703**	**$ 1,730**
Net Position Restricted – End of Year	**$ —**	**$ —**	**$ —**	**$ 279**	**$ 647**	**$ 1,661**	**$ 2,887**	**$ 5,590**	**$ 7,320**

VIRGINIA RETIREMENT SYSTEM – POLITICAL SUBDIVISIONS

	2014*	2015	2016	2017	2018	2019	2020	2021	2022
Net Position Restricted – Beginning of Year	**$ —**	**$ —**	**$ —**	**$ —**	**$ 351**	**$ 816**	**$ 1,962**	**$ 3,317**	**$ 6,166**
Funding:									
Employer Contributions and Other Additions	247	505	784	1,110	1,691	2,226	2,684	3,338	3,888
Less: Disability Insurance Benefits and Administrative Expenses	247	504	784	759	1,261	1,173	1,377	1,575	2,050
Net Funding	—	1	—	351	430	1,053	1,307	1,763	1,838
Investment Income:									
Interest, Dividends and Other Investment Income	—	—	—	—	7	13	21	32	41
Net Appreciation (Depreciation) in Fair Value	—	(1)	—	—	28	80	27	1,054	(97)
Net Investment Income	—	(1)	—	—	35	93	48	1,086	(56)
Net Increase (Decrease)	**$ —**	**$ —**	**$ —**	**$ 351**	**$ 465**	**$ 1,146**	**$ 1,355**	**$ 2,849**	**$ 1,782**
Net Position Restricted – End of Year	**$ —**	**$ —**	**$ —**	**$ 351**	**$ 816**	**$ 1,962**	**$ 3,317**	**$ 6,166**	**$ 7,948**

** 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
2022	218,944	138,662	2,393	791
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

SCHEDULE OF AVERAGE BENEFIT PAYMENTS BY PLAN

Group Life Insurance

Year Ended June 30	Number of Claims Paid	Average Claim Amount
2022	6,079	$ 25,848
2021	6,291	26,308
2020	5,304	25,516
2019	5,171	24,307
2018	5,255	24,865
2017	4,846	24,634
2016	4,660	23,735
2015	4,520	24,754
2014	4,259	23,489
2013	4,206	21,816

Retiree Health Insurance Credit

Payment Period	Number of Recipients	Average Monthly Credit Amount
June 2022	138,662	$ 106
June 2021	132,361	108
June 2020	129,855	108
June 2019	127,802	108
June 2018	124,406	108
June 2017	120,304	108
June 2016	116,408	108
June 2015	112,053	108
June 2014	108,076	108
June 2013	103,952	107

Disability Insurance

Payment Period	Number of Claims Paid	Average Gross Monthly Benefit	Average Net Monthly Benefit*
June 2022	2,393	$ 2,090	$ 1,156
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

** 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
2022	—	5	2022	791	$ 17,683
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

