



April 15, 2022

MEMORANDUM

TO: VRS Board of Trustees

FROM: Patricia S. Bishop
Director

RE: Agenda Materials for April 19th Board Meeting

We are looking forward to the April 19th in-person Board meeting beginning at 1:00 p.m. in the VRS Boardroom. Enclosed is the agenda and meeting materials.

In advance of the meeting, listed below are some important reminders:

- As part of a COVID-19 self-screening protocol, please ask yourself if you are experiencing any of the following:
 - A new fever (100.4°F or higher) or a sense of having a fever.
 - A new cough that cannot be attributed to another health condition.
 - New shortness of breath or difficulty breathing that cannot be attributed to another health condition.
 - New chills that cannot be attributed to another health condition.
 - A new sore throat that cannot be attributed to another health condition.
 - New muscle aches (myalgia) that cannot be attributed to another health condition, or that may have been caused by a specific activity (such as physical exercise).
 - A new loss of taste or smell.
 - Have you had a positive test for the virus that causes COVID-19 disease within the past 5 days?
 - In the past 5 days, have you had close contact (within about 6 feet for 15 minutes or more) with someone with suspected or confirmed COVID-19?

If you are experiencing any of the above symptoms, please do not attend the meeting in person.

For your reference, the Chief Investment Officer Search Committee will be meeting on Tuesday, April 19th at 8:30 a.m. and the Benefits and Actuarial Committee at 10:30 a.m.

Again, we look forward to seeing you at the Board of Trustees meeting on Tuesday. If you have any questions, please feel free to contact me.

Attachments

cc: The Honorable Stephen E. Cummings, Secretary of Finance
June Jennings, Office of the Secretary of Finance
Craig Burns, Department of Taxation

Michael Jay, House Appropriations Committee
Adam Rosatelli, Senate Finance Committee
Zack Borgerding, Auditor of Public of Accounts
Jon Howe, Department of Planning and Budget
Dean Lynch, VA Association of Counties
Katie Boyle, VA Association of Counties
Bea Snidow, VA Education Association
Jamie Bitz, Joint Legislative Audit & Review Commission
Kimberly Sarte, Joint Legislative Audit & Review Commission
Hal Greer, Joint Legislative Audit & Review Commission
Elizabeth Bushnell Myers, Office of the Attorney General
Jessica Ackerman, VA Municipal League
Lawrence Kochard, VRS Investment Advisory Committee
Bonnie Atwood, VA Retired Teachers Association



Board of Trustees Meeting
VRS, 1111 E. Main St., 3rd Floor Board Room
Tuesday, 4/19/2022
1:00 - 3:30 PM ET

I. Approve Minutes

- **February 10, 2022**

- Board Minutes 2.10.22 - Page 5*

II. Report of the Investment Advisory Committee

III. Report of the Chief Investment Officer

- Asset Allocation Report 2.28.22 - Page 13*

- Daily Asset Allocation Report 4.12.22 - Page 14*

- Performance Summary 2.28.22 - Page 15*

- Plan Tracking Error - Page 16*

- New Investments and Terminations - Page 17*

- DIME Quarterly Summary - QE 3.31.22 - Page 18*

- Manager Referral Quarterly Summary - QE 3.31.22 - Page 24*

IV. Report of the Defined Contribution Plans Advisory Committee

- Report of the DCPAC - Page 25*

V. Report of the Audit and Compliance Committee

- Report of the A&CC - Page 28*

VI. Report of the Benefits and Actuarial Committee

- Report of the B&AC - Page 30*

- **RBA – Appointment of VRS Plan Actuary**

- RBA - Appointment of VRS Plan Actuary - Page 32*

VII. Report of the Administration and Personnel Committee

- Report of the A&PC - Page 33*

- **RBA – Reappointment of Defined Contribution Plans Advisory Committee Members**

- RBA - Reappoint DCPAC Members - Page 35*

- Bio for Ravindra Deo - Page 36*

- Bio for Brenda Madden - Page 37*

- Bio for Ned Smither - Page 38*

- **RBA – Approve Revised Investment Professionals’ Pay Plan**

- RBA - Approve Investment Pay Plan - Page 39*

- Investment Professionals' Pay Plan Update Clean - Page 40*

- Investment Professionals' Pay Plan Update Redline - Page 59*

- VRS Investment Pay Review_McLagan - Page 78*

VIII. Report of the Chief Investment Officer Search Committee

- Report of the CIO Search Committee - Page 96*

IX. Operational Update Series: VRS Coverage Process

- Employer Coverage Presentation - Page 97*

X. Report of the Director

- VRS New Coverage Elections_April 2022 - Page 107*

- VRS Rankings 2022 - Page 108*

- FY 2022 Agency Roadmap Update - March - Page 109*

- **Legislative Update**

Legislative Update - Page 111

- **Return to the Office Update**

- **FY 2022 APO Update**

FY 2022 APO Update - Page 147

XI. Closed Session (If Necessary)

Minutes

A regular meeting of the Virginia Retirement System Board of Trustees was held on February 10, 2022, in Richmond, Virginia with the following members participating:

Board members:

O’Kelly E. McWilliams, III, Chair
Joseph W. Montgomery, Vice Chair
Hon. J. Brandon Bell, II
John M. Bennett
Michael P. Disharoon
William A. Garrett
Dr. Susan T. Gooden, Ph.D.
W. Brett Hayes
Troilen G. Seward, Ed.S.

VRS Staff:

Patricia Bishop, Ron Schmitz, Jennifer Schreck, Stephen Adelaar, Rory Badura, Parham Behrooz, Caroline Caldwell, Jeanne Chenault, Michael Cooper, Perry Corsello, Harriet Covey, Juanita Cribbs, Sara Denson, Valerie Disanto, Barry Faison, Jon Farmer, Laurie Fennell, Josh Fox, Jay Gentry, Brian Goodman, Katherine Grawe, JT Grier, Dane Honrado, KC Howell, Robert Irving, Kristina Koutrakos, LaShaunda King, Matt Lacy, Ryan LaRochelle, Chung Ma, Jennifer MacKnight, Curt Mattson, Steve McClelland, Walker Noland, Greg Oliff, Angela Payne, Laura Pugliese, Paula Reid, Mark Rein, Dan Schlusser, Jennifer Schoeller, Michael Scott, Jillian Sherman, Larry Tentor, Dan Whitlock, Cindy Wilkinson and Nick Zizzo.

Guests:

Elizabeth Myers, Office of the Attorney General; Jamie Bitz, Joint Legislative Audit and Review Commission; Bea Snidow, Virginia Education Association; Erin Rodriguez, Auditor of Public Accounts; Latosha Johnson, Department of Planning and Budget; Lauren Albanese, Financial Investment News; Alex Meyer, Goldman Sachs; John Balaod and Samuel Slade, Pageant Media; and Steff Chavez, Mandate Wire.

The meeting convened at 1:00 p.m.

Opening Remarks

O’Kelly E. McWilliams, III, called the meeting to order and welcomed everyone to the February 10, 2022, meeting of the Virginia Retirement System Board of Trustees.

Approval of Minutes

Upon Mr. Bennett’s motion, with a second by Mr. Montgomery, the VRS Board of Trustees approved the December 7, 2021, meeting minutes and the December 7th and 8th Board retreat minutes.

Report of the Chief Investment Officer

Ron Schmitz, Chief Investment Officer, began his report with a market overview and discussed asset allocation, total fund portfolio performance and tracking error, concluding that risk measures are all within Board-approved levels. Next, Mr. Schmitz discussed the New Investment and Terminations report, the Diverse Investment Manager Engagement (DIME) report, and the External Investment Manager Referral report.

Mr. McWilliams thanked Mr. Schmitz for his report.

Report of the Benefits and Actuarial Committee

The Board received the report of the Benefits and Actuarial Committee and placed it on file.

APPROVAL OF MINUTES

Mr. Garrett began his report by noting the Committee approved the minutes of its November 15, 2021, meeting.

COST OF LIVING ADJUSTMENTS

Virginia Sickness and Disability Program

Rory Badura, Senior Staff Actuary, presented the recommendations of Cavanaugh Macdonald Consulting, LLC, the Plan Actuary, regarding statutory annual adjustments to Virginia Sickness and Disability Program (VSDP) creditable compensation for members on long-term disability. For VSDP, Mr. Badura advised that the Plan Actuary recommends an increase in the creditable compensation for VRS pension benefit purposes of 4.00%, effective July 1, 2022. In addition, a COLA in the amount of 3.85% shall be applied to long-term disability (LTD) benefit payments for Plan 1 members vested prior to January 1, 2013. A COLA of 3.00% shall be applied for Plan 1 members not vested prior to January 1, 2013, and all Plan 2 and Hybrid Retirement Plan members who have been recipients of LTD benefits for at least one year. The calculations were reviewed by VRS staff and Internal Audit.

Upon a motion by Mr. Garrett, with a second by Mr. Hayes, the VRS Board of Trustees approved the following action:

Request for Board Action 2022-02-01: Effective July 1, 2022 the following increases shall apply:

- *The creditable compensation used in calculating the member's average final compensation at retirement shall be increased in the amount of 4.00% for a Plan 1, Plan 2 or Hybrid member who has been the recipient of long-term disability (LTD) benefits for at least one year under the Virginia Sickness and Disability Program (VSDP); and*
- *A cost of living adjustment shall be applied to the net LTD benefit payment of 3.85% for Plan 1 members vested prior to January 1, 2013, or 3.00% for Plan 1 members not vested by January 1, 2013, and all Plan 2 and Hybrid members.*

Virginia Local Disability Program

Mr. Badura advised that for the VLDP program the Plan Actuary recommends an increase in the creditable compensation used at retirement of 3.74% effective July 1, 2022. The VLDP plan does not provide for a COLA on LTD benefits being received. The calculations for the increase in creditable compensation were reviewed by VRS staff and Internal Audit.

Upon a motion by Mr. Garrett, with a second by Mr. Bennett, the VRS Board of Trustees approved the following action:

Request for Board Action 2022-02-02: Effective July 1, 2022, each recipient of LTD benefits under the Virginia Local Disability Program (VLDP) who has been receiving LTD benefits for at least one calendar year, and who ultimately retires directly from LTD, will have their creditable compensation at date of disability increased by an amount set by the Board to be used in determining the member's average final compensation for disability retirement. The recommendation applicable to July 1, 2022, is an increase of 3.74% to be applied to a recipient's creditable compensation.

INFORMATION ITEMS

2022 COLAs Called for Under Statute Not Requiring Board Approval

Mr. Badura noted that, by statute, VRS cost of living increases are based on the consumer price index for all items, all urban consumers, as published by the Bureau of Labor Statistics of the U.S. Department of Labor. Mr. Badura advised that the COLA increase effective July 1, 2022, of 3.85% is applicable to eligible Plan 1 members vested prior to January 1, 2013. A COLA increase of 3.00% is applicable to Plan 1 members not vested prior to January 1, 2013, and all Plan 2 and Hybrid Plan members effective July 1, 2022. This figure was calculated by the VRS Plan Actuary, Cavanaugh Macdonald Consulting, LLC, and verified by VRS and Internal Audit staff. The COLA did not require action by the Committee.

The Group Life Insurance Program minimum benefit for members retired with at least 30 years of service is to be increased by the same COLA applicable to VRS Plan 2 members, or 3.00%, effective July 1, 2022. The new minimum life insurance payout, effective July 1, 2022, will be \$8,984. The Group Life Insurance Program minimum did not require action by the Committee. The calculations were reviewed by VRS staff and Internal Audit.

2022 Legislative Update

Ms. Wilkinson provided an update on VRS-related legislation in the 2022 General Assembly session.

Actuarial Services RFP Update

Ms. Wilkinson provided an update on the Actuarial Services RFP that was issued in January. The Committee will interview finalists at its April 6 meeting and make a recommendation to the Board at the following Board meeting.

2022 B&A Committee Meeting Schedule:

- April 6 at 1:00 p.m.
- April 19 at 10:30 a.m. (if needed)*
- June 6 at 1:00 p.m.
- October 17 at 1:00 p.m.
- November 14 at 1:00 p.m.

Mr. McWilliams thanked Mr. Garrett for his report.

The meeting time was originally reported at the committee meeting as being held at 12:30 p.m. on April 19, 2022, but has been subsequently changed to 10:30 a.m. on April 19th.

Report of the Administration and Personnel Committee

The Board received the report of the Administration and Personnel Committee and placed it on file.

APPROVAL OF MINUTES

Mr. McWilliams began his report by noting the Committee approved the minutes of its November 16, 2021, meeting.

REAPPOINTMENT OF INVESTMENT ADVISORY COMMITTEE MEMBER

Ron Schmitz, Chief Investment Officer, informed the Committee that Mr. W. Bryan Lewis is eligible for reappointment to the Investment Advisory Committee. Mr. Lewis is the Vice President and Chief Investment Officer for U.S. Steel. Mr. Lewis is interested in continuing to serve on the IAC for an additional term.

Upon a motion by Mr. Montgomery, with a second by Mr. Hayes, the VRS Board of Trustees approved the following action:

Request for Board Action 2022-02-03: The Board approves the reappointment of Mr. W. Bryan Lewis to the Investment Advisory Committee for a two-year term ending March 31, 2024.

APPOINTMENT OF DEFINED CONTRIBUTION PLANS ADVISORY COMMITTEE MEMBER

Mr. Schmitz next advised the Board that staff has identified a candidate to fill the vacant seat on the Defined Contribution Plans Advisory Committee. Mr. Arun Muralidhar is the co-founder and CEO of MCube Investment Technologies, LLC and AlphaEngine Global Investment Solutions. Mr. Muralidhar has over 25 years of investment-related experience and has expressed his willingness to serve on the DCPAC.

Upon a motion by Mr. Montgomery, with a second by Ms. Seward, the VRS Board of Trustees approved the following action:

Request for Board Action 2022-02-04: *The Board appoints Arun S. Muralidhar to the vacant seat on the Defined Contribution Plans Advisory Committee (DCPAC) for a term ending June 20, 2022 and reappoints Mr. Muralidhar for a two-year term ending June 20, 2024.*

QUARTERLY BUDGET UPDATE

Barry Faison, Chief Financial Officer, introduced Jonathan Farmer, Budget and Performance Reporting Manager, who presented the quarterly budget update. Mr. Farmer reviewed the agency's expenditures through December 31, 2021 and outlined anticipated spending through the remainder of the fiscal year. Mr. Farmer indicated that VRS is on track to finish the year with a surplus of approximately \$6.5 million.

Legislative Update

Next, Cindy Wilkinson, Policy, Planning and Compliance Director, provided an update on VRS-related legislation presented in the 2022 General Assembly session.

Operational Update Series: VRS by the Numbers

Michael Cooper, Chief Operating Officer, presented an informational breakdown of VRS total membership and participating employers. VRS is currently the 41st largest public or private pension system in the world, the 18th largest in the United States, with 751,471 active and retired members as of June 30, 2021. Highlights from the presentation include:

- VRS has 342,315 active members, 224,973 retirees and beneficiaries, as well as 184,183 deferred members.
- Teachers make up the largest portion of the total active member population.
- The Hybrid Plan membership population is increasing as expected, with a total of 141,141 active members as of January 1, 2022.
- VRS serves a total of 835 employers, including 228 state agencies, 93 counties, 162 cities and towns, 144 school boards and 208 special authorities.
- VRS paid \$5.5 billion to retirees in fiscal year 2021.

Mr. Cooper also provided an overview of VRS outreach efforts and member support services. In addition to the VRS website, members and employers have access to tailored, educational resources through myVRS, myVRS Financial Wellness and virtual counseling. In conjunction with online resources, staff continue to meet the Board-approved Operational Measures that contain detailed target performance goals to provide exceptional customer service.

Lastly, Mr. Cooper advised that this data is used to determine agency strategic objectives, project areas of focus, such as cybersecurity and data protection, as well as outreach initiatives to continue to effectively meet the needs of VRS members, retirees and employers.

Mr. McWilliams thanked Mr. Cooper for his presentation.

Report of the Director

Trish Bishop, VRS Director, began her report by reviewing the New Coverage Elections and provided an update on the agency roadmap for FY 2022. She advised that all projects are progressing as planned,

apart from the Cloud Migration project. Staff will continue to monitor these projects and provide updates as they become available.

Next, Ms. Bishop advised that VRS leadership has developed a return-to-office plan that incorporates a staggered approach to promote a safe working environment for employees and visitors. At this time, staff will not return prior to April 12.

Lastly, Ms. Bishop announced that 2022 marks the 80th anniversary of the Virginia Retirement System's service to the Commonwealth. To commemorate eight decades of serving those who serve others, staff has designed a celebratory logo that will be displayed throughout the year.

Mr. McWilliams thanked Ms. Bishop for her report.

RESOLUTION FOR BARRY FAISON

Without objection, Mr. McWilliams delivered the following resolution:

WHEREAS, Barry C. Faison began his career with the Virginia Retirement System in 1979, ultimately serving as Chief Financial Officer since 2001, overseeing the Finance Department, including Finance, Budget, Performance Reporting, General Accounting, Employer Reporting, and Investment Accounting, championing best practices of financial management and control; and

WHEREAS, his careful adherence to statements published by the Governmental Accounting Standards Board led to Mr. Faison being instrumental in the agency receiving a Certificate of Achievement for Excellence in Financial Reporting for 39 consecutive years and an Award for Outstanding Achievement for its Popular Annual Financial Reporting for five consecutive years since inception from the Government Finance Officers Association of the United States and Canada; and

WHEREAS, Mr. Faison served as a visionary leader for the agency's 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; and

WHEREAS, through knowledge and experience, Mr. Faison serves as "professor" of all things VRS, freely sharing the history of VRS policies and processes and patiently coaching new staff members and serving as a role model and mentor; and

WHEREAS, employers across the Commonwealth rely on Mr. Faison for his insight and expertise in financial management and transparent reporting, serving as a "rock star" presenter at association meetings, and who is recognized for his dedication to public service;

NOW, THEREFORE, BE IT RESOLVED, that on February 10, 2022, we, the members of the Board of Trustees of the Virginia Retirement System, hereby acknowledge Mr. Faison's loyal, faithful, and long-standing service to the Virginia Retirement System, its members, retirees, employers, as well as the Commonwealth of Virginia, and convey our gratitude for his legacy of exceptional contributions and stewardship as we congratulate Mr. Faison on his retirement.

Mr. McWilliams congratulated Barry on his retirement and expressed the Board's gratitude for his longstanding and exceptional service.

Litigation Update (Closed Session)

Mr. Montgomery moved, with a second by Mr. Bennett, that the Virginia Retirement System Board of Trustees convene a closed meeting under the Virginia Freedom of Information Act for the purposes of (a) consultation with legal counsel about actual or probable litigation pursuant to the exemption contained in *Virginia Code* § 2.2-3711(A)(7), and (b) discussion of an information technology system or software program where discussion in an open meeting would jeopardize the security of such information technology system or software program, pursuant to the exemption contained in *Virginia Code* § 2.2-3711(A)(19).

Upon return to open meeting, Mr. Montgomery moved, with a second by Ms. Seward, the following resolution:

WHEREAS, the Virginia Retirement System Board of Trustees convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, *Code of Virginia* § 2.2-3712 requires a certification by the Board that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED, that the Board certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements under this chapter were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed or considered by the Board.

The Board approved the resolution upon the following roll call vote:

Mr. Bell: Aye
Mr. Bennett: Aye
Mr. Disharoon: Aye
Mr. Garrett: Aye
Dr. Gooden: Aye
Mr. Hayes: Aye
Mr. Montgomery: Aye
Ms. Seward: Aye
Mr. McWilliams: Aye

Following Mr. Montgomery's motion, with a second by Mr. Bennett, the Board unanimously approved the action discussed in closed session.

Other Business

Lastly, Mr. McWilliams noted the following meeting schedule:

- Defined Contribution Plans Advisory Committee – March 24, 2022 1:00 p.m.
- Audit and Compliance Committee – March 29, 2022 at 2:00 p.m.
- Administration and Personnel Committee – April 6, 2022 at 11:00 a.m.