** 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, 2022:

PARTICIPATING POLITICAL SUBDIVISIONS: 466

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 Glasgow: B	Town of Pembroke: B
City of Bristol: B	Town of Bedford: B	Town of Gordonsville: B	Town of Pennington Gap: A
City of Buena Vista: B	Town of Berryville: B	Town of Gretna: B	Town of Pulaski: B
City of Chesapeake: B	Town of Big Stone Gap: A	Town of Grottoes: B	Town of Purcellville: B
City of Colonial Heights: B	Town of Blacksburg: B	Town of Grundy: B	Town of Quantico: B
City of Covington: C	Town of Blackstone: B	Town of Halifax: B	Town of Remington: B
City of Danville: A	Town of Bluefield: B	Town of Hamilton: C	Town of Rich Creek: B
City of Emporia: B	Town of Bowling Green: B	Town of Haymarket: B	Town of Richlands: A
City of Fairfax: A	Town of Boydton: B	Town of Haysi: A	Town of Rocky Mount: B
City of Falls Church: B	Town of Boykins: A	Town of Herndon: B	Town of Round Hill: B
City of Franklin: B	Town of Bridgewater: B	Town of Hillsville: B	Town of Rural Retreat: A
City of Fredericksburg: B	Town of Broadway: B	Town of Hurt: B	Town of Saltville: A
City of Galax: B	Town of Brodnax: A	Town of Independence: A	Town of Scottsville: B
City of Hampton: B	Town of Brookneal: B	Town of Iron Gate: B	Town of Shenandoah: C
City of Harrisonburg: B	Town of Buchanan: A	Town of Jarratt: A	Town of Smithfield: B
City of Hopewell: B	Town of Burkeville: B	Town of Jonesville: B	Town of South Boston: B
City of Lexington: B	Town of Cape Charles: B	Town of Kenbridge: C	Town of South Hill: B
City of Lynchburg: B	Town of Chase City: B	Town of Kilmarnock: C	Town of St. Paul: B
City of Manassas Park: B	Town of Chatham: B	Town of La Crosse: A	Town of Stanley: C
City of Manassas: C	Town of Chilhowie: B	Town of Lawrenceville: C	Town of Stephens City: B
City of Martinsville: B	Town of Chincoteague: B	Town of Lebanon: B	Town of Strasburg: C
City of Newport News: B	Town of Christiansburg: A	Town of Leesburg: B	Town of Tappahannock: A
City of Norfolk: B	Town of Clarksville: B	Town of Louisa: B	Town of Tazewell: A
City of Norton: B	Town of Clifton Forge: B	Town of Lovettsville: B	Town of Timberville: B
City of Petersburg: B	Town of Coeburn: B	Town of Luray: B	Town of Troutville: A
City of Poquoson: C	Town of Colonial Beach: B	Town of Madison: B	Town of Urbanna: B
City of Portsmouth: B	Town of Courtland: B	Town of Marion: B	Town of Victoria: B
City of Radford: C	Town of Craigsville: B	Town of McKenney: B	Town of Vienna: B
City of Richmond: B	Town of Crewe: B	Town of Middleburg: B	Town of Vinton: B
City of Roanoke: B	Town of Culpeper: B	Town of Middletown: D	Town of Wakefield: A
City of Salem: B	Town of Dayton: B	Town of Mineral: A	Town of Warrenton: B
City of Staunton: B	Town of Dublin: B	Town of Montross: B	Town of Warsaw: B
City of Suffolk: B	Town of Dumfries: C	Town of Mount Jackson: B	Town of Waverly: A
City of Virginia Beach: B	Town of Eastville: B	Town of Narrows: A	Town of Weber City: B
City of Waynesboro: B	Town of Edinburg: A	Town of New Market: B	Town of West Point: B
City of Williamsburg: B	Town of Elkton: B	Town of Occoquan: A	Town of Windsor: B
City of Winchester: C	Town of Exmore: A	Town of Onancock: B	Town of Wise: B
Town of Abingdon: C	Town of Farmville: A	Town of Onley: B	Town of Woodstock: C
Town of Altavista: B	Town of Floyd: B	Town of Orange: B	Town of Wytheville: B
Town of Amherst: B	Town of Front Royal: B	Town of Parksley: B	
Town of Appomattox: B	Town of Gate City: A	Town of Pearisburg: C	