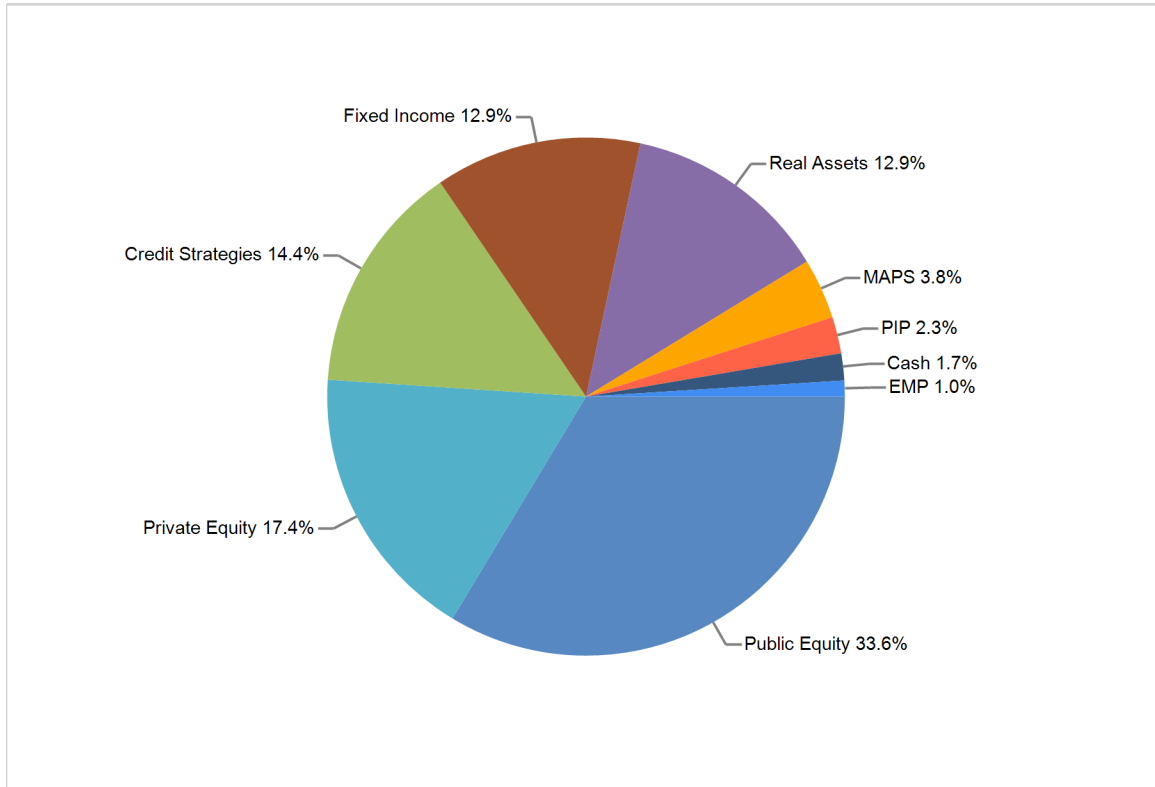
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- Benefits and Actuarial Committee – April 6, 2022 at 1:00 p.m.
 - Investment Advisory Committee – April 13, 2022 at 9:00 a.m.
 - Board of Trustees – April 19, 2022 at 1:00 p.m.

Adjournment

There being no further business and following a motion by Mr. Hayes, with a second by Mr. Montgomery, the VRS Board of Trustees agreed to adjourn the meeting at 2:21 p.m.

Chair

Secretary



	<u>Current \$Bil</u>	<u>Current Weight</u>	<u>Policy Weight</u>	<u>Variance</u>	<u>Allowable Range</u>		<u>Internal %</u>
Total Fund	104.3						26.7%
Public Equity	35.1	33.6%	36.0%	-2.4%	-5%	+5%	38.7%
Fixed Income	13.5	12.9%	15.0%	-2.1%	-3%	+5%	96.0%
Credit Strategies	15.0	14.4%	14.0%	0.4%	-5%	+5%	
RS Credit	5.0	4.8%	5.6%	-0.8%			
NRS Credit	10.1	9.7%	8.4%	1.3%			
Real Assets	13.5	12.9%	14.0%	-1.1%	-5%	+5%	9.7%
Public RE	1.3	1.2%					99.9%
Private RE	8.0	7.7%					
Other RA	4.1	4.0%					
Private Equity	18.2	17.4%	14.0%	3.4%	-5%	+5%	
MAPS	3.9	3.8%	4.0%	-0.2%	-2%	+2%	
DSTRAT	2.2	2.1%					
RBI	1.7	1.6%					1.4%
PIP	2.4	2.3%	2.0%	0.3%	-2%	+2%	
EMP	1.0	1.0%	0.0%	1.0%		+3%	
Cash	1.8	1.7%	1.0%	0.7%	-1%	+4%	

	<u>Current \$Bil</u>	<u>Current Weight</u>	<u>Policy Limit</u>
Hedge Funds	11.0	10.5%	15.0%

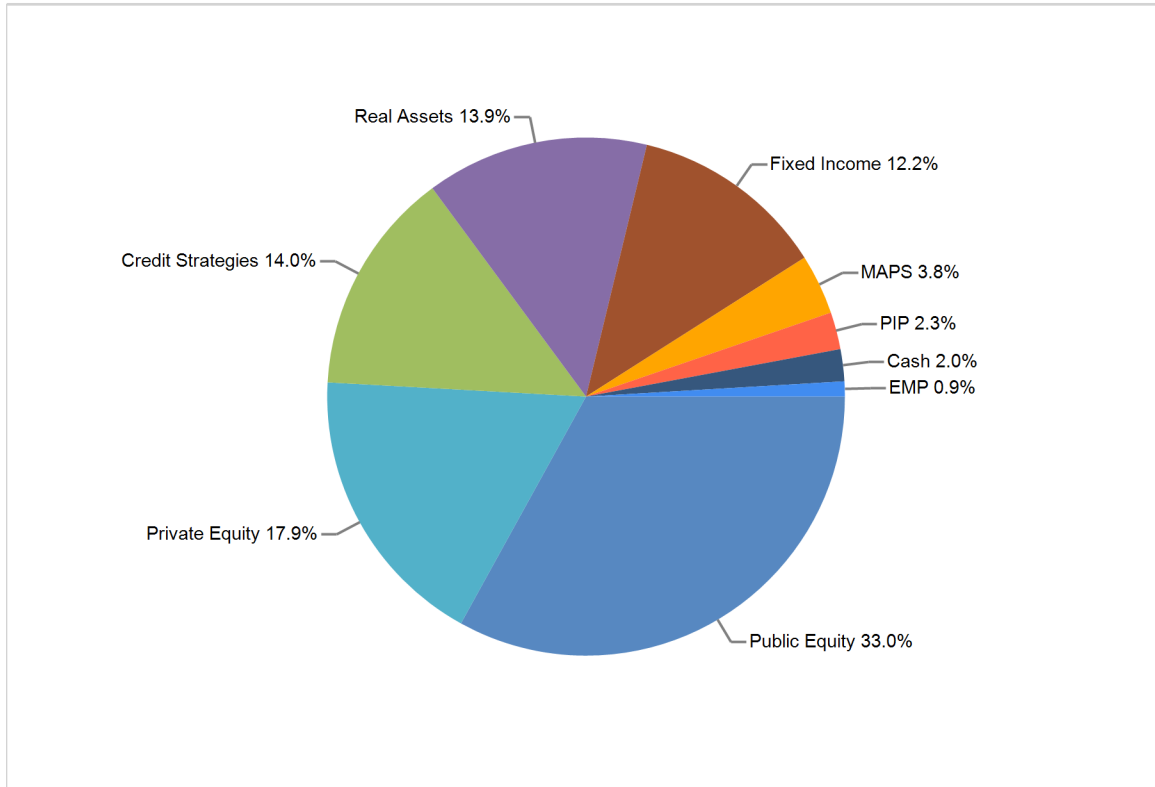
<u>Tracking Error</u>	
3Yr-Total Fund:	1.69%
3Yr-Total Public:	1.48%
5Yr-Total Fund:	1.35%
5Yr-Total Public:	1.16%

*Total Fund includes the following amt held by the Treasurer of VA: \$ 400 million

• The values shown for each asset class on this report may differ from the VRS Monthly Performance Report due to adjustments related to derivative positions in the Rebalance Account, pending transactions, and certain accruals. The values on this report are a more descriptive representation of the Virginia Retirement System's true economic exposure to each asset class.(4 adjustments applied)

*Total Fund and Total Public annualized tracking error is calculated using compounded quarterly returns as of 12/31/2021

* Differences in totals are due to rounding.



	Current \$Bil	Current Weight	Policy Weight	Variance	Allowable Range		Internal %
Total Fund	104.8						26.4%
Public Equity	34.6	33.0%	36.0%	-3.0%	-5%	+5%	40.1%
Fixed Income	12.8	12.2%	15.0%	-2.8%	-3%	+5%	95.9%
Credit Strategies	14.7	14.0%	14.0%	0.0%	-5%	+5%	
RS Credit	4.7	4.5%	5.6%	-1.1%			
NRS Credit	9.9	9.5%	8.4%	1.1%			
Real Assets	14.6	13.9%	14.0%	-0.1%	-5%	+5%	9.4%
Public RE	1.4	1.3%					97.1%
Private RE	8.8	8.4%					
Other RA	4.4	4.2%					
Private Equity	18.7	17.9%	14.0%	3.9%	-5%	+5%	
MAPS	3.9	3.8%	4.0%	-0.2%	-2%	+2%	
DSTRAT	2.2	2.1%					4.7%
RBI	1.7	1.7%					0.9%
PIP	2.4	2.3%	2.0%	0.3%	-2%	+2%	
EMP	1.0	0.9%	0.0%	0.9%		+3%	
Cash	2.1	2.0%	1.0%	1.0%	-1%	+4%	

	Current \$Bil	Current Weight	Policy Limit
Hedge Funds	10.3	9.9%	15.0%

Tracking Error	
3Yr-Total Fund:	1.66%
3Yr-Total Public:	1.48%
5Yr-Total Fund:	1.35%
5Yr-Total Public:	1.17%

*Total Fund includes the following amt held by the Treasurer of VA: \$ 301 million

• The values shown for each asset class on this report may reflect adjustments related to derivative positions in the Rebalance Account, pending transactions and certain accruals, in order to provide a more descriptive representation of the true economic exposure to each asset class (5 adjustments applied)

*Total Fund and Total Public annualized tracking error is calculated using compounded quarterly returns as of 3/31/2022

* Differences in totals are due to rounding.

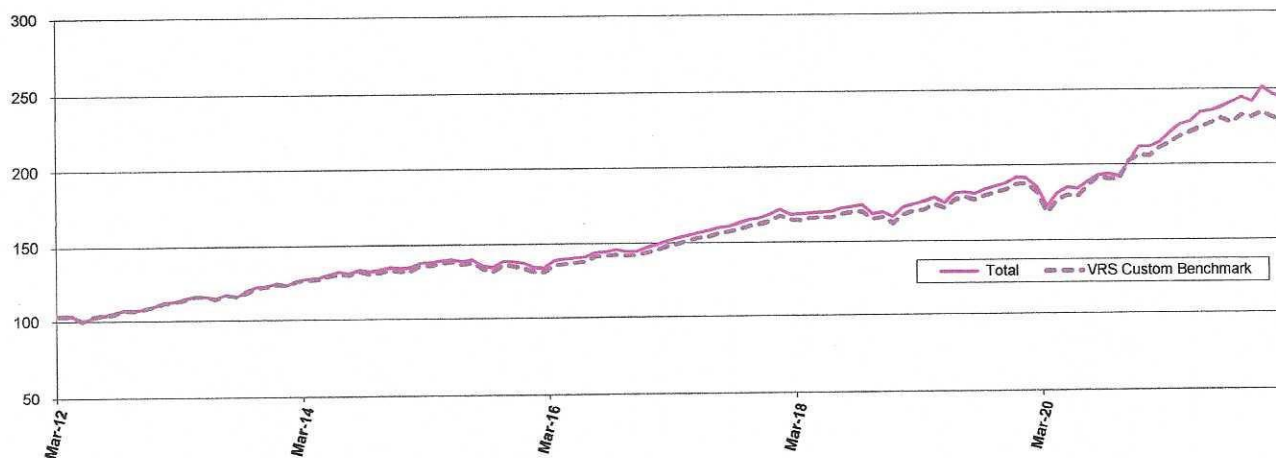
PERFORMANCE SUMMARY
Rolling Periods Ending
February 28, 2022



TOTAL FUND PERFORMANCE

	10 Yr	5 Yr	3 Yr	1 Yr	Qtr	Month	Fiscal YTD	Cal YTD	Market Value (\$MM)
Total Public Equity Strategies	10.0	10.3	12.2	7.6	-2.5	-2.1	-2.4	-6.6	35,073
<i>Benchmark</i>	10.1	11.2	13.3	7.3	-3.6	-2.3	-2.6	-7.3	
Total Fixed Income	3.2	3.7	4.7	-2.1	-3.5	-1.4	-3.4	-3.6	13,121
<i>Benchmark</i>	2.5	2.7	3.3	-2.7	-3.6	-1.4	-3.5	-3.6	
Total Credit Strategies	6.8	7.1	8.3	8.7	0.4	-0.5	3.1	-1.1	15,049
<i>Benchmark</i>	5.5	5.2	5.3	1.8	-0.7	-0.7	0.1	-1.6	
Total Real Assets	10.3	9.0	8.2	16.1	5.2	-0.2	9.2	-0.8	13,453
<i>Benchmark</i>	8.9	7.5	7.5	15.7	4.8	1.5	11.7	2.7	
Total Private Equity	18.0	22.6	25.4	49.7	7.8	0.0	21.0	-0.1	18,158
<i>Benchmark</i>	15.4	17.0	18.6	20.5	-1.9	-2.7	8.4	2.1	
Total Private Investment Partnerships	n/a	10.9	11.5	29.6	4.6	0.0	11.6	0.0	2,378
<i>Benchmark</i>	n/a	10.1	10.9	13.2	1.1	-0.5	7.2	1.4	
Total Multi-Asset Public Strategies	n/a	n/a	6.5	5.6	1.1	-1.0	0.8	-1.9	3,932
<i>Benchmark</i>	n/a	n/a	8.2	3.8	-1.9	-1.2	-0.9	-3.7	
Total Fund	9.0	10.0	11.7	13.5	1.1	-1.0	3.9	-2.9	104,265
<i>VRS Custom Benchmark</i>	8.3	9.0	10.2	7.9	-1.5	-1.3	1.5	-2.8	

10-Year Performance Indexed to 100



Effective July 2013, the VRS Custom Benchmark is a blend of the Asset Class Benchmarks at policy weights.

The VRS Cash Account, the Treasurer Short-Term Investment Account, the VRS Rebalancing Account, transition activity and accounts with market values of less than \$1 million are included in the Total Fund's market value. Differences in market value totals are due to rounding.

Total Fund Tracking Error

Figure 1: Policy Tracking Error Rolling Three Year - Plan (as of 12/31/2021)

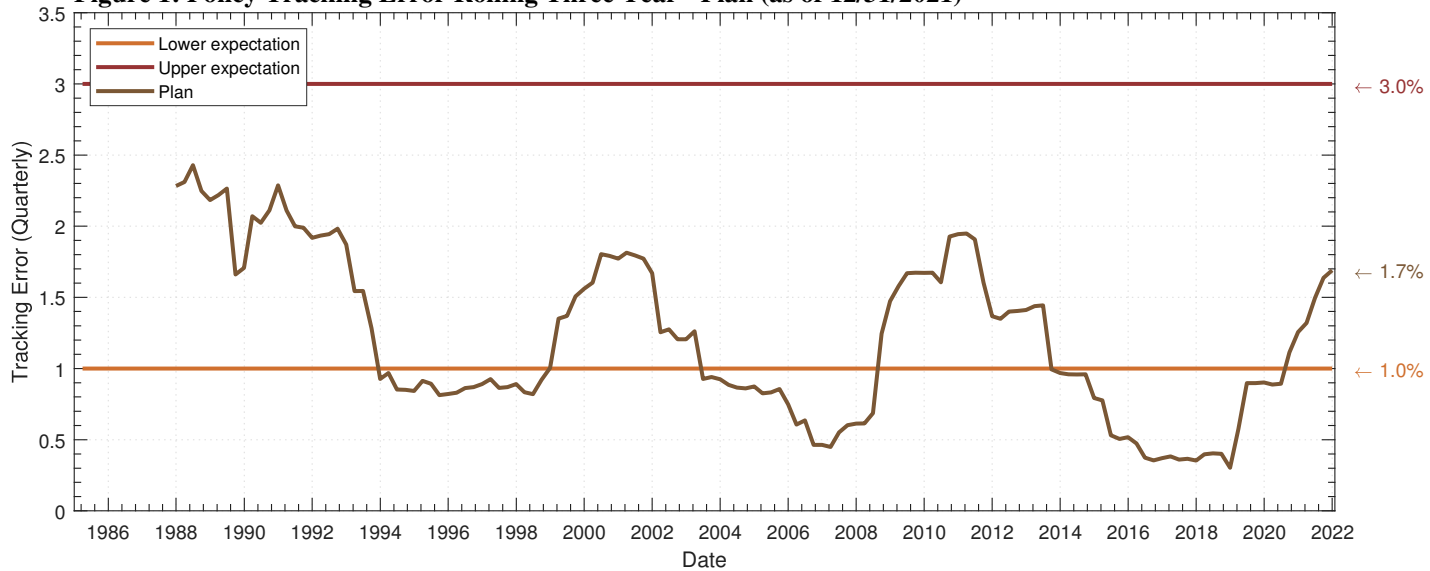
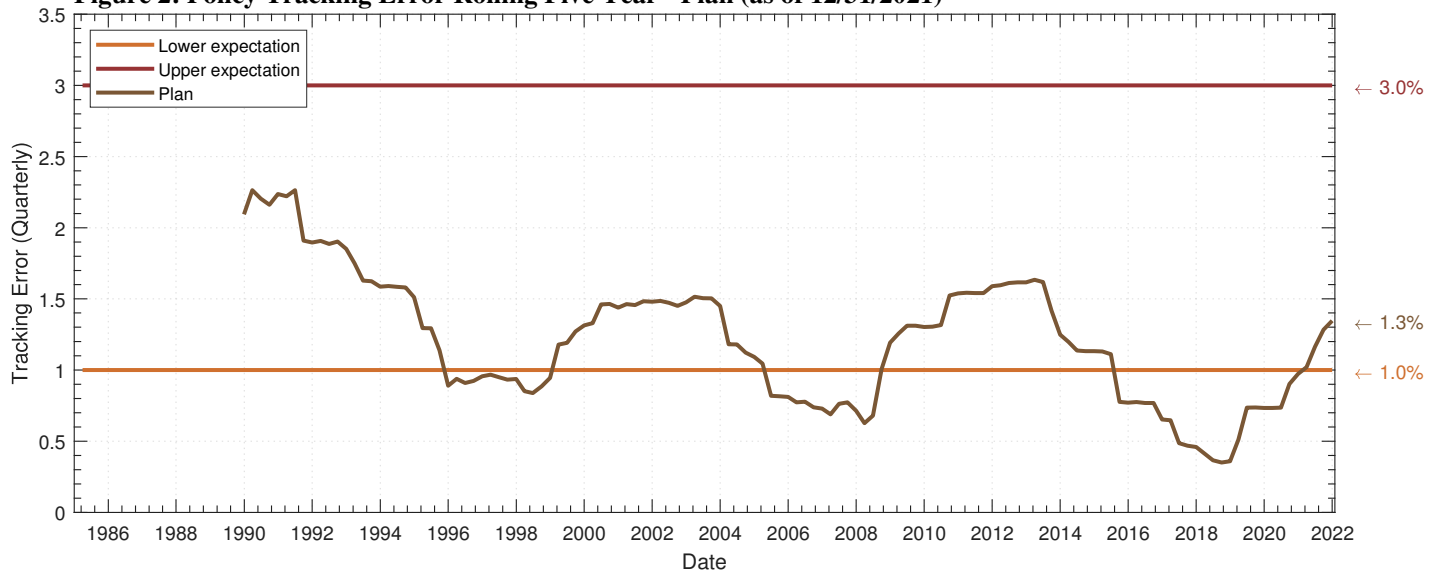


Figure 2: Policy Tracking Error Rolling Five Year - Plan (as of 12/31/2021)



The VRS Defined Benefit Plan Investment Policy Statement established the total fund tracking error range as the allowable observed tracking error calculated quarterly using 5 years of history.

Program	Action	Effective Date	Commitment/ Current Value	Funding/ Defunding Period	Description
Public Equity	Closed	02/28/2022	\$200 Million	< 1 Month	* Kylin Management, LLC – A China, Korea, and Japan oriented equity hedge fund.
Credit Strategies	Terminated	03/07/2022	\$148 Million	< 1 Month	Allianz Global Investors – A separate account investing in convertible bonds.
Dynamic Strategies	Hired	03/31/2022	\$80 Million	Immediate	MetLife Climate Aware Fixed Income – A long-only, multi-asset fixed income strategy emphasizing climate-readiness.

* The manager is considered DIME under the Commonwealth of Virginia definition, which defines ownership threshold of 51% or more.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Public Equity	Manager Closed the Fund	Kylin Management (minority-owned firm) ¹	Manager was a public equity hedge fund manager.	VRS minority manager closed the fund during the quarter; staff continues to monitor the manager through the defunding period.
Public Equity	On-Going Monitoring of Current VRS Manager	Ariel Global (minority and women-owned firm) ¹	Current VRS global equity manager.	Staff performed on-going due diligence and monitoring of this current VRS minority and women-owned manager during the quarter.
Public Equity	On-Going Monitoring of Current VRS Manager	Advent Capital Management (minority-owned firm) ¹	Current VRS convertible bond manager.	Staff performed on-going due diligence and monitoring of this current VRS minority manager during the quarter.
Public Equity	Virtual Manager Meeting	Decatur Capital Management Inc. (minority-owned firm) ¹	Manager focused on developed non-U.S. equity investments.	Staff had an update meeting with this manager to discuss the firm and their strategy.
Public Equity	Virtual Manager Meeting	Tiger Pacific Capital LP (minority-owned firm) ¹	Manager focused on Asia long/short investments.	Staff had an update meeting with this manager to discuss the firm and their strategy.
Credit Strategies	Manager Meeting	Strategic Value Partners Global (SVP) (minority-owned firm) ¹	Manager focused on distressed debt, private equity, and event driven opportunities in North America and Europe.	Staff reviewed materials and had a meeting with the manager to discuss their firm and strategy.
Credit Strategies	Virtual Manager Meeting	Parliament Capital Management (minority-owned firm) ¹	Manager focused on partnership-oriented capital.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Telephone Call with Manager	Clearlake Capital Group (minority-owned firm) ¹	A current Private Equity manager, that also operates integrated businesses in credit and other related strategies.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Credit Strategies	Telephone Call with Manager	Vista Equity Partners (minority-owned firm) ¹	A current Private Equity manager, that also offers a variety of flexible credit solutions to both the private and broadly syndicated markets.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Telephone Call with Manager	Pharos Capital Group (minority-owned firm) ¹	Manager focused on investing in healthcare partnerships.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Telephone Call with Manager	Pharmakon Advisors, LP (minority-owned firm) ¹	Manager focused on Life Sciences Debt Investments.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Telephone Call with Manager	VWH Capital (minority-owned firm) ¹	Manager focused on distressed residential mortgage loans.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Telephone Call with Manager	Sancus Capital Management (women-owned firm) ¹	Manager focused on structured credit strategies.	Staff reviewed materials and had a call with the manager to discuss their firm and strategy.
Credit Strategies	Materials Review	Sycamore Tree Capital Partners (minority-owned firm) ¹	Manager focused on value-oriented alternative credit.	Staff reviewed materials.
Credit Strategies	Materials Review	Altriarch Capital Management (women-owned firm) ¹	Manager focused on multiple strategies within private credit.	Staff reviewed materials.
Credit Strategies	Materials Review	Centre Lane Partners (women-owned firm) ²	Manager focused on equity and debt of middle market companies in North America.	Staff reviewed materials and communicated with the manager to discuss firm updates.
Credit Strategies	Periodic Communication with Fund-of-Fund Manager	N/A	As part of their mandate, Aksia Private Credit will come across DIME owned firms in the smaller and emerging credit fund space.	Periodic communication to review DIME and other emerging managers along with opportunities in the private credit markets more broadly.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Public Equity and Credit Strategies	Periodic Update Communication with Consultant	N/A	Aon Hewitt Investment Consulting is the consultant used by these two investment programs.	Periodic communication to review the DIME monitoring activity done on behalf of VRS as well as industry trends.
Real Assets	On-Going Monitoring of Current VRS Manager	Artemis Real Estate Partners (women-owned firm) ¹	Current VRS real estate manager.	Staff performed on-going due diligence and monitoring of this current VRS women-owned manager during the quarter.
Real Assets	On-Going Monitoring of Current VRS Manager	Tristan Capital Partners (minority-owned firm) ¹	Current VRS real estate manager.	Staff performed on-going due diligence and monitoring of this current VRS minority-owned manager during the quarter.
Real Assets	On-Going Monitoring of Current VRS Manager	Pritzker Realty Group (women-owned firm) ¹	Current VRS real estate manager.	Staff performed on-going due diligence and monitoring of this current VRS women-owned manager during the quarter.
Real Assets	On-Going Monitoring of Current VRS Manager	Capri EGM (minority-owned firm) ¹	Current VRS real estate manager.	Staff performed on-going due diligence and monitoring of this current VRS minority-owned manager during the quarter.
Real Assets	On-Going Monitoring of Current VRS Manager	Grain Management (minority-owned firm) ¹	Current VRS infrastructure manager.	Staff performed on-going due diligence and monitoring of this current VRS minority-owned manager during the quarter.
Real Assets	On-Going Monitoring of Current VRS Manager	Pantheon Ventures	Current VRS infrastructure and natural resource fund-of-funds manager.	Staff had periodic communication with this manager to discuss potential DIME firms in their market.
Real Assets	Virtual Manager Meeting	Elion Partners (minority-owned firm) ¹	Manager focused on value-add industrial real estate in select U.S. cities.	Staff held a re-introduction virtual meeting with this manager to discuss their background, company, current fundraise initiative and market update.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Real Assets	Virtual Manager Meeting	Standard Real Estate Investments (minority-owned firm) ¹	Real estate manager focused on multifamily development in select target markets in the U.S.	Staff held an introductory virtual meeting with this manager to discuss their background, company, current fundraise initiative and market update.
Real Assets	Virtual Manager Meeting	Ethos Real Estate (women-owned firm) ¹	Value-add real estate manager focused on affordable housing in the Western U.S.	Staff held an introductory virtual meeting with this manager to discuss their background, company, current fundraise initiative and market update.
Real Assets	Correspondence with Manager	Adelante (minority-owned firm) ¹	Manager focused on investing in publicly traded real estate securities.	Staff communicated with this manager regarding updates on their AUM and strategies.
Real Assets	Periodic Update Communication with Consultant	N/A	TorreyCove is a private markets consultant with whom VRS has a relationship.	Staff communicated with this consultant regarding a potential DIME manager in Real Assets.
Real Assets	Periodic Update Communication with Consultant	N/A	The Townsend Group is the consultant used by Real Assets.	Periodic communication to review the DIME monitoring activity done on behalf of VRS as well as real estate and infrastructure industry trends.
Private Equity	On-Going Monitoring of Current VRS Manager	Asia Alternatives (minority and women-owned firm) ¹	A fund-of-funds manager focusing on alternative investments in Asia.	Staff had a call with this manager during the quarter.
Private Equity	On-Going Monitoring of Current VRS Manager	ICV Capital Partners (minority-owned firm) ¹	A private equity fund investing in market leaders in stable to growing niches in smaller middle market companies with a value theme at the purchase.	Staff had a call with this manager during the quarter.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Private Equity	On-Going Monitoring of Current VRS Manager	SIRIS Capital (minority-owned firm) ¹	A middle market buyout firm making control investments in data/telecommunications, technology and technology-enabled business service companies in North America.	Staff had a meeting with this manager during the quarter.
Private Equity	On-Going Monitoring of Current VRS Manager	Sycamore Partners (minority-owned firm) ¹	Middle market buyout fund targeting consumer and retail companies.	Staff had a call with this manager during the quarter.
Private Equity	On-Going Monitoring of Current VRS Manager	Veritas Capital (minority-owned firm) ²	Middle market buyout fund targeting primarily technology or technology-enabled solutions to government.	Staff had a call with this manager during the quarter.
Private Equity	On-Going Monitoring of Current VRS Manager	Vista Equity Partners (minority-owned firm) ¹	A large market buyout fund targeting enterprise software companies.	Staff had a call with this manager during the quarter.
Private Equity	Manager Meeting	Grafine Partners (women-owned firm) ¹	Asset management firm that partners with veteran industry management teams to collectively build profitable and scalable businesses across selected industry verticals.	Staff had a meeting with this manager during the quarter.
Private Equity	Telephone Call with Manager	Boresight Capital (minority-owned firm) ¹	Lower middle market firm investing in Industrials, Consumer and Services sectors.	Staff had a call with this manager during the quarter.
Private Equity	Telephone Call with Manager	JP Morgan	New product offering for a fund-of-funds investing in diverse managers.	Staff had a call with this manager during the quarter.

VRS Investment Department
DIME Quarterly Report
Activity for Quarter Ending March 31, 2022

Investment Program	Activity	Manager Name	Description	VRS Action
Private Equity	Telephone Call with Manager	Trident (minority-owned firm) ¹	A control-oriented buyout firm investing with independent sponsors as operating partners to acquire U.S. based companies.	Staff had a call with this manager during the quarter.
Private Equity	Periodic Update Communication with Consultant	N/A	Grosvenor Capital Management Customized Fund Investment Group is the consultant used by Private Equity.	Periodic communication to review the DIME monitoring activity done on behalf of VRS as well as industry trends.
Risk-Based Investments	Telephone Call with Manager	Meketa	A consultant and asset manager that uses a Fund of Funds model that includes DIME managers.	Staff had calls with this manager to further discuss their firm and strategies.
Fixed Income	On-Going Monitoring of Current VRS Manager	Payden & Rygel (women-owned firm) ¹	Current VRS emerging market debt manager.	Staff had various interactions with this current VRS women-owned manager during the quarter.

Index:

- 1 – The manager is considered Diverse Investment Management Engagement (DIME) under the Commonwealth of Virginia definition, which defines ownership threshold of 51% or more.
- 2 – The manager is considered DIME under the definition that considers industry best practices, and defines an ownership threshold of greater than or equal to 33% and less than 51% of firm ownership or carry.

VRS Investment Department
Quarterly External Investment Manager Referral Report
Activity for Quarter Ending March 31, 2022

Investment Program	Type of Contact	Investment Manager Name	Official Making Referral	VRS Action
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No activity to report this quarter.

Report

The Defined Contribution Plans Advisory Committee (DCPAC) convened on March 24, 2022 at 1:00 p.m. and took up the following matters:

WELCOME AND INTRODUCTION

Dr. Gooden welcomed and introduced Dr. Arun Muralidhar, the newest appointed member of the Committee. Dr. Muralidhar is the co-founder of M^{cube} Investment Technologies LLC. He is also co-founder and Client CIO of AlphaEngine Global Investment Solutions, an SEC registered investment advisor, a subsidiary of M^{cube}. He is filling the investment seat on the DCPAC.

INVESTMENTS

Staff provided a brief review of VRS DC plan positions in Russian markets.

Performance Reports

Staff provided an overview of the February 28, 2022 performance reports to the DCPAC, including the unbundled DC plans investment options and the bundled TIAA investment menu in the Retirement Choice (RC) contract for ORPHE.

Callan 2022 Defined Contribution Trends Survey Highlights

Staff provided an overview of highlights from the Callan 2022 DC Trends survey, which was included in the meeting materials Appendix for the Committee to review. The Callan 2022 DC Trends survey results represented 101 large DC plan sponsors that span a range of industries across corporate, tax-exempt, and government organizations.

CEM Survey Update

Staff advised that they are still reviewing CEM's benchmarking service and will provide an update at a future meeting.

ADMINISTRATION

Administrative Reports and Communication Update

Staff provided an overview of the DC plans, as well as an update on administrative reports for the fourth quarter of 2021. An overview of assets and accounts across the various defined contribution plans, as well as participant trends and the impact of various plan initiatives was also provided. Staff shared with the Committee an analysis and overview of efforts related to the fourth quarter focus on improving asset allocation. Staff also shared an overview of the Optional Retirement Plan for Public Appointees (ORPPA).

ORPHE Update

Staff provided an overview of ORPHE reports for the fourth quarter of 2021, including plan assets and accounts, and provider election data. Staff also provided an update on outreach activities and education initiatives.

DC Plans Consultant RFP Update

Staff provided an update on the DC Plans Consultant RFP. Proposals received in response to the Consultant RFP were reviewed, and contract negotiations are in progress.

OTHER BUSINESS

DCPAC Charter and Responsibilities Overview

Staff reviewed the Committee charter and specific Committee responsibilities.

VRS Legislative Package

Staff reviewed DC plan-related legislation that passed during the 2022 regular session of the General Assembly, including the Board of Trustees-requested legislative proposal that will separate the Board-certified defined benefit employer contribution rates from the statutory estimated defined contribution employer contribution rates.

DCPAC Appointment

Staff informed the Committee of the request for reappointment of Ravindra Deo, Brenda Madden, and Edward N. (Ned) Smither, each to a two-year term ending June 20, 2024. Their current term expires June 20, 2022.

Recommend RBA for Reappointment of DCPAC Members

The Committee recommended approval of the following action to the Administration and Personnel Committee. The Administration and Personnel Committee will provide their recommendation to the Board:

Request for Board Action: *The Board reappoints Ravindra Deo, Brenda Madden, and Edward N. Smither to the Defined Contribution Plans Advisory Committee (DCPAC), for a two-year term ending June 20, 2024.*

DISCUSSION OF NEW IDEAS

No new business was brought before the Committee.

2022 MEETINGS

Dr. Gooden confirmed the remaining DCPAC meeting dates in 2022, all at 1:00 p.m.:

- Thursday, June 2nd
- Thursday, September 8th
- Thursday, December 1st

Additionally, the ORPHE Annual Employer Update will be scheduled for the fall and will appear on the DCPAC agenda as an upcoming event. This is not a DCPAC meeting; however, members may attend if interested.

There was no other business to come before the Committee.

Submitted to the Board of Trustees on April 19, 2022.

Dr. Susan Gooden, Vice Chair
Defined Contribution Plans Advisory Committee

Report

The Audit and Compliance Committee met on March 29, 2022 and discussed the following:

APPROVAL OF MINUTES

The Committee approved the minutes of its December 6, 2021 meeting.

AUDIT REPORTS

The Committee received one audit report.

- The review of VRS' *Conformance with VITA's Security Program* determined as of January 1, 2022 VRS' Security Policies and Standards partially conform with VITA's mandatory Information Technology security program as updates to VRS' policies and standards were underway to address recent changes, but not yet adopted. There were no formal recommendations as a result of the current review.

ANNUAL REPORT ON CODE OF ETHICS

The Internal Audit Director noted the Internal Audit department's adherence to the VRS Code of Ethics, Institute of Internal Auditors' Code of Ethics, and similar frameworks required by professional designations and memberships.

The Chief Operating Officer and the Regulatory and Legal Officer provided annual reports on their respective processes for communicating VRS' Code of Ethics and Conduct and for monitoring compliance, as required by the Audit and Compliance Committee Charter. Both indicated 100 percent compliance with the reporting and certification requirements for their respective programs.

AUDIT PLAN PROGRESS AS OF DECEMBER 31, 2021

The Internal Audit Director reported on the progress on the annual Audit Plan as of December 31, 2021, the mid-point of the fiscal year.

MISCELLANEOUS UPDATES

The Committee received the following miscellaneous updates:

Quarterly Report on Fraud, Waste and Abuse Hotline Cases

It was noted there were no Fraud, Waste and Abuse Hotline complaints reported to Internal Audit via the Office of the State Inspector General during the period of November 1, 2021 through January 31, 2022.

Internal Audit's Review of Cost of Living Adjustments

Internal Audit noted its review of the proposed "Cost of Living Adjustments" as calculated by VRS' actuary, Cavanaugh Macdonald Consulting, LLC, was completed and the results were provided to the Benefits and Actuarial Committee and Board of Trustees at their respective meetings in February 2022.

Management's Quarterly Travel Expense and Per Diem Report

The Committee received Management's Quarterly Travel Expense and Per Diem report.

Next Committee Meeting Date

The Committee's next meeting is scheduled for Thursday, June 16, 2022 at 2 p.m.

Respectfully submitted to the Board of Trustees on April 19, 2022.

Joseph W. Montgomery, Chair
Audit and Compliance Committee

Report

The Benefits and Actuarial Committee has had two meetings since the last Board meeting. The first meeting was on April 6, 2022. The second on April 19, 2022. This report will cover both meetings.

The Benefits and Actuarial Committee met in-person on April 6, 2022 at 1:00 p.m., and took up the following matters:

APPROVAL OF MINUTES

The Committee approved the minutes of its February 9, 2022 meeting.

ACTUARIAL FIRMS FINALIST INTERVIEWS – CLOSED SESSION

The Committee went into closed session to conduct interviews of the actuarial firm finalists.

Upon return to open meeting, the Committee agreed to meet on April 19th at 10:30 a.m. to continue deliberations related to the actuarial firm finalists and make a recommendation to the full Board of Trustees.

INFORMATION ITEM

2022 B&A Committee Meeting Schedule:

- April 19 at 10:30 a.m.
- October 17 at 1:00 p.m.
- November 14 at 1:00 p.m.

The June meeting has been cancelled as there are no action items for the Committee to consider.

The Benefits and Actuarial Committee held an in-person meeting on April 19, 2022 at 10:30 a.m., and took up the following matters:

APPROVAL OF MINUTES

The Committee approved the minutes of its April 6, 2022 meeting.

ACTUARIAL SERVICES – CLOSED SESSION

The Committee held a closed session to continue discussions of the actuarial firm finalists.

Upon return to open meeting, the Committee unanimously recommended approval of the following action to the full Board of Trustees:

Request for Board Action: *The Virginia Retirement System Board of Trustees accepts the recommendation of the Benefits and Actuarial Committee for Gabriel, Roeder, Smith & Company to serve as the Board of Trustees' plan actuary for all actuarial services, including long-term care, subject to negotiation of a contract.*

INFORMATION ITEM

2022 B&A Committee Meeting Schedule:

- October 17 at 1:00 p.m.
- November 14 at 1:00 p.m.

Submitted to the Board of Trustees on April 19, 2022.

William A. Garrett, Chair
Benefits and Actuarial Committee



Accept the Benefits and Actuarial Committee's recommendation for a plan actuary.

Requested Action

The Virginia Retirement System Board of Trustees accepts the recommendation of the Benefits and Actuarial Committee for Gabriel, Roeder, Smith & Company to serve as the Board of Trustees' plan actuary for all actuarial services, including long-term care, subject to negotiation of a contract.

Description/Background

VRS issued a Request for Proposals (RFP #158:22-0118) for actuarial consulting services. The RFP was issued in January 2022 via eVA, Virginia's electronic procurement portal.

Six firms submitted written proposals in response to the RFP. The proposals were evaluated by a panel of VRS staff members based on the following criteria: understanding of the services desired; offeror's qualifications/experience; personnel qualifications/experience; soundness of approach; and cost. Of the six firms that responded, the four highest-ranked firms were selected for an interview with the Benefits and Actuarial Committee on April 6, 2022.

During the interviews, all the firms were asked to respond to several questions and to provide an overview of their firm's background, staffing, experience, expertise, and capabilities.

The initial contract period is for three years, with three additional three-year renewals.

Rationale for Requested Action

Based on the results of the scoring of the written proposals and the interviews, the panel's recommendation, with which the Benefits and Actuarial Committee concurs, is that the Board appoint Gabriel, Roeder, Smith & Company, contingent upon staff's successful negotiation of contract terms acceptable to the parties, to serve as the VRS Board of Trustees' plan actuary. This decision is based on the staff panel's review of the proposals and recommendation and the interviews held on April 6th, 2022.

Authority for Requested Action

Code of Virginia § 51.1-124.22(A)(4) authorizes the Board to employ an actuary as its technical advisor.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date

Report

The Administration and Personnel Committee met on April 6, 2022 and discussed the following:

APPROVAL OF MINUTES

The Committee approved the minutes of its February 8, 2022 meeting.

APPROVE REVISED INVESTMENT PROFESSIONALS' PAY PLAN

Paula Reid, Human Resources Director, introduced Michael Oak of McLagan who presented the results of his firm's review of the Investment Professionals' Pay Plan. In particular, the firm reviewed the competitiveness of pay levels relative to their Board-approved targeted pay positioning.