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS: 211

Accomack-Northampton Planning District Commission: C
Albemarle County Service Authority: B
Albemarle-Charlottesville Regional Jail: B
Alexandria Redevelopment & Housing Authority: B
Alexandria Renew Enterprises: A
Alleghany Highlands Community Services Board: B
Alleghany Highlands Regional Library, Inc.: B
Amherst County Service Authority: C
Anchor Commission: B
Appalachian Juvenile Commission: C
Appomattox Regional Library: B
Appomattox River Water Authority: B
Augusta County Service Authority: B
Bedford Public Library: B
Bedford Regional Water Authority: B
Big Sandy Soil & Water Conservation District: B
Big Stone Gap Redevelopment & Housing Authority: B
Big Walker Soil & Water Conservation District: A
Blacksburg-VPI Sanitation Authority: B
Blue Ridge Behavioral Healthcare: B
Blue Ridge Juvenile Detention Center: B
Blue Ridge Regional Jail Authority: B
Blue Ridge Resource Authority: B
Breaks Interstate Park Commission: A
Bristol Redevelopment & Housing Authority: B
Bristol Virginia Utilities Authority: B
Brunswick Industrial Development Authority: B
Campbell County Utilities & Service Authority: B
Capital Region Airport Commission: C
Central Rappahannock Regional Library: B
Central Shenandoah Justice Training Academy: B
Central Virginia Planning District Commission: B
Central Virginia Regional Jail: B
Central Virginia Waste Management Authority: C
Charlottesville-Albemarle Airport Authority: B
Charlottesville Redevelopment & Housing Authority: B
Chesapeake Bay Bridge & Tunnel District: B
Chesapeake Redevelopment & Housing Authority: B
Chesterfield County Health Center Commission: B
Clinch Valley Soil & Water Conservation District: B
Coeburn-Norton-Wise Regional Water Treatment Authority: B
Colonial Behavioral Health: C
Colonial Soil & Water Conservation District: B
Commonwealth Regional Council: A
Crater Criminal Justice Training Academy: B
Crater Juvenile Detention Home Community: B
Culpeper Soil & Water Conservation District: B
Cumberland Mountain Community Services Board: B
Cumberland Plateau Regional Housing Authority: B
Daniel Boone Soil & Water Conservation District: C
Danville-Pittsylvania Community Services Board: B
Danville Redevelopment & Housing Authority: B
Dinwiddie County Water Authority: B
District 19 Community Services Board: C
Eastern Shore Community Services Board: B
Eastern Shore Public Library: B
Eastern Shore Soil & Water Conservation District: B
Economic Development Authority of Henrico County: B
Evergreen Soil & Water Conservation District: C
Fauquier County Water & Sanitation Authority: B
Ferrum Water & Sewage Authority: A
Franklin Redevelopment & Housing Authority: B
Frederick County Sanitation Authority: C
Giles County Public Service Authority: B
Goochland-Powhatan Community Services Board: B
Greensville County Water & Sewer Authority: C
Greensville-Emporia Department of Social Services: C
Halifax Service Authority: B
Hampton-Newport News Community Services Board: A
Hampton Redevelopment & Housing Authority: B
Hampton Roads Planning District Commission: B
Hampton Roads Regional Jail Authority: B
Hampton Roads Sanitation District: C
Hampton Roads Transit: B
Hampton Roads Transportation Accountability Commission: C
Hampton Roads Workforce Council: B
Handley Regional Library: B
Harrisonburg-Rockingham Community Services Board: C
Harrisonburg-Rockingham Regional Sewer Authority: B
Henricopolis Soil & Water Conservation District: B
Henry County Public Service Authority: C
Holston River Soil & Water Conservation District: C
Hopewell Redevelopment & Housing Authority: A
Horizon Behavioral Health: B

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS, cont.

Institute for Advanced Learning and Research: A
James City Service Authority: C
John Marshall Soil & Water Conservation District: B
Lee County Public Service Authority: B
Lee County Redevelopment & Housing Authority: B
Lenowisco Planning District Commission: B
Lonesome Pine Regional Library: B
Lonesome Pine Soil & Water Conservation District: B
Loudoun County Sanitation Authority: B
Massanutten Regional Library: B
Maury Service Authority: B
Meherrin Regional Library: C
Meherrin River Regional Jail Authority: C
Middle Peninsula Juvenile Detention Commission: C
Middle Peninsula-Northern Neck Community Services Board: B
Middle Peninsula Planning District Commission: B
Middle Peninsula Regional Security Center: B
Middle River Regional Jail Authority: B
Monacan Soil & Water Conservation District: C
Montgomery Regional Solid Waste Authority: B
Mount Rogers Community Services Board: B
Nelson County Service Authority: B
New River Resource Authority: C
New River Soil & Water Conservation District: B
New River Valley Community Services Board: A
New River Valley Emergency Communications Regional Authority: B
New River Valley Juvenile Detention Home Commission: B
New River Valley Regional Commission: A
New River Valley Regional Jail: B
Norfolk Airport Authority: B
Norfolk Redevelopment & Housing Authority: B
Northern Neck Planning District Commission: B
Northern Neck Regional Jail: B
Northern Neck Soil and Water Conservation District: A
Northern Shenandoah Valley Regional Commission: B
Northern Virginia Health Care Center Commission: A
Northern Virginia Juvenile Detention Home: B
Northern Virginia Soil and Water Conservation District: A
Northern Virginia Transportation Authority: C
Northwestern Community Services Board: B
NRV Regional Water Authority: B
Orange County Braodband Authority: B
Pamunkey Regional Jail: C
Pamunkey Regional Library: C
Peaks of Otter Soil & Water Conservation District: B
Peanut Soil and Water Conservation District: A
Peninsula Airport Commission: B
Pepper's Ferry Regional Wastewater Authority: C
Peter Francisco Soil & Water Conservation District: A
Petersburg Redevelopment & Housing Authority: C
Peumansend Creek Regional Jail Authority: B
Piedmont Community Services Board: B
Piedmont Regional Jail: B
Piedmont Regional Juvenile Detention Center: B
Planning District One Behavioral Health Services Board: C
Portsmouth Redevelopment & Housing Authority: B
Potomac and Rappahannock Transportation Commission: B
Potomac River Fisheries Commission: B
Prince William County Service Authority: C
Prince William Soil & Water Conservation District: B
Rappahannock Area Community Services Board: C
Rappahannock Area Youth Services & Group Home Commission: B
Rappahannock Juvenile Center: C
Rappahannock-Rapidan Community Services Board: B
Rappahannock-Rapidan Regional Planning District Commission: B
Rappahannock Regional Jail: B
Region Ten Community Services Board: B
Richmond Metropolitan Transportation Authority: B
Richmond Redevelopment & Housing Authority: B
Richmond Regional Planning District Commission: A
Rivanna Solid Waste Authority: B
Rivanna Water & Sewer Authority: B
Riverside Regional Jail: B
Roanoke Higher Education Authority: C
Roanoke Redevelopment & Housing Authority: A
Roanoke River Service Authority: B
Robert E. Lee Soil & Water Conservation District: A
Rockbridge Area Community Services Board: B
Rockbridge Area Social Services Department: B
Rockbridge County Public Service Authority: B
Rockbridge Regional Library: A
RSW Regional Jail Authority: B
Russell County Public Service Authority: C
Scott County Public Service Authority: B
Scott County Redevelopment & Housing Authority: B
Scott County Soil & Water Conservation District: C
Shenandoah Valley Juvenile Center: C
Shenandoah Valley Regional Airport Commission: B