In consideration of the recommendations provided by McLagan, the Committee recommends approval of the following action to the full Board:

Request for Board Action: *The Board approves an amended Investment Professionals' Pay Plan.*

REAPPOINTMENT OF DEFINED CONTRIBUTION PLANS ADVISORY COMMITTEE MEMBERS

Trish Bishop, Director, advised the Committee that three current members of the Defined Contribution Plans Advisory Committee (DCPAC) are eligible for reappointment. Mr. Ravi Deo, Ms. Brenda Madden and Mr. Ned Smither have expressed interest in continuing to serve.

The Committee recommends approval of the following action to the full Board:

Request for Board Action: *The Board reappoints Ravindra Deo, Brenda Madden and Edward N. (Ned) Smither to the Defined Contribution Plans Advisory Committee (DCPAC), each for a two-year term ending June 20, 2024.*

BUDGET UPDATE

Jonathan Farmer, Budget and Performance Reporting Manager, presented an update on the agency's budget. Mr. Farmer reviewed the agency's expenditures through February 28, 2022 and outlined anticipated spending through the remainder of the fiscal year. Mr. Farmer indicated that VRS is currently on track to finish the year with a surplus of approximately \$8.6 million.

ADMINISTRATION CLASSIFICATION AND COMPENSATION STUDY UPDATE

Ms. Reid updated the Committee on the ongoing review of the Administration Pay Plan. VRS is working with CBIZ Compensation Consulting who is reviewing the administration staff's job descriptions and compensation. The review is expected to be completed later this year.

Submitted to the Board of Trustees on April 19, 2022.

O'Kelly E. McWilliams, III, Chair
Administration and Personnel Committee



Reappointment of DCPAC Members.

Requested Action

The Board reappoints Ravindra Deo, Brenda Madden, and Edward N. (Ned) Smither to the Defined Contribution Plans Advisory Committee (DCPAC), each for a two-year term ending June 20, 2024.

Rationale for Requested Action

Mr. Deo, Ms. Madden, and Mr. Smither currently serve on the DCPAC and are willing to be reappointed for another two-year term. Mr. Deo is the Executive Director of the Federal Retirement Thrift Investment Board. Ms. Madden is a Senior Vice President and the Human Resources Director of Davenport & Company. Mr. Smither is the County Administrator for Powhatan County.

Authority for Requested Action

Code of Virginia § 51.1-124.26 authorizes the Board to appoint such other advisory committees as it deems necessary. Each member appointment requires a two-thirds vote of the Board, and advisory committee members serve at the pleasure of the Board.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date

Ravindra Deo Ravindra Deo serves as the Executive Director of the largest defined contribution plan in the world. Ravindra joined the FRTIB in 2015 as the Chief Investment Officer. During his time at FRTIB, he also served as acting COO from June 2016 to February 2017, and acting Executive Director from May 2017 to August 2017. Ravindra started his career in 1986 and worked in the asset management industry for 29 years prior to joining the FRTIB. He has worked in a variety of roles including as an overlay asset allocator focused on risk reduction, as part of a team that worked on the creation of the first ETFs, as a team leader focused on lifestyle funds, and as an investment advisory consultant to some of the largest institutional investors in the world. He has been the lead on investment and manager research teams and has conducted extensive manager research on both alternative and traditional asset classes. Ravindra has a Bachelor of Technology from the Indian Institute of Technology, Delhi and an MBA from the University of California, Berkeley

Professional Biography for:

Brenda O. Madden, SPHR, SHRM-SCP
SVP, Human Resources Director
Davenport & Company
Richmond Virginia

Brenda Madden is a Human Resources Executive with 30 years of Human Resources experience with various Richmond-based companies. She is certified as a Senior Professional in Human Resources (SPHR, SHRM-SCP).

She has been in her current role for 15 years as Director of Human Resources with Davenport & Company, an employee-owned, regional Investment Brokerage firm with over 480 employees, primarily in Virginia and North Carolina. She is responsible for providing strategic guidance and leadership for all aspects of Human Resources. She oversees all aspects of human resources management including benefits administration with emphasis on health & welfare benefits, defined contribution retirement plans, talent management, compensation, performance management, regulatory compliance, employee relations and organizational development, while being a trusted business partner to managers and associates of the firm.

In her role, she also serves on Davenport’s Profit Sharing Committee, which meets quarterly and reviews investment performance and plan administration matters for its 401k, and Profit Sharing retirement plans. The Human Resources department handles day to day interaction with employees related to these plans to include everything from new employee education/enrollment, distributions, loans, rollovers, RMD’s, to retirement options and communication.

Prior to joining Davenport & Company, she worked at The Colony Group (part of Argonaut Insurance Company), Virginia Mutual Insurance Company (now Alfa Mutual) and Heritage Savings Bank.

She has served on the board of the Virginia Society of Human Resources State Council for 13 years and has been in her current role of Treasurer for the past 5 years.

She received a Bachelor’s degree in Business Administration from Virginia Commonwealth University.



Davenport & Company LLC Member: NYSE | FINRA | SIPC

Ned Smither was named County Administrator of Powhatan County in 2020 and oversees the operations of Powhatan's \$130,000,000 annual budget and 250 general government staff. Smither came to Powhatan after an extensive career in public finance including eighteen years in local government and eighteen years as an investment banker in the municipal bond financial advisory and underwriting arena. Prior to joining Powhatan as their County Administrator, Smither served as the Director of Finance for Henrico County, overseeing Henrico's \$390 million debt portfolio and the financial operations of one of Virginia's leading counties. During his tenure as Director of Finance, he managed the issuance of over \$1 billion in debt and a rating upgrade of the County's Water and Sewer operations.

Smither served as a director on the VACo/VML Pooled OPEB Trust Board of Directors and currently serves as the Chairman of the Lewistown Commerce Center Community Development Authority in Hanover County.

Smither received both his bachelor's degree and his MBA from the University of Richmond and lives in Mechanicsville with his wife Sandy.



Approve changes to Investment Professionals' Pay Plan.

Requested Action

The Virginia Retirement System Board of Trustees approves an amended Investment Professionals' Pay Plan ("Pay Plan").

Description/Background

The VRS Board of Trustees approved the current Pay Plan on April 20, 2021.

The proposed amendments are the result of recommendations from McLagan's most recent compensation study of investment positions, and they are designed to allow the VRS compensation structure to remain competitive with the market. A summary of the changes to the Pay Plan follows:

- Update the salary range in the Pay Plan so as to reflect the VRS target midpoints (75th percentile of public fund peers) and target total compensation (median total cash weighted 75% to leading public pension funds and 25% to a broad range of private sector funds);
- Eliminate the position of Deputy Chief Investment Officer at pay grade 11; and,
- Eliminate the position of Manager at pay grade 5.

Authority for Requested Action

Code of Virginia § 51.1-124.22(A)(11) authorizes the Board to establish and administer a compensation plan for officers and employees of the Retirement System.

The above action is approved.

O'Kelly E. McWilliams, III, Chair
VRS Board of Trustees

Date



VIRGINIA RETIREMENT SYSTEM
INVESTMENT PROFESSIONALS' PAY PLAN
Effective April 19, 2022

OVERVIEW & PAY PHILOSOPHY

The Virginia Retirement System's (VRS) Board of Trustees has designed this investment professionals' pay plan after working with an independent compensation consultant. In addition, the Board has adopted benchmarks, recommended by an independent investment consultant, to be used as part of this pay plan.

This pay plan includes three core elements:

- Base Salary (described in Section I of this document)
- Incentive Pay Plan (described in Section II)
- Deferred Compensation Plan for VRS Investment Management Personnel (DCPIP) (described in Section III)

Overall, this pay plan design is to:

- Attract, motivate and retain skilled investment professionals by offering competitive compensation opportunities.
- Directly align compensation with long-term, superior relative and absolute investment performance.
- Reinforce risk management priorities and standards.
- Attract and retain senior investment professionals by deferring a portion of incentive compensation on a tax-deferred basis.
- Benefit all stakeholders – VRS' beneficiaries, VRS' employees, and Virginia's taxpayers – through a compensation plan that is clear, aligned with performance, competitive and cost effective.

Importantly, this pay plan anchors on two broad and long-standing philosophical principles:

1. VRS should pay base salaries consistent with the 75th percentile of a peer group of other leading public funds. The primary guidelines for determining VRS' leading public fund peer group will be (1) funds of similar size (AUM) as VRS and (2) funds with significant (>25%) assets managed internally. Additional criteria the Board may consider is asset allocation / diverse portfolio similar to VRS, degree of delegation to the CIO and staff, use of outside investment consultants, and Board pay decision making authority.
2. VRS should provide incentive compensation opportunities such that, in combination with base salary, total compensation levels approximate the median (50th percentile) of a blended group weighted 75% to the total compensation levels of leading peer group public funds and 25% to the total compensation levels of a broad range of private-sector firms that employ investment professionals.

I. Base Salary

SALARY RANGES

This pay plan establishes a salary range for each job class taking into account its relative importance to VRS and the salaries paid for comparable types of jobs in other leading public funds.

Minimum, midpoint, and maximum salary rates define the salary range for each job class/position. The midpoint of each job class/position approximates the 75th percentile salaries of a peer group of leading public pension funds. Actual salaries can be higher or lower than the midpoint depending on factors such as job performance, professional education and certifications, the willingness to assume new and higher-level duties and responsibilities, the ability to learn quickly and apply new knowledge and skills, being a team player, and the length of time in the position.

Each position's salary range includes a defined:

- **Minimum** is the lowest base salary paid for a job within the job class/position.
- **Midpoint** represents the market salary paid to a fully qualified employee, who has the institutional knowledge and practical experience to fulfill independently all of the responsibilities of the job/position.
- **Maximum** is the highest salary rate for the job class/position.

Grade	Position	Salary Range (in thousands)		
		Min	Mid	Max
10	Chief Investment Officer	\$ 325	\$ 430	\$ 540
9	Managing Director	275	365	455
8	Program Director	235	315	395
7	Director- Strategy, Research, Risk and/or Investment Decision Support	205	275	345
6	Senior Portfolio Manager	205	275	345
5	Portfolio Manager	160	215	270
4	Senior Investment Officer	135	180	225
3	Investment Officer	105	140	175
2	Senior Investment Analyst	80	105	130
1	Investment Analyst	65	85	105

In considering the above salary range, it important to note the following:

- **Market Pay Reviews:** The VRS normally conducts a comparative market total pay study at least every two years to ensure competitiveness of the salary and incentive structures. Typically, the VRS conducts the study in the 1st quarter of the calendar year (in even years) with an effective date of July 1 (the beginning of the fiscal year).
- **Changes in Salary Ranges:** The Board must approve changes to the salary scale and incentive structure.

SALARY ADJUSTMENTS

Oversight & Administration

VRS will implement pay actions consistent with the provisions of the Appropriation Act. The VRS Board, however, approves across-the-board performance-based salary increases, market-based salary increases and incentive pools, for VRS investment professionals, consistent with the Code of Virginia and the Appropriation Act. The Chief Investment Officer (CIO) approves salary adjustments for individual investment professionals and, as described later in this document, sign-on bonuses, incentive payments, and relocation expenses subject to the limitations in the Code of Virginia and other applicable state or federal law and regulation.

Merit Increases

- Salary increases are based on meeting individual performance standards. The supervisor completes the evaluation after the end of the fiscal year. If a participant in the investment employees' pay plan does not meet overall performance standards, then the participant is ineligible for performance increases to their base salary and market adjustments to their base salary for that performance cycle. Performance cycles are on a fiscal year, July 1 through June 30, and typically begin, with an effective date of performance plans in the first quarter of the new fiscal year.
- The CIO will receive base salary increases as approved by the VRS Board of Trustees and in accordance with the terms in the CIO's Employment Agreement, with approved effective dates established by the VRS Board of Trustees.

Starting Salaries

The starting salary for a new employee considers the rates presently paid to other employees in the department and those in the same job class (when applicable), the candidate's education, skills, work experience, and salary history. The starting salary normally does not exceed the salary grade midpoint.

Reallocation

Occurs when a job classification is reviewed by Human Resources and it is determined that the job duties and responsibilities have changed significantly enough to place the job in a different job title and job class. Unless the CIO authorizes an exception, this would not exceed a 15% increase. However, the individual's salary will always be at least at the minimum of the range of the new job, regardless of the amount of the increase.

In-grade Adjustments

Occur to ensure competitiveness, retention, and to recognize increased skills, abilities, knowledge, obtainment of a degree or certification, or significant increases in responsibilities within the job class. Unless the CIO authorizes an exception adjustments will not exceed a 10% increase.

Promotions

Promotions occur when an individual moves into a position in a higher job class. Promotions can be competitive (selected through a recruitment and hiring process) or non-competitive (through a job reclassification or reallocation.) Unless the CIO approves an exception, promotions will not exceed a 15% increase. However, the individual's salary will always be at least at the minimum of the range of the new job, regardless of the amount of the increase.

Downward Assignment

Downward adjustment occurs when an employee changes positions whether voluntarily, or because of unsatisfactory performance, resulting in a downward change in job class. A reduction in salary may occur based on a review of the salary and range and the circumstances associated with the downward move. In downward assignments, an individual's salary cannot exceed the maximum of the new salary range.

II. Incentive Pay Plan

PLAN ADMINISTRATION

The VRS Board of Trustees, the Plan Administrator, through the Administration and Personnel (A&P) Committee, administers the Incentive Plan (Plan) and retains full and complete discretion:

- To increase or decrease incentives for any and/or all Plan participants.
- To modify, amend or rescind any aspect of the Plan at any time for any and/or all Plan participants.
- While the Plan Administrator remains mindful of the value that staff adds to the organization and supportive of the pay plan, the Plan Administrator also specifically reserves the right to cancel, reduce, or delay the amount of any incentives payable under this plan when, in the sole discretion of the Plan Administrator, extreme budgetary pressures, economic, market or other conditions are such that the Plan Administrator deems such action necessary under the circumstances.
- Consistent with the preceding paragraph, payment of incentives under this plan is not guaranteed.

The Plan Administrator may delegate certain aspects of this Plan's day-to-day operation to the VRS CIO and the VRS Director of Human Resources. However, any substantive Plan-related questions or issues impacting incentive payouts for the CIO require the Plan Administrator's prior approval.

PLAN ELIGIBILITY

Incumbents in the positions listed below are eligible to participate in this incentive plan, provided they:

- Are active VRS employees.
- Work for VRS at least forty hours per week. Plan participants who work less than full-time may be eligible to receive a prorated incentive payment. Wage employees are not eligible to participate in the plan.
- Receive an individual performance evaluation of at least "meets expectations" for the relevant performance year (i.e., the year preceding the normally scheduled year of payment).
- Remain in compliance with the VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy.

**Positions Eligible to Participate in the
Investment Professional's Pay Plan**

Chief Investment Officer
Managing Director- Strategy, Research, Risk and/or Investment Decision Support
Managing Director- Internal Assets
Managing Director- Global Investments
Program Director
Director- Strategy, Research, Risk and/or Investment Decision Support
Senior Portfolio Manager
Portfolio Manager
Senior Investment Officer
Investment Officer
Senior Investment Analyst
Investment Analyst

The CIO will determine the design of the incentive plan structure for the positions supporting the Defined Contribution Plans, with both quantitative and qualitative elements.

Generally, employees on an approved leave of absence are considered active employees. The CIO will resolve all questions regarding eligibility or, in the case of the CIO, eligibility will be determined by the Board.

Participation in this Plan in any one year does *not* confer the right to participate in this Plan in any other year *nor* to receive Plan payouts for the current and/or any future year. Participation in this Plan does not confer the right to continued employment. Subject to the provisions of this Plan, only active VRS employees may receive payments under this Plan.

OVERALL INCENTIVE PLAN MECHANICS

As described in more detail throughout this document, under the terms of this Plan:

- Eligible Plan participants will be assigned an incentive opportunity, expressed as a percentage of their actual earned base salary.
- Incentive opportunities vary by position, with the level of such opportunities increasing with the degree to which the position directly affects VRS' investment performance.
- Incentives are weighted or allocated to separate Plan components, described below, with the specific components and weightings varying by position:
 1. Total Fund relative investment performance
 2. Asset Class relative investment performance
 3. Average of Asset Class Multipliers (for positions that support multiple asset classes)
 4. Qualitative – focuses on individual achievement of assigned objectives.
- After year-end, payouts under each Plan component would be determined based on performance.
- Each participant's preliminary award would equal the sum of all of their performance adjusted Plan components.
- Final awards would equal preliminary awards adjusted, up or down, based on the Total Fund's one-year absolute returns. Specifically, there will be no adjustment for returns between 0% and the assumed rate of return, currently 7%. There will be a positive one-for-one adjustment for returns in excess of the assumed rate of return (e.g., if Total Fund one-year actual absolute return equals +10%, then the preliminary awards will be increased by 3%). There will be a negative one-for-one adjustment for returns less than 0% (e.g., if Total Fund one-year actual absolute return equals -15%, then the preliminary awards will be reduced by 15%). This adjustment is specifically intended to systematically

take into account, in the shorter term, the effect of market cycles on the health of the pension plan by providing a mechanism to reflect the impact of up and down markets on incentive compensation.

- 50% of eligible senior staff-members' awards (up to IRS limits) will be deferred into tax-qualified accounts. See section III, Defined Contribution Incentive Plan for VRS Investment Management Personnel (DCPIP). While deferred, awards are subject to the Total Fund's annual absolute returns.
- All other awards paid in cash.

Generally, a Participant must be employed on the date of payment of the award. However, see INCENTIVE PLAN PROVISIONS, *Termination of Employment Due to Death, Disability or Retirement*.

INCENTIVE OPPORTUNITIES

Incentive opportunities will vary by position based on multiple criteria:

- The position's potential effect on the VRS' investment performance.
- Competitive market pay requirements.
- Internal equity considerations.
- Other factors determined by the CIO or, in the case of the Chief Investment Officer's position, by VRS' Board.

Actual awards can vary based on performance.

For the fiscal year ending June 30, 2013 and all subsequent years, unless as otherwise determined, the Plan's incentive opportunities are as follows:

Incentive Levels	
VRS Position	Incentive (1) (% salary)
Chief Investment Officer	70% (2)
Managing Director- Strategy, Research, Risk and/or Investment Decision Support	65% (2)
Managing Director- Internal Assets	65% (2)
Managing Director- Global Investments	65% (2)
Program Director	60% (2)
Director – Strategy, Research, Risk and/or Investment Decision Support	50%
Senior Portfolio Manager	50%
Portfolio Manager	40%
Senior Investment Officer	30%
Investment Officer	30%
Senior Investment Analyst	25%
Investment Analyst	5%
<p>(1) Performance-adjusted preliminary awards can vary from zero to two times the incentive.</p> <p>(2) A portion, up to 50%, of these positions' earned incentives is subject to mandatory deferral.</p>	

INCENTIVE WEIGHTINGS

Each participant's incentive award will be weighted or allocated to separate, stand-alone Plan components. Importantly, all participants have a portion of their incentive opportunities weighted:

- To the Total Fund Plan component – which helps reinforce the importance of collective success as measured by the Total Fund's relative investment results.
- To the Qualitative Plan component – this helps reinforce achievement of specific initiatives and professional development.

Described below are the specific Plan weightings and the approach for determining awards under each of these Plan components.