AUTHORITIES, COMMISSIONS, DISTRICTS, REGIONAL INSTITUTIONS AND COMMUNITY SERVICES BOARDS, cont.	
Skyline Soil & Water Conservation District: A	Virginia Biotechnology Research Park Authority: C
South Central Wastewater Authority: B	Virginia Coalfield Economic Development Authority: C
Southeastern Virginia Public Service Authority: B	Virginia Highlands Airport Authority: B
Southside Behavioral Health: C	Virginia Peninsula Regional Jail: B
Southside Planning District Commission: B	Virginia Peninsulas Public Service Authority: B
Southside Regional Jail: C	Virginia Resources Authority: B
Southside Regional Juvenile Group Home Commission: B	Washington County Service Authority: B
Southwest Regional Recreation Authority: B	Washington Metropolitan Area Transportation Commission: A
Southwest Virginia Regional Jail: B	Waynesboro Redevelopment & Housing Authority: B
Staunton Redevelopment & Housing Authority: B	Western Tidewater Community Services Board: D
Suffolk Redevelopment & Housing Authority: B	Western Tidewater Regional Jail: B
Sussex Service Authority: B	Western Virginia Regional Jail Authority: C
Tazewell Soil & Water Conservation District: B	Western Virginia Water Authority: B
Thomas Jefferson Planning District Commission: B	Williamsburg Area Transit Authority: C
Thomas Jefferson Soil & Water Conservation District: B	Wise County Public Service Authority: B
Tidewater Soil & Water Conservation District: A	Wise County Redevelopment & Housing Authority: C
Tidewater Youth Services Commission: C	Woodway Water Authority: B
Tri-County/City Soil & Water Conservation District: B	Wythe-Grayson Regional Library: B
Upper Occoquan Sewage Authority: B	Wytheville Redevelopment & Housing Authority: B
Valley Community Services Board: 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	
Buchanan County Schools: E	Floyd County Schools: E	King George County Schools: E	Nottoway County Schools: E
Buckingham County Schools: E	Fluvanna County Schools: E	King William County Schools: E	Orange County Schools: E
Campbell County Schools: E	Franklin County Schools: E	Lancaster County Schools: E	Page County Schools: E
Caroline County Schools: E	Frederick County Schools: E	Lee County Schools: E	Patrick 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 Schools: E
Prince George County Schools: E	Rockingham County Schools: E	Stafford County 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 Schools: E
Danville City Schools: E	Lynchburg Public Schools: E	Radford City 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: 222

Covered by retirement, group life insurance, retiree health insurance credit and sickness and disability

TOTAL VRS-PARTICIPATING EMPLOYERS: 832

FIGURE 5.16: VRS EMPLOYER RANKING
CURRENT YEAR

AS OF JUNE 30, 2022

Employer	Active Employees	Percentage of Total
1. Fairfax County Public Schools	20,754	5.93%
2. Loudoun County School Board – Professional Employees	10,328	2.95%
3. Prince William County School Board – Professional Employees	10,179	2.91%
4. Virginia Beach City School Board – Professional Employees	7,574	2.17%
5. Chesterfield County School Board – Professional Employees	7,198	2.06%
6. Virginia Department of Transportation	7,156	2.05%
7. City of Virginia Beach	5,854	1.67%
8. Henrico County School Board	5,228	1.49%
9. University of Virginia - Academic	5,131	1.47%
10. Henrico County	5,044	1.44%
11. All Other	265,265	75.86%
Total	**349,711**	**100.00%**

HISTORICAL COMPARISON

AS OF JUNE 30, 2012

Employer	Active Employees	Percentage of Total
1. Fairfax County Schools - Professional Employees	20,592	6.02%
2. Virginia Beach City Schools - Professional Employees	8,295	2.43%
3. Prince William County Schools - Professional Employees	7,864	2.30%
4. Loudoun County Schools - Professional Employees	7,523	2.20%
5. Chesterfield County Schools - Professional Employees	5,938	1.74%
6. City of Virginia Beach - General Government	5,923	1.73%
7. University of Virginia - Academic Division	5,283	1.55%
8. Henrico County Schools - Professional Employees	5,117	1.50%
9. Henrico County - General Government	4,886	1.43%
10. Norfolk City Schools - Professional Employees	4,718	1.38%
11. All other	265,687	77.72%
Total	**341,826**	**100.00%**

HYBRID DEFINED CONTRIBUTION PLAN SCHEDULE OF FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

		Total Hybrid Defined Contribution Plans
Assets:		
Receivables:		
Contributions	$	14,796
Total Receivables		**14,796**
Investments:		
Hybrid Defined Contribution Investments		1,462,785
Total Investments		**1,462,785**
Total Assets		**1,477,581**
Liabilities:		
Other Payables		1,740
Total Liabilities		**1,740**
Net Position – Restricted for Benefits	**$**	**1,475,841**

HYBRID DEFINED CONTRIBUTION PLAN SCHEDULE OF CHANGES IN FIDUCIARY NET POSITION

FOR THE YEAR ENDED JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

		Total Hybrid Defined Contribution Plans
Additions:		
Contributions:		
Members	$	176,285
Employers		137,972
Total Contributions		**314,257**
Investment Income:		
Interest, Dividends and Other Investment Income		20,183
Net Appreciation/(Depreciation) in Fair Value of Investments		(116,390)
Total Investment Income Before Investment Expenses		(96,207)
Investment Expenses:		
Total Investment Expenses		(5,581)
Net Investment Income		**(101,788)**
Miscellaneous Revenue		—
Total Additions		**212,469**
Deductions:		
Refunds of Member Contributions		42,119
Administrative Expenses		—
Other Expenses		—
Total Deductions		**42,119**
Net Increase (Decrease)		170,350
Net Position – Restricted for Benefits – Beginning of Year		1,305,491
Net Position – Restricted for Benefits – End of Year	**$**	**1,475,841**

HYBRID PLAN MEMBER AND EMPLOYER CONTRIBUTIONS

(EXPRESSED IN THOUSANDS)

	Virginia Retirement System	Judicial Retirement System	Total Hybrid Contributions
Member Contributions	$ 174,564	$ 1,721	$ 176,285
Employer Contributions	136,731	1,241	137,972
Total	**$ 311,295**	**$ 2,962**	**$ 314,257**

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, 2022, 2021 and 2020.

Contributions to the Deferred Compensation Plan during fiscal year 2022 and fiscal year 2021 were $184,240,535.83 and $171,469,430.38, respectively.

Contributions to the Cash Match Plan during fiscal year 2022 and fiscal year 2021 were $14,623,215 and $15,035,712, respectively.

As shown in Figures 5.18 and 5.19, there were approximately 88,145 employees in the Deferred Compensation Plan and 72,363 employees in the Cash Match Plan as of June 30, 2022.

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)		
	2022	2021	2020	2022	2021	2020
Plan Assets on July 1	$ 4,170,971,367	$ 3,271,196,108	$ 2,875,519,022	$ 615,244,385	$ 493,196,551	$ 479,319,288
Contributions	184,240,536	171,469,430	158,533,726	14,623,215	15,035,712	15,346,156
Distributions	(207,507,875)	(178,531,571)	(168,994,253)	(30,149,442)	(29,010,738)	(26,740,826)
Plan Transfers*	18,899,978	18,914,186	330,392,735	8,716,897	8,849,802	10,825,702
Third-Party Administrative Fees**	(2,397,415)	(2,418,791)	(2,353,135)	(81,107)	(81,674)	(76,827)
Period Earnings	(460,335,786)	890,342,005	78,098,013	(62,632,286)	127,254,732	14,523,058
Plan Assets on June 30	**$ 3,703,870,805**	**$ 4,170,971,367**	**$ 3,271,196,108**	**$ 545,721,662**	**$ 615,244,385**	**$ 493,196,551**

** 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 $1,145,011 and $688,260 in fiscal year 2022 and fiscal year 2021, respectively. For the Cash Match Plan, they were $422,135 and $562,879 in fiscal year 2022 and fiscal year 2021, 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