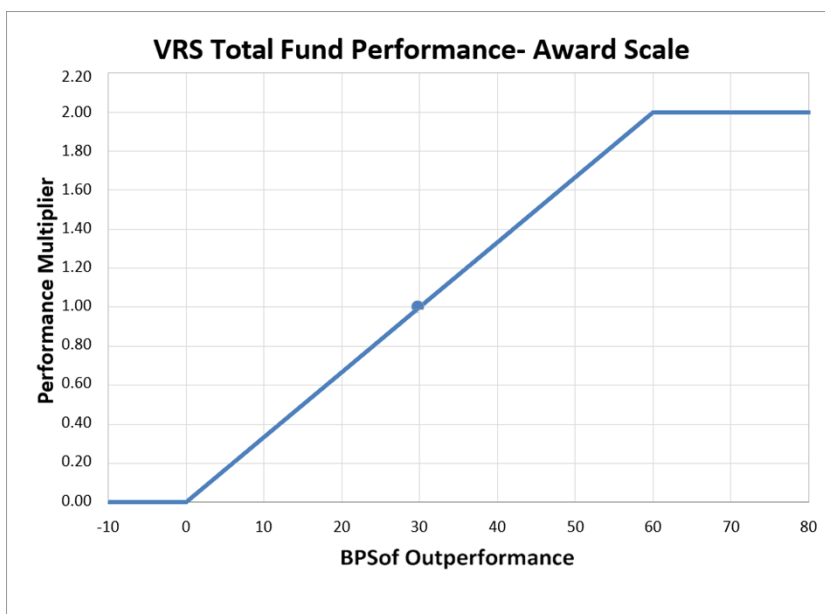
Incentive Weightings by Plan Component						
VRS Position	Total Fund	Quantitative Average of		Asset Class	Qualitative	Total
		Asset Class	Multipliers			
(% of total incentive weighted to each component)						
Chief Investment Officer	60%	20%	(1)		20%	100%
Managing Director- Strategy, Research, Risk and/or Investment Decision Support	60%	20%	(1,4)		20%	100%
Managing Director- Internal Assets	40%	40%	(2,4)		20%	100%
Managing Director- Global Investments	40%	40%	(3)		20%	100%
Program Director	30%	50%	(5)	50%	20%	100%
Director- Strategy, Research, Risk and/or Investment Decision Support	30%	50%	(1)		20%	100%
Senior Portfolio Manager	20%			60%	20%	100%
Portfolio Manager	20%			60%	20%	100%
Senior Investment Officer	20%	60%	(5)	60%	20%	100%
Investment Officer	20%	60%	(5)	60%	20%	100%
Senior Investment Analyst	20%	30%	(5)	30%	50%	100%
Investment Analyst	20%	30%	(5)	30%	50%	100%
<p>(1) Average multiplier based on the multipliers of all asset classes under the incumbent's purview.</p> <p>(2) The MD Internal Assets average multiplier is based on the multipliers of the internal asset classes under the incumbent's purview.</p> <p>(3) The MD Global Investments average multiplier is based on the multipliers of the external asset classes under the incumbent's purview.</p> <p>(4) There is currently a single person taking on the role of MD Strategy, Research, Risk and/or Investment Decision Support and MD Internal Assets. The incentive for this individual is a 50/50% blend of the two separate MD positions.</p> <p>(5) These positions may support a specific asset class or multiple asset classes. If the position supports a specific asset class, then the multiplier is based on the asset class multiplier. If the position supports multiple asset classes, then the multiplier is based on the average of the multipliers of the asset classes supported.</p>						

QUANTITATIVE PLAN COMPONENTS

These Plan components link participants' incentive compensation to relative investment performance or, more specifically, the extent by which the Total Fund and/or Asset Class performance exceeds passive benchmarks (indices) as measured over trailing three- and five-year annualized periods (each weighted 50%).

For purposes of this Plan:

- Measurement of relative investment performance is net of third-party fees, which consist of investment management fees and performance fees paid to investment managers, custodian fees, legal fees, internal investment staff administrative expenses, and miscellaneous fees.
- A performance-award scale defines the linkage between relative investment performance and a corresponding Performance Multiplier. Illustrating this approach at the Total Fund level when VRS' relative investment performance:
 - Equals zero or less (i.e., no relative value added), then the VRS Performance Multiplier will equal zero and there will be no incentive payouts under this Plan component.
 - Equals 30 bps, then the VRS Performance Multiplier will equal 1.00 and there will be a 100% payout of this Plan component.
 - Equals 60 bps or more, then the VRS Performance Multiplier will equal 2.00 and there will be a 200% payout of this Plan component.
 - Is anywhere between zero and 60 bps, then the VRS Performance Multiplier is determined on an interpolated, straight-line basis.



- Selected participants whose responsibilities span multiple asset classes may have a portion of their incentive weighted to a component that is determined based on the average multipliers of asset classes they support. The intent of this Plan component is to recognize and reward superior relative investment performance, regardless of the level of the associated assets.

The Board is responsible for setting the basis point outperformance standards for the Total Fund. The CIO is responsible for setting the basis point outperformance standards for individual asset classes, subject to the Board's final review and approval.

QUALITATIVE PLAN COMPONENT

The qualitative incentive multiplier can range from 0.00 to 2.00 at the CIO's discretion, with input from applicable senior staff regarding individual performance levels. This Plan component links participants' incentive compensation to achievement of individual and/or position-specific performance objectives and VRS' overall performance objectives. Actual awards under this plan component will reflect:

- Position- and/or incumbent-specific performance criteria.
- Achievement of key VRS performance objectives, including:
 - Building an effective organization.
 - Enhancing investment excellence.
 - Developing staff.

The Board will annually determine the CIO's qualitative incentive multiplier after assessing attainment of the qualitative performance objectives, considering input and recommendations provided by the A&P Committee.

DETERMINING PRELIMINARY AWARDS

After the end of each fiscal year, a preliminary award will be determined for each Plan participant by aggregating all of their performance multiplier-adjusted weighted Plan components. In particular:

- Performance multipliers will be determined for each Plan component based on actual results.
- Preliminary payouts under each weighted Plan component will be determined by multiplying the incentive dollars weighted to that component by the associated performance multiplier.
- Total preliminary awards would be determined by adding up all of that participant's weighted Plan components.

Illustrated below is this approach for a position with an incentive of \$80,000.

Plan Component	Weighted Portion of Incentive		Performance Multiplier	=	
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200
Preliminary Award					\$91,200

DETERMINING FINAL AWARDS

Final awards, if any, would be determined after each fiscal year-end by adjusting the sum of each participant's preliminary award, up or down, based on VRS' one-year absolute return for the most recently completed fiscal year. Specifically, there will be no adjustment for returns between 0% and the assumed rate of return, currently 7%. There will be a positive one-for-one adjustment for returns in excess of the assumed rate of return. There will be a negative one-for-one adjustment for returns less than 0%. Illustrated below is the process for determining final awards.

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200

Scenario #1:
 The Total Fund's One-Year Absolute Returns are +5%

	Preliminary Award	\$91,200
X no adjustment		0%
Final Award		\$91,200

Scenario #2:
 The Total Fund's One-Year Absolute Returns are +10%

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200
Preliminary Award					\$91,200
X 1+ VRS Fund's One-Year Rate of Return less assumed rate of return					103%
Final Award					\$93,936

Scenario #3:
 The Total Fund's One-Year Absolute Returns are -15%

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200
Preliminary Award					\$91,200
X 1+ VRS Fund's One-Year Rate of Return					85%
Final Award					\$77,520

PAYING OUT FINAL AWARDS

Board Review

Prior to payout of any and/or all awards, the CIO will present a schedule of aggregate incentives to the Board of Trustees, through the A&P Committee, in advance. This report will include, in aggregate, the awards, the multipliers awarded for each component, the actual dollar awards earned for each component and the total awards. Internal Audit and Human Resources will review the calculations. As requested by the A&P Committee, the CIO will provide additional information prior to the Board approving the payout of any and/or all awards.

Final Award Payout

Final awards will be paid out as follows:

- For VRS' most senior staff (i.e., incumbents in positions at or above the level of Program Director) when awards are paid, 50% of total award amounts up to the specified Internal Revenue Code (IRC) § 415(c)(1)(A) plan limits will be deferred into the DCPIP plan. All other amounts paid in cash. Section III of this document describes the terms of the § 415(c)(1)(A) plan.
- For all other Plan participants, awards paid 100% in cash.

Timing of Cash Payouts

When the Board approves incentive awards, the VRS will make payments between July 1 and December 31 after VRS' fiscal year end.

- Awards to senior staff paid as follows: 50% deferred into DCPIP (subject to IRS limits) and the remainder in cash.
- Awards to all other plan participants paid out 100% in cash.

INCENTIVE PLAN PROVISIONS

- ***New employees, promoted employees and other employees who transfer into another position covered in this pay plan:***
 - Employees who join the VRS Investment Department after the commencement of the fiscal year may be eligible to participate in the Plan. Incentives will be computed on the incentive percentage and their actual earned salary for the year.
 - Promoted employees and employees who transfer into another position covered in this pay plan will have their incentives calculated based on their actual earned salary for the year and a proportional incentive percentage.
- ***Minimum Individual Performance Standard:*** Employees with an individual performance rating of "Does Not Meet Expectations" are not eligible to receive any incentive payment under the Plan.
- ***Termination of Employment Due to Death, Disability, or Retirement:*** Terminated employees may be eligible to receive a time-weighted portion of their final award for the current performance year. Plan participants who terminate employment due to death or disability or who retire during a fiscal year will be eligible to receive a time-weighted portion of their Board approved award (1/12 for each complete month worked in their last year of service). The incentive payments for the year in which death, disability or retirement occurs shall be paid 100% in cash to such employee or his representative between July 1 and December 31 following the end of the fiscal year in which such death, disability or retirement occurs.
- ***Termination for all Other Reasons:*** Except as specifically determined by the CIO for all positions other than the CIO, and by the A&P Committee for the CIO's position, participants

who terminate employment with VRS for all other reasons prior to the normally scheduled date of payout forfeit all rights under the plan.

- **Clawback:** In the event of termination for malfeasance related to duties as an investment professional, VRS retains the right to seek repayment for any and/or all paid incentive awards.

III. Defined Contribution Incentive Plan for VRS Investment Management Personnel (DCPIP)

PARTICIPATION

This plan covers VRS investment professionals at or above the level of Program Director. Such positions currently include CIO, Deputy CIO, Managing Director, and Program Director. The Board retains the discretion to modify, at any time, the positions that are eligible to participate in this plan.

AMOUNTS SUBJECT TO ANNUAL DEFERRAL

- Deferrals into this plan only occur in years when VRS' Board decides, at its full and complete discretion, to allow payment of incentive awards.
- Commencing with (and including fiscal 2013), in years when VRS' Board decides to pay incentive awards, 50% of participants' final awards up to specified IRC §415(c)(1)(A) limits will be deferred into this plan. All other amounts paid in cash.

INVESTMENT RETURN

Participants' deferred accounts in the DCPIP and the § 415(m) plan will earn an "investment return" (positive or negative) equaling the current annual rate of return of the VRS Fund. However, upon attaining age 55, the DCPIP permits members of the Investment Management Committee who have established accounts in the Commonwealth of Virginia 457 Deferred Compensation Plan, to transfer a portion into the Virginia Cash Match Plan. This transfer right allows DCPIP participants at age 55 or at any time after attaining age 55, to select any combination of the investment options then offered by the Cash Match Plan. Notwithstanding the transfer right, members of the Investment Management Committee at age 55 or older must leave at least a minimal balance amount in their DCPIP account, to avoid having to re-open the account. The VRS Defined Contribution Plan Administrator will assist participants with these transfers.

FUND TRANSFERS and DISTRIBUTIONS

Participants of the DCPIP cannot transfer funds from the § 415(m) plan into the Cash Match Plan because the § 415(m) plan is a non-qualified "excess plan" not permitted to be held in trust for the exclusive benefit of the plan participants. The § 415(m) plan closed as of June 30, 2013, except for the CIO. The distribution of the balance in the § 415(m) plan will be made in cash to the Participant.

The accumulated DCPIP trust balances will be distributed to the Participant upon termination of employment with the Commonwealth of Virginia. The participant may elect to receive the balance in the DCPIP either in cash or as a "roll-over" into another retirement or related benefit vehicle/trust, or a combination of both. All payouts/rollovers will be credited with earnings through the latest quarter end for which finalized performance is available, by the date of the payment.

All applicable laws and regulations will govern the creation, funding and distributions of the DCPIP and § 415(m) plan. Detailed plan documents are on file with the Human Resources Director and the Chief Financial Officer.

TAXATION

Taxation of the amount contributed to the DCPIP and § 415(m) plans is deferred until distribution from the respective plan.

IV. Other Compensation Plan Information

Competitive Pay Increases

Competitive pay increases are an option available to retain a highly valued employee who has received a job offer from another employer. Requests for competitive pay increases should take into consideration the employee's experience, level of education, performance and contribution to the agency, and the salaries of other employees in comparable jobs. A written job offer must be received to provide a competitive pay increase.

Sign-on Bonuses

Investment professionals hired at the VRS may be eligible for sign-on bonuses, as described in the VRS Employee Sign-on Bonus Program Policy.

Relocation Expenses

Investment professionals hired at the VRS may be eligible for reimbursement of relocation expenses, if approved by the CIO. The reimbursement of the expenses must comply with the Department of Accounts Moving and Relocation Policy.

Employment at Will

The investment employees covered by this policy are exempt from the provisions of the Virginia Personnel Act and employment in these positions is at will. Just as the employee retains the right to resign at any time, the VRS has a similar right to end at will employment with or without cause. An at-will employee does not serve an introductory period. An at-will employee is not eligible to use the agency's grievance procedure to resolve employment disputes.

Investment employees covered by this policy are eligible for all other employment benefits and subject to agency policies that do not contradict their "at will" status.

409A Compliance

The intent of the Board is that payments and benefits under this plan either comply with Section 409A of the Internal Revenue Code and applicable guidance issued thereunder ("Code Section 409A") or qualify for an exemption from Code Section 409A and, accordingly, all provisions of this Plan shall be construed in a manner consistent with the requirements for avoiding taxes or penalties under Code Section 409A. The Board shall not take any action to accelerate or delay the payment of any monies and/or provision of any benefits in any matter which would not be in compliance with Code Section 409A to the extent Code Section 409A applies to such payment or benefit. Notwithstanding any of the provisions of this pay plan, the Board shall not be liable to the employee if any payment or benefit which is to be provided pursuant to this Plan and which is considered deferred compensation subject to Code Section 409A otherwise fails to comply with, or be exempt from, the requirements of Code Section 409A.

CLASS STRUCTURE

The following descriptions are the summaries of VRS' investment professional job classes/positions:

Chief Investment Officer

The CIO manages and directs investment programs, determines appropriate program structure, implementation, and monitoring. The CIO manages investment professionals who are directly responsible for internal and external investment programs. The CIO heads the Executive and Management Committees, which are responsible for reviewing all investment recommendations. The CIO collaborates with the VRS Board-appointed Investment Advisory Committee (IAC) and delivers frequent reports and updates to the VRS Board.

Managing Director

The Managing Director is a senior investment position reporting directly to the CIO. This position serves on the Investment Executive and Management Committees. The Executive Committee is a department wide resource to the CIO for management and administrative issues. The Management Committee participates in asset allocation and manager/fund allocation decisions.

Program Director

The Program Director has deep asset class knowledge and carries full managerial responsibility for a VRS investment program, including all internally and externally managed assets. The Program Director may also support multiple asset classes. The Program Director participates on the Investment Management Committee and regularly presents information to the IAC and the Board. The Program Director, as applicable, operates within an explicit risk budget and has investment performance objectives that are regularly measured. The Program Director has full responsibility for negotiating on behalf of VRS.

Director - Strategy, Research, Risk and/or Investment Decision Support

Strategy – The positions within Strategy identify and evaluate relative value based tilt opportunities that have the potential to 1) improve the fund's return without materially increasing the risk, 2) reduce the fund's risk without materially reducing the return, or 3) some combination of these objectives. In addition, staff within Strategy 1) review and evaluate the implications of macro-economic conditions, 2) analyze current conditions and opportunities within major asset classes and key asset class subsectors, 3) monitor and evaluate the tactical and strategic tilts of key VRS investment partners, and 4) identify strategy ideas including risk and return expectations for base case and alternative scenarios.

Research – The positions within Research have responsibility to support both basic and applied research efforts for all VRS investment staff. This effort includes monitoring, coordinating, facilitating, and implementing current best practices and methods to ensure optimal investment performance and risk management at both the program and plan level.

Risk – The positions within Risk have responsibility in the design, implementation, and management of the risk management program including project management (solicitation and queueing of projects from clients), guidance and coordination within the group, mathematical and statistical analysis of empirical problems, risk management, and high-level programming. Additionally, staff within Risk assist with the design and implementation of an opportunistic portfolio allocation to manage the risk exposures of the total fund.

Investment Decision Support – The positions within Investment Decision Support have responsibility for the design and delivery of investment program, risk management, strategy, and research analytic systems. As a component of this, staff is responsible for all investments data as well as the design, development and implementation of the quantitative infrastructure for the VRS investment programs. This includes a data warehouse, various data retrieval tools, quantitative analysis tools, program level reporting tools and support applications that retrieve, consolidate and report information.

Senior Portfolio Manager

The Senior Portfolio Manager positions have responsibility for multiple portfolio strategies and/or may supervise one or more Senior Investment Officers or Portfolio Managers.

The Senior Portfolio Manager positions provide a potential career progression ladder for Portfolio Managers over time, considering the contributions, experience and sustained performance for the incumbents.

Portfolio Manager

The Portfolio Manager provides critical input to strategy development and is responsible for the more complicated and higher risk investments. The Portfolio Manager may delegate to the Senior Investment Officer certain portions of the investment program. The Portfolio Manager will begin to negotiate terms on behalf of VRS. The Portfolio Manager, from time to time, makes presentations and recommendations to the Management Committee, and perhaps the IAC and Board.

The Portfolio Manager supporting the Defined Contribution Plans is a senior investment position reporting directly to the Managing Director of Global Investments. This position provides critical input to the design, implementation, and monitoring of all investment related aspects of the VRS defined contribution plans (DC). Responsibilities include (1) evaluation and selection of new investment strategies, managers and/or funds, (2) negotiating terms on behalf of VRS, (3) monitoring and management of relationships with existing defined contribution investment managers, (4) implementing investment policy as determined by the VRS Board, (5) presenting to the Defined Contribution Plans Advisory Committee and the Board, and (6) any other projects or duties relating to the defined contribution program as may be assigned from time to time.

Senior Investment Officer

The Senior Investment Officer has higher level monitoring responsibilities that tend to involve higher risk and strategies that are more complicated. Some Senior Investment Officers may have day-to-day responsibilities for managing internal portfolios, subject to risk limits prescribed by the program director. The Senior Investment Officer will increasingly become involved in strategy development and formal recommendations to the Program Director.

Investment Officer

The Investment Officer, in addition to analytical responsibilities, may have direct responsibility for monitoring some portion of the existing portfolio, or some strategies or managers under consideration in the future. Such assignments will typically be in lower risk and less complicated strategies. The Investment Officer may continue to be involved in monitoring, compliance, and administration, but will also begin to make formal investment recommendations to the Program Director.

Senior Investment Analyst

The Senior Investment Analyst performs various types of analysis at the direction of more senior staff members. Analyst activities are geared around providing support for senior staff members more directly involved in the decision-making process. Such activities will include research, reporting, monitoring, compliance, and administration.

Investment Analyst

The Investment Analyst assists other investment professionals in their daily operations, including

investment research and analysis, trading, and portfolio management. Analysts follow and report current market information relating to assigned sectors of the market. In addition, the Analyst conducts independent research on various topics, performs data maintenance, integrity, and report generation tasks.



VIRGINIA RETIREMENT SYSTEM
INVESTMENT PROFESSIONALS' PAY PLAN
Effective ~~June 10, 2021~~ April 19, 2022

OVERVIEW & PAY PHILOSOPHY

The Virginia Retirement System's (VRS) Board of Trustees has designed this investment professionals' pay plan after working with an independent compensation consultant. In addition, the Board has adopted benchmarks, recommended by an independent investment consultant, to be used as part of this pay plan.

This pay plan includes three core elements:

- Base Salary (described in Section I of this document)
- Incentive Pay Plan (described in Section II)
- Deferred Compensation Plan for VRS Investment Management Personnel (DCPIP) (described in Section III)

Overall, this pay plan design is to:

- Attract, motivate and retain skilled investment professionals by offering competitive compensation opportunities.
- Directly align compensation with long-term, superior relative and absolute investment performance.
- Reinforce risk management priorities and standards.
- Attract and retain senior investment professionals by deferring a portion of incentive compensation on a tax-deferred basis.
- Benefit all stakeholders – VRS' beneficiaries, VRS' employees, and Virginia's taxpayers – through a compensation plan that is clear, aligned with performance, competitive and cost effective.

Importantly, this pay plan anchors on two broad and long-standing philosophical principles:

1. VRS should pay base salaries consistent with the 75th percentile of a peer group of other leading public funds. The primary guidelines for determining VRS' leading public fund peer group will be (1) funds of similar size (AUM) as VRS and (2) funds with significant (>25%) assets managed internally. Additional criteria the Board may consider is asset allocation / diverse portfolio similar to VRS, degree of delegation to the CIO and staff, use of outside investment consultants, and Board pay decision making authority.
2. VRS should provide incentive compensation opportunities such that, in combination with base salary, total compensation levels approximate the median (50th percentile) of a blended group weighted 75% to the total compensation levels of leading peer group public funds and 25% to the total compensation levels of a broad range of private-sector firms that employ investment professionals.

I. Base Salary

SALARY RANGES

This pay plan establishes a salary range for each job class taking into account its relative importance to VRS and the salaries paid for comparable types of jobs in other leading public funds.

Minimum, midpoint, and maximum salary rates define the salary range for each job class/position. The midpoint of each job class/position approximates the 75th percentile salaries of a peer group of leading public pension funds. Actual salaries can be higher or lower than the midpoint depending on factors such as job performance, professional education and certifications, the willingness to assume new and higher-level duties and responsibilities, the ability to learn quickly and apply new knowledge and skills, being a team player, and the length of time in the position.

Each position's salary range includes a defined:

- **Minimum** is the lowest base salary paid for a job within the job class/position.
- **Midpoint** represents the market salary paid to a fully qualified employee, who has the institutional knowledge and practical experience to fulfill independently all of the responsibilities of the job/position.
- **Maximum** is the highest salary rate for the job class/position.

Grade	Position	Salary Range (in thousands)		
		Min	Mid	Max
12 <u>10</u>	Chief Investment Officer	\$ 327 <u>325</u>	\$ 408 <u>430</u>	\$ 489 <u>540</u>
11	Deputy Chief Investment Officer	269	336	403
10 <u>9</u>	Managing Director	260 <u>275</u>	326 <u>365</u>	391455
98	Program Director	212 <u>235</u>	265 <u>315</u>	317395
7	Director- Strategy, Research, Risk and/or Investment Decision Support	193 <u>205</u>	242 <u>275</u>	290345
76	Senior Portfolio Manager	193 <u>205</u>	242 <u>275</u>	290345
65	Portfolio Manager	168 <u>160</u>	210 <u>215</u>	251270
5	Manager— Strategy, Research, Risk and/or Investment Decision Support	150	188	225
4	Senior Investment Officer	124 <u>135</u>	155 <u>180</u>	185225
3	Investment Officer	92 <u>105</u>	116 <u>140</u>	139175
2	Senior Investment Analyst	75 <u>80</u>	94 <u>105</u>	113 <u>130</u>
1	Investment Analyst	61 <u>65</u>	77 <u>85</u>	91 <u>105</u>

In considering the above salary range, it important to note the following:

- **Market Pay Reviews:** The VRS normally conducts a comparative market total pay study at least every two years to ensure competitiveness of the salary and incentive structures. Typically, the VRS conducts the study in the 1st quarter of the calendar year (in even years) with an effective date of July 1 (the beginning of the fiscal year).
- **Changes in Salary Ranges:** The Board must approve changes to the salary scale and incentive structure.

SALARY ADJUSTMENTS

Oversight & Administration

VRS will implement pay actions consistent with the provisions of the Appropriation Act. The VRS Board, however, approves across-the-board performance-based salary increases, market-based salary increases and incentive pools, for VRS investment professionals, consistent with the Code of Virginia and the Appropriation Act. The Chief Investment Officer (CIO) approves salary adjustments for individual investment professionals and, as described later in this document, sign-on bonuses, incentive payments, and relocation expenses subject to the limitations in the Code of Virginia and other applicable state or federal law and regulation.

Merit Increases

- Salary increases are based on meeting individual performance standards. The supervisor completes the evaluation after the end of the fiscal year. If a participant in the investment employees' pay plan does not meet overall performance standards, then the participant is ineligible for performance increases to their base salary and market adjustments to their base salary for that performance cycle. Performance cycles are on a fiscal year, July 1 through June 30, and typically begin, with an effective date of performance plans in the first quarter of the new fiscal year.
- The CIO will receive base salary increases as approved by the VRS Board of Trustees and in accordance with the terms in the CIO's Employment Agreement, with approved effective dates established by the VRS Board of Trustees.

Starting Salaries

The starting salary for a new employee considers the rates presently paid to other employees in the department and those in the same job class (when applicable), the candidate's education, skills, work experience, and salary history. The starting salary normally does not exceed the salary grade midpoint.

Reallocation

Occurs when a job classification is reviewed by Human Resources and it is determined that the job duties and responsibilities have changed significantly enough to place the job in a different job title and job class. Unless the CIO authorizes an exception, this would not exceed a 15% increase. However, the individual's salary will always be at least at the minimum of the range of the new job, regardless of the amount of the increase.

In-grade Adjustments

Occur to ensure competitiveness, retention, and to recognize increased skills, abilities, knowledge, obtainment of a degree or certification, or significant increases in responsibilities within the job class. Unless the CIO authorizes an exception adjustments will not exceed a 10% increase.

Promotions

Promotions occur when an individual moves into a position in a higher job class. Promotions can be competitive (selected through a recruitment and hiring process) or non-competitive (through a job reclassification or reallocation.) Unless the CIO approves an exception, promotions will not exceed a 15% increase. However, the individual's salary will always be at least at the minimum of the range of the new job, regardless of the amount of the increase.

Downward Assignment

Downward adjustment occurs when an employee changes positions whether voluntarily, or because of unsatisfactory performance, resulting in a downward change in job class. A reduction in salary may occur based on a review of the salary and range and the circumstances associated with the downward move. In downward assignments, an individual's salary cannot exceed the maximum of the new salary range.

II. Incentive Pay Plan

PLAN ADMINISTRATION

The VRS Board of Trustees, the Plan Administrator, through the Administration and Personnel (A&P) Committee, administers the Incentive Plan (Plan) and retains full and complete discretion:

- To increase or decrease incentives for any and/or all Plan participants.
- To modify, amend or rescind any aspect of the Plan at any time for any and/or all Plan participants.
- While the Plan Administrator remains mindful of the value that staff adds to the organization and supportive of the pay plan, the Plan Administrator also specifically reserves the right to cancel, reduce, or delay the amount of any incentives payable under this plan when, in the sole discretion of the Plan Administrator, extreme budgetary pressures, economic, market or other conditions are such that the Plan Administrator deems such action necessary under the circumstances.
- Consistent with the preceding paragraph, payment of incentives under this plan is not guaranteed.

The Plan Administrator may delegate certain aspects of this Plan's day-to-day operation to the VRS CIO and the VRS Director of Human Resources. However, any substantive Plan-related questions or issues impacting incentive payouts for the CIO require the Plan Administrator's prior approval.

PLAN ELIGIBILITY

Incumbents in the positions listed below are eligible to participate in this incentive plan, provided they:

- Are active VRS employees.
- Work for VRS at least forty hours per week. Plan participants who work less than full-time may be eligible to receive a prorated incentive payment. Wage employees are not eligible to participate in the plan.
- Receive an individual performance evaluation of at least "meets expectations" for the relevant performance year (i.e., the year preceding the normally scheduled year of payment).
- Remain in compliance with the VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy.

Positions Eligible to Participate in the Investment Professional's Pay Plan

Chief Investment Officer
~~Deputy Chief Investment Officer~~
Managing Director- Strategy, Research, Risk and/or Investment Decision Support
Managing Director- Internal Assets
Managing Director- Global Investments
Program Director
Director- Strategy, Research, Risk and/or Investment Decision Support
Senior Portfolio Manager
Portfolio Manager
~~Manager— Strategy, Research, Risk and/or Investment Decision Support~~
Senior Investment Officer
Investment Officer
Senior Investment Analyst
Investment Analyst

The CIO will determine the design of the incentive plan structure for the positions supporting the Defined Contribution Plans, with both quantitative and qualitative elements.

Generally, employees on an approved leave of absence are considered active employees. The CIO will resolve all questions regarding eligibility or, in the case of the CIO, eligibility will be determined by the Board.

Participation in this Plan in any one year does *not* confer the right to participate in this Plan in any other year *nor* to receive Plan payouts for the current and/or any future year. Participation in this Plan does not confer the right to continued employment. Subject to the provisions of this Plan, only active VRS employees may receive payments under this Plan.

OVERALL INCENTIVE PLAN MECHANICS

As described in more detail throughout this document, under the terms of this Plan:

- Eligible Plan participants will be assigned an incentive opportunity, expressed as a percentage of their actual earned base salary.
- Incentive opportunities vary by position, with the level of such opportunities increasing with the degree to which the position directly affects VRS' investment performance.
- Incentives are weighted or allocated to separate Plan components, described below, with the specific components and weightings varying by position:
 1. Total Fund relative investment performance
 2. Asset Class relative investment performance
 3. Average of Asset Class Multipliers (for positions that support multiple asset classes)
 4. Qualitative – focuses on individual achievement of assigned objectives.
- After year-end, payouts under each Plan component would be determined based on performance.
- Each participant's preliminary award would equal the sum of all of their performance adjusted Plan components.
- Final awards would equal preliminary awards adjusted, up or down, based on the Total Fund's one-year absolute returns. Specifically, there will be no adjustment for returns between 0% and the assumed rate of return, currently 7%. There will be a positive one-for-one adjustment for returns in excess of the assumed rate of return (e.g., if Total Fund one-year actual absolute return equals +10%, then the preliminary awards will be increased by 3%). There will be a negative one-for-one adjustment for returns less than 0% (e.g., if Total Fund one-year actual absolute return equals -15%, then the preliminary awards will be reduced by 15%). This adjustment is specifically intended to systematically

take into account, in the shorter term, the effect of market cycles on the health of the pension plan by providing a mechanism to reflect the impact of up and down markets on incentive compensation.

- 50% of eligible senior staff-members' awards (up to IRS limits) will be deferred into tax-qualified accounts. See section III, Defined Contribution Incentive Plan for VRS Investment Management Personnel (DCPIP). While deferred, awards are subject to the Total Fund's annual absolute returns.
- All other awards paid in cash.

Generally, a Participant must be employed on the date of payment of the award. However, see INCENTIVE PLAN PROVISIONS, *Termination of Employment Due to Death, Disability or Retirement*.

INCENTIVE OPPORTUNITIES

Incentive opportunities will vary by position based on multiple criteria:

- The position's potential effect on the VRS' investment performance.
- Competitive market pay requirements.
- Internal equity considerations.
- Other factors determined by the CIO or, in the case of the Chief Investment Officer's position, by VRS' Board.

Actual awards can vary based on performance.

For the fiscal year ending June 30, 2013 and all subsequent years, unless as otherwise determined, the Plan's incentive opportunities are as follows:

Incentive Levels	
VRS Position	Incentive (1) (% salary)
Chief Investment Officer	70% (2)
Deputy Chief Investment Officer	65% (2)
Managing Director- Strategy, Research, Risk and/or Investment Decision Support	65% (2)
Managing Director- Internal Assets	65% (2)
Managing Director- Global Investments	65% (2)
Program Director	60% (2)
Director – Strategy, Research, Risk and/or Investment Decision Support	50%
Senior Portfolio Manager	50%
Portfolio Manager	40%
Manager – Strategy, Research, Risk and/or Investment Decision Support	30%
Senior Investment Officer	30%
Investment Officer	30%
Senior Investment Analyst	25%
Investment Analyst	5%
(1) Performance-adjusted preliminary awards can vary from zero to two times the incentive.	
(2) A portion, up to 50%, of these positions' earned incentives is subject to mandatory deferral.	

INCENTIVE WEIGHTINGS

Each participant's incentive award will be weighted or allocated to separate, stand-alone Plan components. Importantly, all participants have a portion of their incentive opportunities weighted:

- To the Total Fund Plan component – which helps reinforce the importance of collective success as measured by the Total Fund's relative investment results.
- To the Qualitative Plan component – this helps reinforce achievement of specific initiatives and professional development.

Described below are the specific Plan weightings and the approach for determining awards under each of these Plan components.

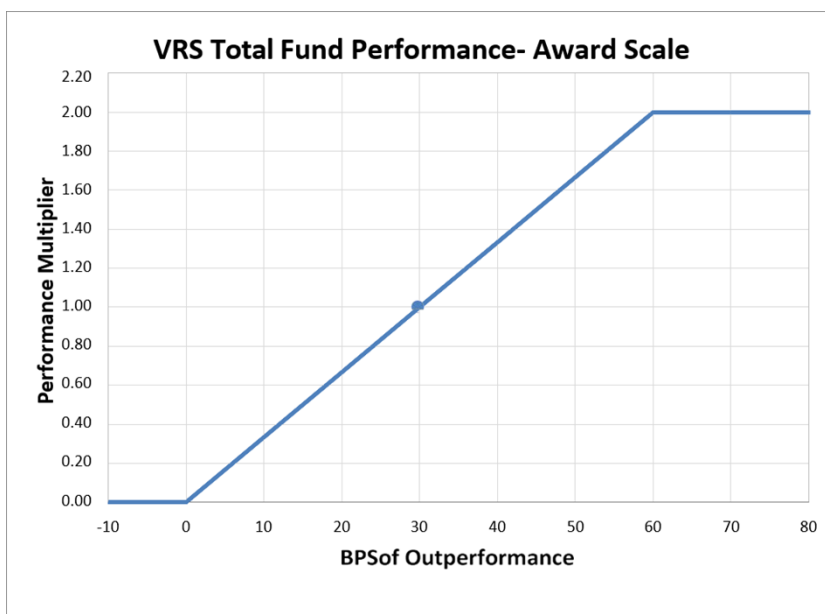
Incentive Weightings by Plan Component						
VRS Position	Total Fund	Quantitative Average of		Asset Class	Qualitative	Total
		Asset Class	Multipliers			
(% of total incentive weighted to each component)						
Chief Investment Officer	60%	20%	(1)		20%	100%
Deputy Chief Investment Officer	60%	20%	(1)		20%	100%
Managing Director- Strategy, Research, Risk and/or Investment Decision Support	60%	20%	(1,4)		20%	100%
Managing Director- Internal Assets	40%	40%	(2,4)		20%	100%
Managing Director- Global Investments	40%	40%	(3)		20%	100%
Program Director	30%	50%	(5)	50%	20%	100%
Director- Strategy, Research, Risk and/or Investment Decision Support	30%	50%	(1)		20%	100%
Senior Portfolio Manager	20%			60%	20%	100%
Portfolio Manager	20%			60%	20%	100%
Manager— Strategy, Research, Risk and/or Investment Decision Support	30%	50%	(1)		20%	100%
Senior Investment Officer	20%	60%	(5)	60%	20%	100%
Investment Officer	20%	60%	(5)	60%	20%	100%
Senior Investment Analyst	20%	30%	(5)	30%	50%	100%
Investment Analyst	20%	30%	(5)	30%	50%	100%
<p>(1) Average multiplier based on the multipliers of all asset classes under the incumbent's purview.</p> <p>(2) The MD Internal Assets average multiplier is based on the multipliers of the internal asset classes under the incumbent's purview.</p> <p>(3) The MD Global Investments average multiplier is based on the multipliers of the external asset classes under the incumbent's purview.</p> <p>(4) There is currently a single person taking on the role of MD Strategy, Research, Risk and/or Investment Decision Support and MD Internal Assets. The incentive for this individual is a 50/50% blend of the two separate MD positions.</p> <p>(5) These positions may support a specific asset class or multiple asset classes. If the position supports a specific asset class, then the multiplier is based on the asset class multiplier. If the position supports multiple asset classes, then the multiplier is based on the average of the multipliers of the asset classes supported.</p>						

QUANTITATIVE PLAN COMPONENTS

These Plan components link participants' incentive compensation to relative investment performance or, more specifically, the extent by which the Total Fund and/or Asset Class performance exceeds passive benchmarks (indices) as measured over trailing three- and five-year annualized periods (each weighted 50%).

For purposes of this Plan:

- Measurement of relative investment performance is net of third-party fees, which consist of investment management fees and performance fees paid to investment managers, custodian fees, legal fees, internal investment staff administrative expenses, and miscellaneous fees.
- A performance-award scale defines the linkage between relative investment performance and a corresponding Performance Multiplier. Illustrating this approach at the Total Fund level, when VRS' relative investment performance:
 - Equals zero or less (i.e., no relative value added), then the VRS Performance Multiplier will equal zero and there will be no incentive payouts under this Plan component.
 - Equals 30 bps, then the VRS Performance Multiplier will equal 1.00 and there will be a 100% payout of this Plan component.
 - Equals 60 bps or more, then the VRS Performance Multiplier will equal 2.00 and there will be a 200% payout of this Plan component.
 - Is anywhere between zero and 60 bps, then the VRS Performance Multiplier is determined on an interpolated, straight-line basis.



- Selected participants whose responsibilities span multiple asset classes may have a portion of their incentive weighted to a component that is determined based on the average multipliers of asset classes they support. The intent of this Plan component is to recognize and reward superior relative investment performance, regardless of the level of the associated assets.

The Board is responsible for setting the basis point outperformance standards for the Total Fund. The CIO is responsible for setting the basis point outperformance standards for individual asset classes, subject to the Board's final review and approval.

QUALITATIVE PLAN COMPONENT

The qualitative incentive multiplier can range from 0.00 to 2.00 at the CIO's discretion, with input from applicable senior staff regarding individual performance levels. This Plan component links participants' incentive compensation to achievement of individual and/or position-specific performance objectives and VRS' overall performance objectives. Actual awards under this plan component will reflect:

- Position- and/or incumbent-specific performance criteria.
- Achievement of key VRS performance objectives, including:
 - Building an effective organization.
 - Enhancing investment excellence.
 - Developing staff.

The Board will annually determine the CIO's qualitative incentive multiplier after assessing attainment of the qualitative performance objectives, considering input and recommendations provided by the A&P Committee.

DETERMINING PRELIMINARY AWARDS

After the end of each fiscal year, a preliminary award will be determined for each Plan participant by aggregating all of their performance multiplier-adjusted weighted Plan components. In particular:

- Performance multipliers will be determined for each Plan component based on actual results.
- Preliminary payouts under each weighted Plan component will be determined by multiplying the incentive dollars weighted to that component by the associated performance multiplier.
- Total preliminary awards would be determined by adding up all of that participant's weighted Plan components.

Illustrated below is this approach for a position with an incentive of \$80,000.

Plan Component	Weighted Portion of Incentive		Performance Multiplier	=	
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200
Preliminary Award					\$91,200

DETERMINING FINAL AWARDS

Final awards, if any, would be determined after each fiscal year-end by adjusting the sum of each participant's preliminary award, up or down, based on VRS' one-year absolute return for the most recently completed fiscal year. Specifically, there will be no adjustment for returns between 0% and the assumed rate of return, currently 7%. There will be a positive one-for-one adjustment for returns in excess of the assumed rate of return. There will be a negative one-for-one adjustment for returns less than 0%. Illustrated below is the process for determining final awards.

Scenario #1:
 The Total Fund's One-Year Absolute Returns are +5%

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200

	Preliminary Award	\$91,200
X no adjustment		0%
	Final Award	\$91,200

Scenario #2:
 The Total Fund's One-Year Absolute Returns are +10%

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200

	Preliminary Award	\$91,200
X 1+ VRS Fund's One-Year Rate of Return less assumed rate of return		103%
	Final Award	\$93,936

Scenario #3:
 The Total Fund's One-Year Absolute Returns are -15%

Plan Component	Weighted Portion of Incentive		Performance Multiplier		Actual Award
Total Fund	\$16,000	X	1.50	=	\$24,000
Asset Class	48,000	X	1.00	=	48,000
Qualitative	16,000	X	1.20	=	19,200

	Preliminary Award	\$91,200
X 1+ VRS Fund's One-Year Rate of Return		85%
	Final Award	\$77,520

PAYING OUT FINAL AWARDS

Board Review

Prior to payout of any and/or all awards, the CIO will present a schedule of aggregate incentives to the Board of Trustees, through the A&P Committee, in advance. This report will include, in aggregate, the awards, the multipliers awarded for each component, the actual dollar awards earned for each component and the total awards. Internal Audit and Human Resources will review the calculations. As requested by the A&P Committee, the CIO will provide additional information prior to the Board approving the payout of any and/or all awards.

Final Award Payout

Final awards will be paid out as follows:

- For VRS' most senior staff (i.e., incumbents in positions at or above the level of Program Director) when awards are paid, 50% of total award amounts up to the specified Internal Revenue Code (IRC) § 415(c)(1)(A) plan limits will be deferred into the DCPIP plan. All other amounts paid in cash. Section III of this document describes the terms of the § 415(c)(1)(A) plan.
- For all other Plan participants, awards paid 100% in cash.