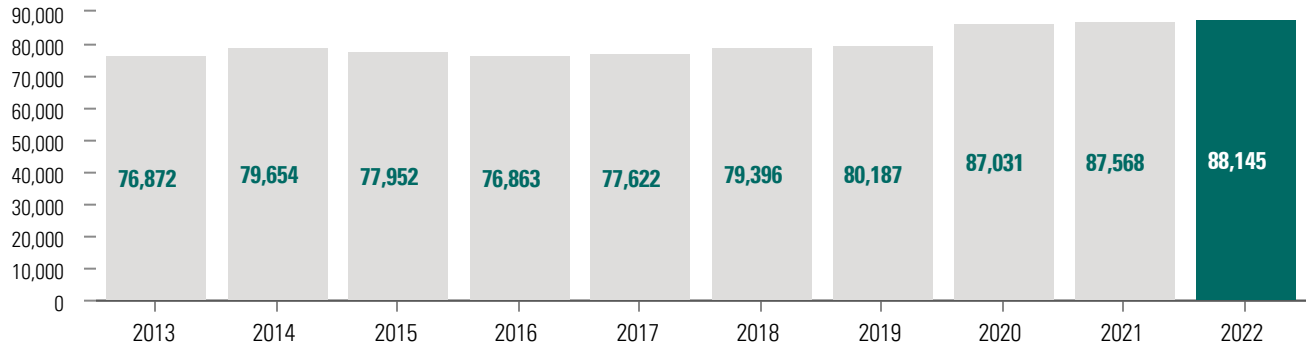


FIGURE 5.19: 401(a) ACTIVE AND INACTIVE PLAN PARTICIPANTS

AT JUNE 30

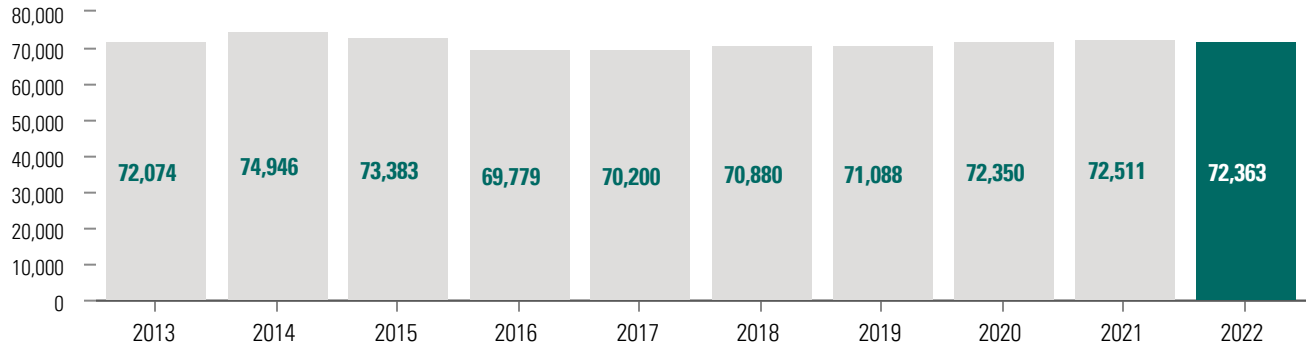


FIGURE 5.20: TOTAL PARTICIPANT ACCOUNTS IN EACH FUND OPTION

AT JUNE 30, 2022

(EXPRESSED IN THOUSANDS)

Fund Name	Deferred Compensation Plan – 457(b)	Cash Match Plan – 401(a)
Retirement Portfolio	8,064	6,219
Target Date 2025 Portfolio	7,126	5,652
Target Date 2030 Portfolio	7,876	6,239
Target Date 2035 Portfolio	8,113	6,431
Target Date 2040 Portfolio	7,540	6,026
Target Date 2045 Portfolio	8,199	6,675
Target Date 2050 Portfolio	8,290	6,970
Target Date 2055 Portfolio	6,762	5,692
Target Date 2060 Portfolio	3,314	2,732
Target Date 2065 Portfolio	1,096	955
Money Market Fund	4,233	2,946
Stable Value Fund	18,355	14,605
Bond Fund	8,943	5,588
Inflation-Protected Bond Fund	3,637	2,266
High-Yield Bond Fund	4,013	2,421
Stock Fund	24,016	17,036
Small/Mid-Cap Stock Fund	13,761	8,754
International Stock Fund	11,677	7,350
Global Real Estate Fund	7,105	5,062
VRS Investment Portfolio	1,453	851
Self-Directed Brokerage	765	112