Timing of Cash Payouts

When the Board approves incentive awards, the VRS will make payments between July 1 and December 31 after VRS' fiscal year end.

- Awards to senior staff paid as follows: 50% deferred into DCPIP (subject to IRS limits) and the remainder in cash.
- Awards to all other plan participants paid out 100% in cash.

INCENTIVE PLAN PROVISIONS

- ***New employees, promoted employees and other employees who transfer into another position covered in this pay plan:***
 - Employees who join the VRS Investment Department after the commencement of the fiscal year may be eligible to participate in the Plan. Incentives will be computed on the incentive percentage and their actual earned salary for the year.
 - Promoted employees and employees who transfer into another position covered in this pay plan will have their incentives calculated based on their actual earned salary for the year and a proportional incentive percentage.
- ***Minimum Individual Performance Standard:*** Employees with an individual performance rating of "Does Not Meet Expectations" are not eligible to receive any incentive payment under the Plan.
- ***Termination of Employment Due to Death, Disability, or Retirement:*** Terminated employees may be eligible to receive a time-weighted portion of their final award for the current performance year. Plan participants who terminate employment due to death or disability or who retire during a fiscal year will be eligible to receive a time-weighted portion of their Board approved award (1/12 for each complete month worked in their last year of service). The incentive payments for the year in which death, disability or retirement occurs shall be paid 100% in cash to such employee or his representative between July 1 and December 31 following the end of the fiscal year in which such death, disability or retirement occurs.
- ***Termination for all Other Reasons:*** Except as specifically determined by the CIO for all positions other than the CIO, and by the A&P Committee for the CIO's position, participants

who terminate employment with VRS for all other reasons prior to the normally scheduled date of payout forfeit all rights under the plan.

- **Clawback:** In the event of termination for malfeasance related to duties as an investment professional, VRS retains the right to seek repayment for any and/or all paid incentive awards.

III. Defined Contribution Incentive Plan for VRS Investment Management Personnel (DCPIP)

PARTICIPATION

This plan covers VRS investment professionals at or above the level of Program Director. Such positions currently include CIO, Deputy CIO, Managing Director, and Program Director. The Board retains the discretion to modify, at any time, the positions that are eligible to participate in this plan.

AMOUNTS SUBJECT TO ANNUAL DEFERRAL

- Deferrals into this plan only occur in years when VRS' Board decides, at its full and complete discretion, to allow payment of incentive awards.
- Commencing with (and including fiscal 2013), in years when VRS' Board decides to pay incentive awards, 50% of participants' final awards up to specified IRC §415(c)(1)(A) limits will be deferred into this plan. All other amounts paid in cash.

INVESTMENT RETURN

Participants' deferred accounts in the DCPIP and the § 415(m) plan will earn an "investment return" (positive or negative) equaling the current annual rate of return of the VRS Fund. However, upon attaining age 55, the DCPIP permits members of the Investment Management Committee who have established accounts in the Commonwealth of Virginia 457 Deferred Compensation Plan, to transfer a portion into the Virginia Cash Match Plan. This transfer right allows DCPIP participants at age 55 or at any time after attaining age 55, to select any combination of the investment options then offered by the Cash Match Plan. Notwithstanding the transfer right, members of the Investment Management Committee at age 55 or older must leave at least a minimal balance amount in their DCPIP account, to avoid having to re-open the account. The VRS Defined Contribution Plan Administrator will assist participants with these transfers.

FUND TRANSFERS and DISTRIBUTIONS

Participants of the DCPIP cannot transfer funds from the § 415(m) plan into the Cash Match Plan because the § 415(m) plan is a non-qualified "excess plan" not permitted to be held in trust for the exclusive benefit of the plan participants. The § 415(m) plan closed as of June 30, 2013, except for the CIO. The distribution of the balance in the § 415(m) plan will be made in cash to the Participant.

The accumulated DCPIP trust balances will be distributed to the Participant upon termination of employment with the Commonwealth of Virginia. The participant may elect to receive the balance in the DCPIP either in cash or as a "roll-over" into another retirement or related benefit vehicle/trust, or a combination of both. All payouts/rollovers will be credited with earnings through the latest quarter end for which finalized performance is available, by the date of the payment.

All applicable laws and regulations will govern the creation, funding and distributions of the DCPIP and § 415(m) plan. Detailed plan documents are on file with the Human Resources Director and the Chief Financial Officer.

TAXATION

Taxation of the amount contributed to the DCPIP and § 415(m) plans is deferred until distribution from the respective plan.

IV. Other Compensation Plan Information

Competitive Pay Increases

Competitive pay increases are an option available to retain a highly valued employee who has received a job offer from another employer. Requests for competitive pay increases should take into consideration the employee's experience, level of education, performance and contribution to the agency, and the salaries of other employees in comparable jobs. A written job offer must be received to provide a competitive pay increase.

Sign-on Bonuses

Investment professionals hired at the VRS may be eligible for sign-on bonuses, as described in the VRS Employee Sign-on Bonus Program Policy.

Relocation Expenses

Investment professionals hired at the VRS may be eligible for reimbursement of relocation expenses, if approved by the CIO. The reimbursement of the expenses must comply with the Department of Accounts Moving and Relocation Policy.

Employment at Will

The investment employees covered by this policy are exempt from the provisions of the Virginia Personnel Act and employment in these positions is at will. Just as the employee retains the right to resign at any time, the VRS has a similar right to end at will employment with or without cause. An at-will employee does not serve an introductory period. An at-will employee is not eligible to use the agency's grievance procedure to resolve employment disputes.

Investment employees covered by this policy are eligible for all other employment benefits and subject to agency policies that do not contradict their "at will" status.

409A Compliance

The intent of the Board is that payments and benefits under this plan either comply with Section 409A of the Internal Revenue Code and applicable guidance issued thereunder ("Code Section 409A") or qualify for an exemption from Code Section 409A and, accordingly, all provisions of this Plan shall be construed in a manner consistent with the requirements for avoiding taxes or penalties under Code Section 409A. The Board shall not take any action to accelerate or delay the payment of any monies and/or provision of any benefits in any matter which would not be in compliance with Code Section 409A to the extent Code Section 409A applies to such payment or benefit. Notwithstanding any of the provisions of this pay plan, the Board shall not be liable to the employee if any payment or benefit which is to be provided pursuant to this Plan and which is considered deferred compensation subject to Code Section 409A otherwise fails to comply with, or be exempt from, the requirements of Code Section 409A.

CLASS STRUCTURE

The following descriptions are the summaries of VRS' investment professional job classes/positions:

Chief Investment Officer

The CIO manages and directs investment programs, determines appropriate program structure, implementation, and monitoring. The CIO manages investment professionals who are directly responsible for internal and external investment programs. The CIO heads the Executive and Management Committees, which are responsible for reviewing all investment recommendations. The CIO collaborates with the VRS Board-appointed Investment Advisory Committee (IAC) and delivers frequent reports and updates to the VRS Board.

Deputy CIO

~~Working under the direction of the CIO, this position is responsible for assisting in developing and implementing the Fund's overall investment policies and programs. The Deputy CIO serves as an internal consultant to the CIO on a range of investment strategies, works on special investment related projects, serves on the Executive and Management Committees and assumes many of the CIO responsibilities, allowing the CIO to focus on investment management, Board relations, and other critical Fund-level activities or initiatives.~~

Managing Director

The Managing Director is a senior investment position reporting directly to the CIO. This position serves on the Investment Executive and Management Committees. The Executive Committee is a department wide resource to the CIO for management and administrative issues. The Management Committee participates in asset allocation and manager/fund allocation decisions.

Program Director

The Program Director has deep asset class knowledge and carries full managerial responsibility for a VRS investment program, including all internally and externally managed assets. The Program Director may also support multiple asset classes. The Program Director participates on the Investment Management Committee and regularly presents information to the IAC and the Board. The Program Director, as applicable, operates within an explicit risk budget and has investment performance objectives that are regularly measured. The Program Director has full responsibility for negotiating on behalf of VRS.

Director or Manager - Strategy, Research, Risk and/or Investment Decision Support

Strategy – The positions within Strategy identify and evaluate relative value based tilt opportunities that have the potential to 1) improve the fund's return without materially increasing the risk, 2) reduce the fund's risk without materially reducing the return, or 3) some combination of these objectives. In addition, staff within Strategy 1) review and evaluate the implications of macro-economic conditions, 2) analyze current conditions and opportunities within major asset classes and key asset class subsectors, 3) monitor and evaluate the tactical and strategic tilts of key VRS investment partners, and 4) identify strategy ideas including risk and return expectations for base case and alternative scenarios.

Research – The positions within Research have responsibility to support both basic and applied research efforts for all VRS investment staff. This effort includes monitoring, coordinating, facilitating, and implementing current best practices and methods to ensure optimal investment performance and risk management at both the program and plan level.

Risk – The positions within Risk have responsibility in the design, implementation, and management of the risk management program including project management (solicitation and queueing of projects from clients), guidance and coordination within the group, mathematical and statistical analysis of empirical problems, risk management, and high-level programming. Additionally, staff within Risk assist with the design and implementation of an opportunistic portfolio allocation to manage the risk exposures of the total fund.

Investment Decision Support – The positions within Investment Decision Support have responsibility for the design and delivery of investment program, risk management, strategy, and research analytic systems. As a component of this, staff is responsible for all investments data as well as the design, development and implementation of the quantitative infrastructure for the VRS investment programs. This includes a data warehouse, various data retrieval tools, quantitative analysis tools, program level reporting tools and support applications that retrieve, consolidate and report information.

Senior Portfolio Manager

The Senior Portfolio Manager positions have responsibility for multiple portfolio strategies and/or may supervise one or more Senior Investment Officers or Portfolio Managers.

The Senior Portfolio Manager positions provide a potential career progression ladder for Portfolio Managers over time, considering the contributions, experience and sustained performance for the incumbents.

Portfolio Manager

The Portfolio Manager provides critical input to strategy development and is responsible for the more complicated and higher risk investments. The Portfolio Manager may delegate to the Senior Investment Officer certain portions of the investment program. The Portfolio Manager will begin to negotiate terms on behalf of VRS. The Portfolio Manager, from time to time, makes presentations and recommendations to the Management Committee, and perhaps the IAC and Board.

The Portfolio Manager supporting the Defined Contribution Plans is a senior investment position reporting directly to the Managing Director of Global Investments. This position provides critical input to the design, implementation, and monitoring of all investment related aspects of the VRS defined contribution plans (DC). Responsibilities include (1) evaluation and selection of new investment strategies, managers and/or funds, (2) negotiating terms on behalf of VRS, (3) monitoring and management of relationships with existing defined contribution investment managers, (4) implementing investment policy as determined by the VRS Board, (5) presenting to the Defined Contribution Plans Advisory Committee and the Board, and (6) any other projects or duties relating to the defined contribution program as may be assigned from time to time.

Senior Investment Officer

The Senior Investment Officer has higher level monitoring responsibilities that tend to involve higher risk and strategies that are more complicated. Some Senior Investment Officers may have day-to-day responsibilities for managing internal portfolios, subject to risk limits prescribed by the program director. The Senior Investment Officer will increasingly become involved in strategy development and formal recommendations to the Program Director.

Investment Officer

The Investment Officer, in addition to analytical responsibilities, may have direct responsibility for monitoring some portion of the existing portfolio, or some strategies or managers under consideration in the future. Such assignments will typically be in lower risk and less complicated strategies. The Investment Officer may continue to be involved in monitoring, compliance, and administration, but will also begin to make formal investment recommendations to the Program Director.

Senior Investment Analyst

The Senior Investment Analyst performs various types of analysis at the direction of more senior staff members. Analyst activities are geared around providing support for senior staff members more directly involved in the decision-making process. Such activities will include research, reporting, monitoring, compliance, and administration.

Investment Analyst

The Investment Analyst assists other investment professionals in their daily operations, including

investment research and analysis, trading, and portfolio management. Analysts follow and report current market information relating to assigned sectors of the market. In addition, the Analyst conducts independent research on various topics, performs data maintenance, integrity, and report generation tasks.



Investment Compensation Program Review

April 2022

Competitive Market Trends

Public Funds

- YE 2020 salaries and total cash compensation stay the course (i.e., up low single digits for those that received pay increases).
- While many funds froze pay last year due to the pandemic, these freezes have been lifted as the labor market and asset levels have rebounded.
- Significant turnover for EDs and CIOs across leading public funds, mostly due to retirements and to departures to the private sector (e.g., Maryland SRPS, North Dakota, New Mexico PERA, PA PSERS, CalSTRS, MOSERS, CalPERS, Penn SERS).
- Many funds continue to struggle in their executive search efforts, often due to: prohibitions about use of search firms, pay-related limitations/constraints, perceptions of challenging internal politics, and a robust labor market in the private sector (e.g., asset management firms, OCIOs, E&Fs, family offices, etc.).
- Many funds explore remote long-term work opportunities

Private Sector

- YE 2021 Market: The BIG maybe. The best pay year in over 20 years: high-water-mark absolute pay, the highest year-over-year percentage change in pay funding. In particular, if financial markets remain flat through year-end, then within diversified firms:
 - Bonus pools should be up 20% or more, driving payouts of 30%+ for top-performing senior-level employees.
 - Profits should be up by about the same amount.
- Hiring has normalized – Covid-related restraints have been lifted
- The HR agenda is largely focused on:
 1. Defining what return-to-the office really means:
 - The tactical: What are the protocols related to masks, vaccines, office space, etc.?
 - The soft stuff: How to drive innovation, reinforce culture, and assimilate new hires?
 2. DE&I. While a top strategic priority, quantitative progress will likely continue to fall short of stated objectives, given:
 - Low turnover and net hiring trending at about +5%.
 - An especially tight labor market for women and diverse talent – especially in investments.
 3. Supporting business change, often focused on tech, alternatives and non-US operations.

Introduction & Methodology

- Virginia Retirement System Board of Trustees (“VRS”) asked McLagan to assess the competitiveness of VRS’ investment professionals’ pay levels versus their Board-approved targeted pay positioning. Specifically, for:
 - Salaries, VRS targets the 75th percentile of leading public pension funds.
 - Target total compensation, VRS targets median total cash (weighted 75% to leading public pension funds and 25% to a broad range of private sector firms).
- In reviewing its current pay levels, VRS would like to ensure that it continues to:
 - Attract, motivate and retain its skilled investment professionals.
 - Benefit all stakeholders through a compensation plan that is clear, aligned with performance, competitive and cost effective.
 - Directly align compensation with long-term investment performance.
- To complete this review, McLagan:
 - Reviewed background materials provided by VRS (e.g., plan documents, JLARC reviews, updated survey matches, etc.).
 - Assembled pay data from McLagan’s proprietary *2020 Investment Management Surveys* for VRS’ long-standing blended peer group (weighted 75% to leading public funds and 25% to a broad range of private sector firms).
- In addition, McLagan also reviewed VRS’ current incentive plan structure which can be found later in this document.

Pay Level Analysis

■ **Base Salary**

- In aggregate, VRS’ base salary spend for 50 investment professionals of \$9.9M was positioned -9% below the targeted \$10.9M 75th percentile.

	VRS Inv Prof		Targeted Pay Positioning	Competitive Market			VRS Variance vs. Targeted Positioning
	# of Incs	Spend		25th	50th	75th	
Base Salary	50	\$9,933	75th %ile Public Funds	\$8,768	\$9,829	\$10,953	-9%

■ **Target Total Compensation**

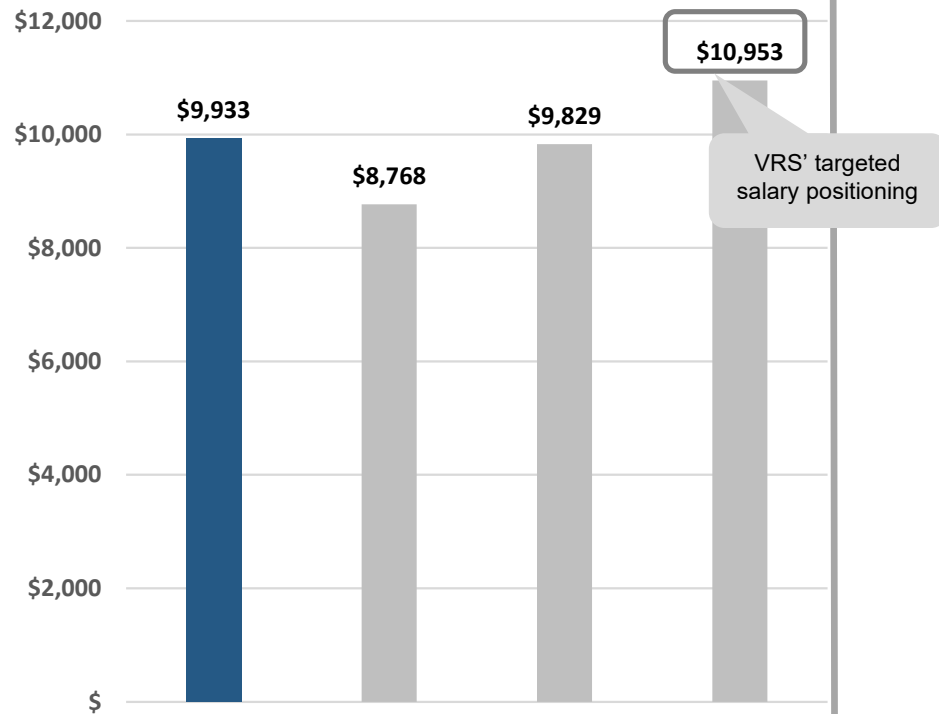
- VRS’ aggregate \$14.6M target total compensation (i.e., base salary + target incentives) fell 14% below the targeted \$17.0M median.

	VRS Inv Prof		Targeted Pay Positioning	Competitive Market			VRS Variance vs. Targeted Positioning
	# of Incs	Spend		25th	50th	75th	
Target Total Comp	50	\$14,623	Med 75% / 25% Blend	\$13,114	\$17,027	\$24,247	-14%

Overview – Base Salaries and Target Total Cash

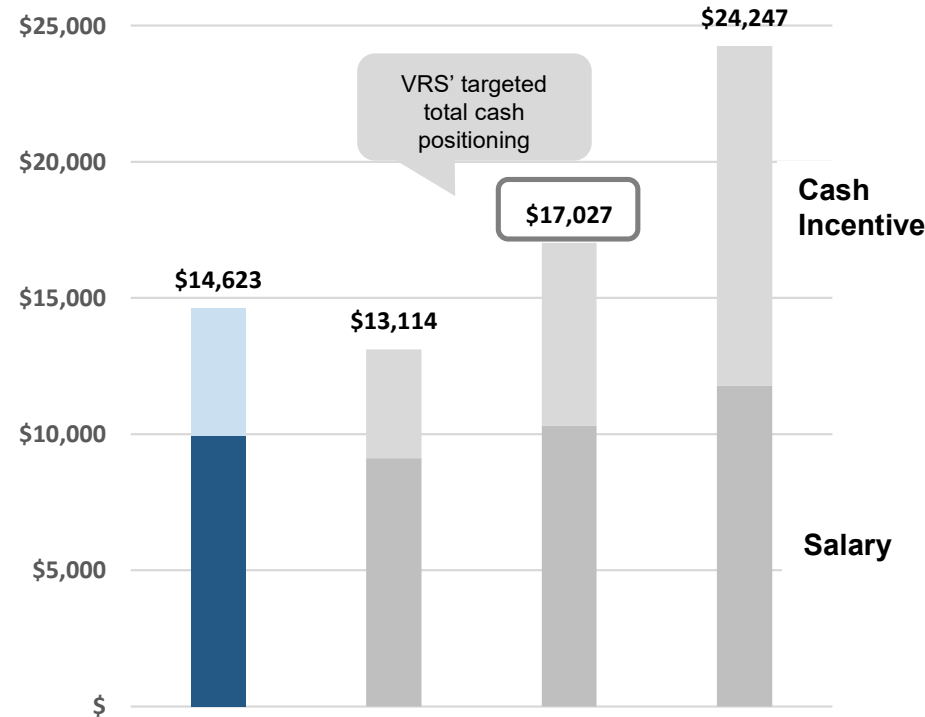
Aggregate spend for 50 VRS incumbents

VRS' Salaries vs. Leading Public Funds



	VRS	Leading Public Funds		
		25th	50th	75th
Salary	\$9,933	\$8,768	\$9,829	\$10,953
Variance		13%	1%	-9%

VRS' Target Total Cash vs. 75/25 Blend



	VRS	75th Pub Fund / 25% Priv Sect		
		25th	50th	75th
Salary	\$9,933	\$9,115	\$10,301	\$11,771
Cash Incentive	\$4,689	\$3,999	\$6,726	\$12,476
Total Cash	\$14,623	\$13,114	\$17,027	\$24,247
Variance		12%	-14%	-40%

Note: VRS' Pay Philosophy is to target base salaries at the 75th percentile of leading public funds with total cash compensation targeted at the median of the 75/25 blended peer group.