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

	Deferred Compensation Plan – 457(b)			Cash Match Plan – 401(a)		
Fund Name	2022	2021	2020	2022	2021	2020
Retirement Portfolio	$ 263,054,559	$ 320,723,644	$ 287,214,236	$ 43,115,345	$ 51,486,734	$ 45,989,307
Target Date 2020 Portfolio	$ —	$ —	$ —	$ —	$ —	$ —
Target Date 2025 Portfolio	$ 196,052,899	$ 221,027,213	$ 172,967,965	$ 26,494,442	$ 30,495,511	$ 24,240,950
Target Date 2030 Portfolio	$ 164,997,883	$ 178,560,983	$ 137,107,664	$ 24,460,404	$ 27,540,293	$ 21,376,162
Target Date 2035 Portfolio	$ 145,235,368	$ 156,721,920	$ 109,088,538	$ 24,128,300	$ 26,954,661	$ 20,082,314
Target Date 2040 Portfolio	$ 103,300,945	$ 111,616,265	$ 75,987,459	$ 19,280,069	$ 21,764,138	$ 15,539,592
Target Date 2045 Portfolio	$ 77,327,242	$ 83,767,190	$ 54,633,924	$ 17,410,100	$ 20,201,294	$ 14,081,477
Target Date 2050 Portfolio	$ 54,314,090	$ 56,878,644	$ 37,045,505	$ 14,637,931	$ 16,673,634	$ 11,528,364
Target Date 2055 Portfolio	$ 31,830,172	$ 33,621,418	$ 21,951,106	$ 8,242,047	$ 9,241,261	$ 6,325,267
Target Date 2060 Portfolio	$ 9,838,743	$ 9,264,790	$ 5,371,101	$ 2,050,629	$ 2,164,306	$ 1,300,998
Target Date 2065 Portfolio	$ 2,715,896	$ 1,736,097	$ 295,103	$ 408,244	$ 313,770	$ 63,699
Money Market Fund	$ 81,139,038	$ 74,820,391	$ 75,798,748	$ 9,665,155	$ 8,276,367	$ 8,423,408
Stable Value Fund	$ 545,758,172	$ 523,297,780	$ 527,291,096	$ 104,367,102	$ 101,300,410	$ 100,396,075
Bond Fund	$ 133,683,431	$ 157,684,503	$ 160,553,873	$ 13,029,712	$ 15,400,301	$ 16,642,023
Inflation-Protected Bond Fund	$ 48,315,962	$ 46,902,098	$ 38,335,085	$ 5,105,330	$ 4,591,203	$ 3,868,972
High-Yield Bond Fund	$ 37,625,226	$ 42,379,617	$ 34,867,403	$ 3,943,873	$ 4,528,139	$ 4,121,189
Stock Fund	$ 1,141,986,170	$ 1,314,381,660	$ 963,640,876	$ 156,221,130	$ 183,452,513	$ 135,658,557
Small/Mid-Cap Stock Fund	$ 312,005,987	$ 411,309,176	$ 264,424,982	$ 35,421,185	$ 48,486,073	$ 31,536,887
International Stock Fund	$ 155,969,281	$ 201,129,840	$ 146,079,592	$ 15,261,263	$ 19,623,112	$ 14,393,847
Global Real Estate Fund	$ 78,353,563	$ 90,531,329	$ 69,729,511	$ 11,863,999	$ 13,753,893	$ 10,577,197
VRS Investment Portfolio – Interim Account	$ 1,073,282	$ 991,657	$ 953,694	$ 60,056	$ 36,831	$ 225,458
VRS Investment Portfolio	$ 44,100,518	$ 40,912,054	$ 32,256,924	$ 8,776,150	$ 6,943,536	$ 5,495,634
Self-Directed Brokerage	$ 75,192,378	$ 92,713,099	$ 55,601,723	$ 1,779,196	$ 2,016,405	$ 1,329,174
Total Accumulation Plan Assets	**$ 3,703,870,805**	**$ 4,170,971,367**	**$ 3,271,196,108**	**$ 545,721,662**	**$ 615,244,385**	**$ 493,196,551**

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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