Pay Level Analysis Base Salaries

- In aggregate, VRS' salary spend is positioned 9% below the 75th percentile of other leading public funds. 76% of staff are paid below the 75th percentile.
- The incumbent-weighted positioning is driven by the more junior levels, whose aggregate salary spend fell 14%, 27% and 13% below the market 75th percentile, respectively.

VRS Investment Management	Salary	# EEs Matched	Leading Public Funds Base Salary			Positioning vs 75th Percentile		VRS vs 75th
			25th	50th	75th	% Under	% Over	
Chief Investment Officer	\$470	1	\$397	\$450	\$546	100%	0%	-14%
Managing Director	1,000	3	757	881	983	33%	67%	2%
Program Director	2,040	7	1,690	1,863	1,996	43%	57%	2%
Director	1,142	5	1,013	1,138	1,251	80%	20%	-9%
Senior Portfolio Manager	461	2	398	454	499	50%	50%	-7%
Portfolio Manager	2,518	13	2,201	2,494	2,800	77%	23%	-10%
Senior Investment Officer	1,088	7	1,000	1,119	1,270	86%	14%	-14%
Investment Officer	952	9	1,057	1,158	1,308	100%	0%	-27%
Senior Investment Analyst	262	3	256	273	302	100%	0%	-13%
Total	\$9,933	50	\$8,768	\$9,829	\$10,953	76%	24%	-9%

Base Salaries + Target Incentives

- While salaries are largely competitive across all levels, target total cash is less competitive. In aggregate, VRS' target total compensation spend fell 14% below the median of the 75/25 blended peer group.
- 88% of VRS incumbents have target total cash levels below the targeted median of the 75/25 blended peer group.
- It is important to note that all positions have the opportunity to earn more than median compensation for maximum levels of performance (see Appendix).

VRS Investment Management	T. Cash	# EEs Matched	Blended Peer Group			Positioning vs 75th Percentile		VRS vs 50th
			25th	50th	75th	% Under	% Over	
Target Total Cash								
Chief Investment Officer	\$798	1	\$619	\$794	\$1,114	0%	100%	0%
Managing Director	1,650	3	1,430	1,917	3,041	100%	0%	-14%
Program Director	3,264	7	2,729	3,610	5,741	100%	0%	-10%
Director	1,713	5	1,813	2,329	3,352	100%	0%	-26%
Senior Portfolio Manager	692	2	645	908	1,387	100%	0%	-24%
Portfolio Manager	3,526	13	2,977	4,003	5,473	77%	23%	-12%
Senior Investment Officer	1,415	7	1,299	1,642	1,952	100%	0%	-14%
Investment Officer	1,238	9	1,311	1,489	1,774	89%	11%	-17%
Senior Investment Analyst	327	3	291	334	415	67%	33%	-2%
Total	\$14,623	50	\$13,114	\$17,027	\$24,247	88%	12%	-14%

Pay Level Analysis

VRS Midpoints

- While the previous pages focused on actual salaries and incentive opportunities, the below analysis focuses on VRS' target midpoints.
- Most targeted salary midpoints fell slightly below the public fund 75th percentile while most targeted total compensation midpoints fell below the median of the targeted 75/25 blend.

Position	Salary Grade	Base Salary			Sal + Target Incentive			
		Current Mid	Pub Fund 75th	Variance %	% Sal	Current Mid	75/25 Median	Variance %
Chief Investment Officer	12	408	546	-25%	70%	694	794	-13%
Deputy Chief Investment Officer	11	336	--	--	65%	554	--	--
Managing Director	10	326	328	-1%	65%	538	639	-16%
Program Director	9	265	285	-7%	60%	424	516	-18%
Director - Strategy, Research, or Risk	8	242	250	-3%	50%	363	466	-22%
Senior Portfolio Manager	7	242	249	-3%	50%	363	454	-20%
Portfolio Manager	6	210	215	-2%	40%	294	308	-5%
Risk Manager, Research Manager	5	188	--	--	30%	244	--	--
Senior Investment Officer	4	155	181	-15%	30%	202	235	-14%
Investment Officer	3	116	145	-20%	30%	151	165	-9%
Senior Investment Analyst	2	94	101	-6%	25%	118	111	6%
Investment Analyst	1	77	--	--	5%	81	--	--

Pay Level Analysis

VRS' Current and Proposed Salary Ranges

The survey data used in this exhibit differs from the prior pages. The data used on slides 10 & 11 has been aged to reflect the most recent performance year.

- To remain competitive with other leading public funds, McLagan proposes the below changes to VRS' salary range structure:
 - Proposed changes to the current salary range using VRS target midpoints (75th percentile of public fund peers).
 - Compress the below levels:
 - Deputy CIO and Managing Director
 - Portfolio Manager and Manager

Grade	Position	Current Salary Range			PF 75th %ile	Proposed Salary Range		
		Min	Mid	Max		Min	Mid	Max
12	Chief Investment Officer	\$327	\$408	\$489	\$579	325	\$430	540
11	Deputy Chief Investment Officer	269	336	403	364	275	365	455
10	Managing Director	260	326	391	348			
9	Program Director	212	265	317	303	235	315	395
8	Director	193	242	290	265	205	275	345
7	Senior Portfolio Manager	193	242	290	265	205	275	345
6	Portfolio Manager	168	210	251	228	160	215	270
5	Manager	150	188	225	--			
4	Senior Investment Officer	124	155	185	192	135	180	225
3	Investment Officer	92	116	139	154	105	140	175
2	Senior Investment Analyst	75	94	113	107	80	105	130
1	Investment Analyst	61	77	91	88	65	85	105

Note: The Public Fund survey data has been aged 3% per year from 2020 to 2022 for base salaries.

VRS' Proposed Salaries & Target Total Comp

The survey data used in this exhibit differs from the prior pages. The data used on slides 10 & 11 has been aged to reflect the most recent performance year.

- Incorporating VRS' current target incentives (as a percent of salary) and proposed salary ranges, the variance to market median total cash is approximately +/- 10% in all instances except for the Director and Senior Portfolio Manager levels.

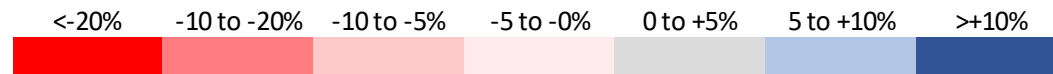
Position	Salary Grade	VRS - Proposed Salary Range			Sal + Target Incentive						
					Target T.Comp Range				75/25 Median	Variance \$	Variance %
		Minimum	Midpoint	Maximum	IC % Sal	Minimum	Midpoint	Maximum			
Chief Investment Officer	10	\$325	\$430	\$540	70%	\$553	\$731	\$918	\$832	-\$101	-12%
Dep CIO / Managing Director	9	275	365	455	65%	454	602	751	670	-67	-10%
Program Director	8	235	315	395	60%	376	504	632	540	-36	-7%
Director	7	205	275	345	50%	308	413	518	484	-72	-15%
Senior Portfolio Manager	6	205	275	345	50%	308	413	518	484	-72	-15%
Portfolio Manager / Manager	5	160	215	270	40%	224	301	378	323	-22	-7%
Senior Investment Officer	4	135	180	225	30%	176	234	293	246	-12	-5%
Investment Officer	3	105	140	175	30%	137	182	228	173	9	5%
Senior Investment Analyst	2	80	105	130	20%	96	126	156	117	9	8%
Investment Analyst	1	65	85	105	10%	72	94	116	--	--	--

Note: The Public Fund survey data has been aged 3% per year from 2019 to 2021 for total cash compensation. The private sector data has been aged 7% per year from 2019 to 2021 for total cash compensation.

Investment Professional Total Compensation 2017 - 2020

- Overall, total compensation for all employees within US public funds tends to increase modestly each year (approximately +0% to +4%).
- Investment functions however, have seen larger increases each year. Since 2017, total compensation for investment professionals within public funds has increased low- to mid-single digits at median.
- Important to note, the below covers only constant incumbents (present in all three years) and those within the investment functions (e.g., portfolio management, research, trading, etc.).

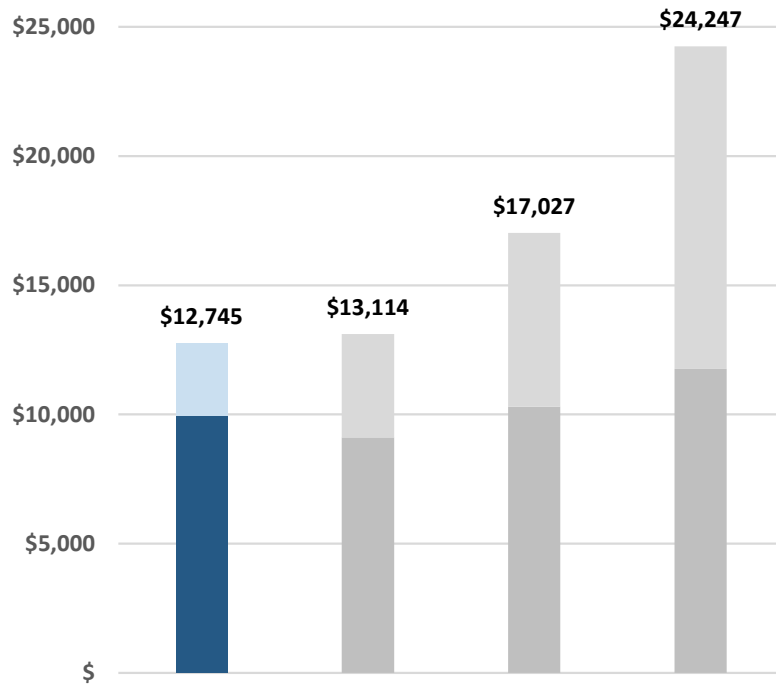
Investment Only	All Constant Incs			Only Bonus Eligible Constant Incs		
	% Δ Total Compensation			% Δ Total Compensation		
	'17 to '18	'18 to '19	'19 to '20	'17 to '18	'18 to '19	'19 to '20
\$0 - \$100K	8%	8%	5%	9%	7%	4%
\$100K - \$200K	6%	5%	3%	7%	5%	3%
\$200K - \$300K	4%	7%	2%	4%	7%	3%
\$300K - \$500K	2%	6%	5%	2%	7%	5%
\$500K+	3%	0%	4%	3%	0%	4%
# of Constant Incs	1,565			958		



Appendix I

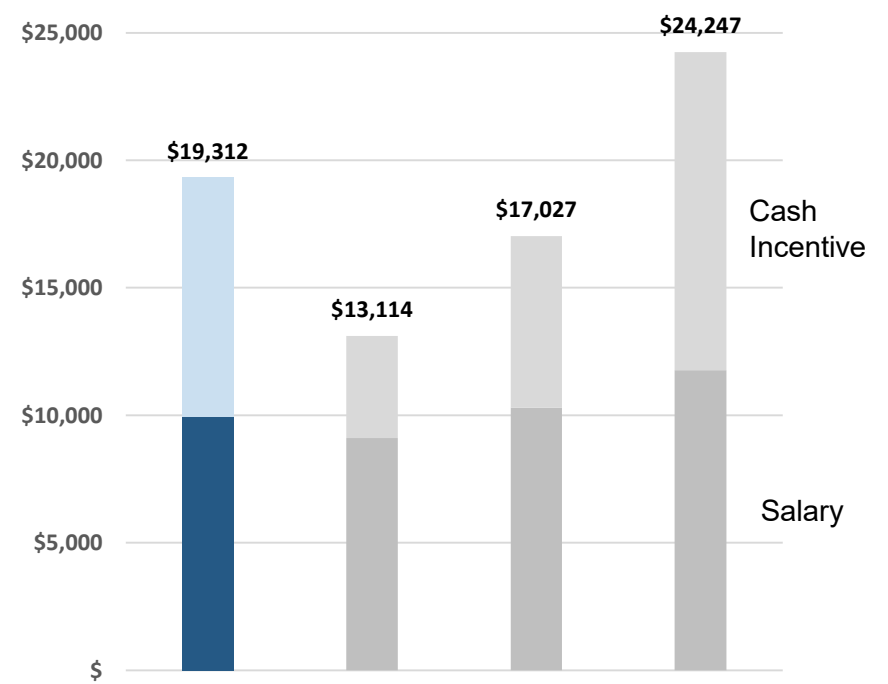
Overview – Maximum and Actual Total Cash

VRS' Actual Total Cash vs. 75/25 Blend



	VRS	75th Pub Fund / 25% Priv Sect		
		25th	50th	75th
Salary	\$9,933	\$9,115	\$10,301	\$11,771
Cash Incentive	\$2,811	\$3,999	\$6,726	\$12,476
Total Cash	\$12,745	\$13,114	\$17,027	\$24,247
Variance		-3%	-25%	-47%

VRS' Maximum Total Cash vs. 75/25 Blend



	VRS	75th Pub Fund / 25% Priv Sect		
		25th	50th	75th
Salary	\$9,933	\$9,115	\$10,301	\$11,771
Cash Incentive	\$9,379	\$3,999	\$6,726	\$12,476
Total Cash	\$19,312	\$13,114	\$17,027	\$24,247
Variance		47%	13%	-20%

Base Salaries + Maximum Incentives

- Consistent with its pay philosophy, all VRS positions have the opportunity to earn above-median pay for superior performance (e.g., all incentive components at maximum). As with previous years, VRS' \$19.3M maximum total cash falls between the \$17.0M median and \$24.2M 75th percentile.

VRS Investment Management	T. Cash	# EEs Matched	Blended Peer Group T. Cash			Positioning vs 75th Percentile		VRS vs 50th
			25th	50th	75th	% Under	% Over	
Maximum Total Cash								
Chief Investment Officer	\$1,127	1	\$619	\$794	\$1,114	0%	100%	42%
Managing Director	2,301	3	1,430	1,917	3,041	33%	67%	20%
Program Director	4,488	7	2,729	3,610	5,741	0%	100%	24%
Director	2,284	5	1,813	2,329	3,352	60%	40%	-2%
Senior Portfolio Manager	923	2	645	908	1,387	50%	50%	2%
Portfolio Manager	4,533	13	2,977	4,003	5,473	15%	85%	13%
Senior Investment Officer	1,741	7	1,299	1,642	1,952	29%	71%	6%
Investment Officer	1,524	9	1,311	1,489	1,774	56%	44%	2%
Senior Investment Analyst	393	3	291	334	415	0%	100%	18%
Total	\$19,312	50	\$13,114	\$17,027	\$24,247	28%	72%	13%

Base Salaries + Actual Earned Incentives

- Based on actual earned incentives, VRS' \$12.7M total cash spend fell 25% below the \$17.0M median reflecting that for these 50 incumbents, actual payouts were below both target and maximum.

VRS Investment Management	T. Cash	# EEs Matched	Blended Peer Group			Positioning vs 75th Percentile		VRS vs 50th
			T. Cash	25th	50th	75th	% Under	
Actual Total Cash								
Chief Investment Officer	\$602	1	\$619	\$794	\$1,114	100%	0%	-24%
Managing Director	1,402	3	1,430	1,917	3,041	100%	0%	-27%
Program Director	2,742	7	2,729	3,610	5,741	86%	14%	-24%
Director	1,645	5	1,813	2,329	3,352	100%	0%	-29%
Senior Portfolio Manager	512	2	645	908	1,387	100%	0%	-44%
Portfolio Manager	3,114	13	2,977	4,003	5,473	92%	8%	-22%
Senior Investment Officer	1,310	7	1,299	1,642	1,952	100%	0%	-20%
Investment Officer	1,119	9	1,311	1,489	1,774	100%	0%	-25%
Senior Investment Analyst	299	3	291	334	415	100%	0%	-10%
Total	\$12,745	50	\$13,114	\$17,027	\$24,247	96%	4%	-25%

Leading Public Funds Peer Group

Leading Public Funds Peer Group		
	AUM	% Internally Managed
California Public Employees' Retirement System	\$394.7	
California State Teachers' Retirement System	254.1	
New York State & Local Retirement System	225.9	
Florida State Board Administration	169.7	
Teacher Retirement System of Texas	160.0	
New York State Teachers' Retirement System	125.6	
Washington State Investment Board	107.5	
State of Wisconsin Investment Board	116.5	
Ohio Public Employees' Retirement System	104.2	
State Teachers Retirement System of Ohio	71.5	
Michigan State Retirement Systems	77.7	
Colorado Public Employees Retirement Association	52.0	
Hig Quartile	\$183.8	61%
Median	121.0	51%
Low Quartile	97.6	43%
Virginia Retirement System	\$92.1	29%

*Amounts for VRS were provided by VRS to McLagan.

Private Sector Firm Summary

All Private Sector				
	# Firms	12/31/19 AUM (\$Billions)		
		LowQ	Median	HighQ
Investment Mangement Firms	162	\$14.9	\$53.1	\$218.6
Banks (Investment Management Department)	24	15.8	38.6	88.6
Insurance Companies (Investment Management Departments)	39	26.1	63.1	97.3
Endowments & Foundations	54	1.9	3.3	7.2
Corporate Plan Sponsors	11	1.7	6.0	17.6
Total	290	\$7.0	\$28.4	\$101.2

Report

The Chief Investment Officer Search Committee has had 12 meetings since the last Board meeting. The VRS CIO search recruitment team from Korn Ferry has participated in each of these meetings. This report covers all the meetings.

APPROVAL OF MINUTES

The Committee approved the minutes of its February 15 and 22; March 1, 8, 15, 22, 29, 30 and 31; and April 12 and 13 meetings.

INTERVIEWS – CLOSED SESSION

The Committee went into closed session during its March 30 and 31; and April 12, 13 and 19 meetings to discuss various candidates and conduct candidate interviews.

INFORMATION ITEM

Upcoming CIO Search Committee Meeting Schedule:

- April 26, 2022
- Staff will be polling for the Committee's availability for upcoming meeting dates, as needed.

Submitted to the Board of Trustees on April 19, 2022.

O'Kelly E. McWilliams, III, Chair
Chief Investment Officer Search Committee



Virginia
Retirement
System®

**80 Years of Serving
Those Who Serve Others.**

Employer Coverage

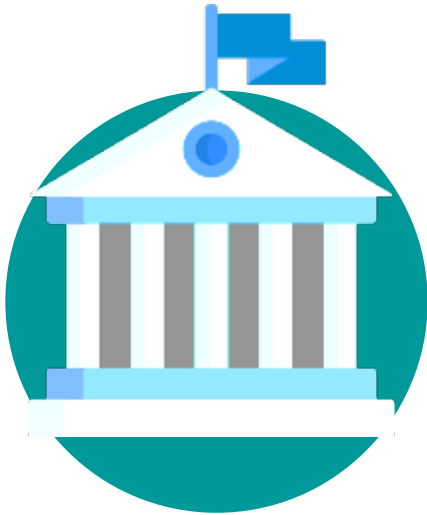
VRS Board Meeting

April 19, 2022

Presented by Andrew Feagans,
VRS Employer Representative Program Manager

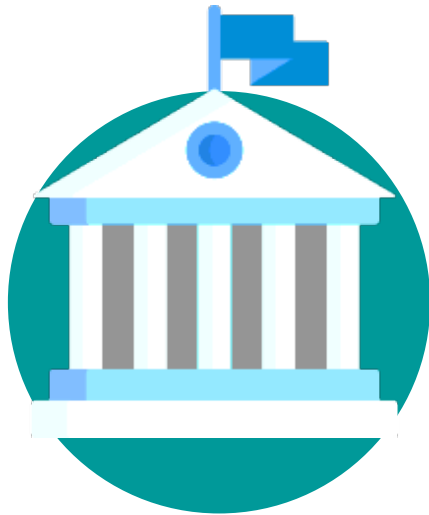


What Is Coverage?



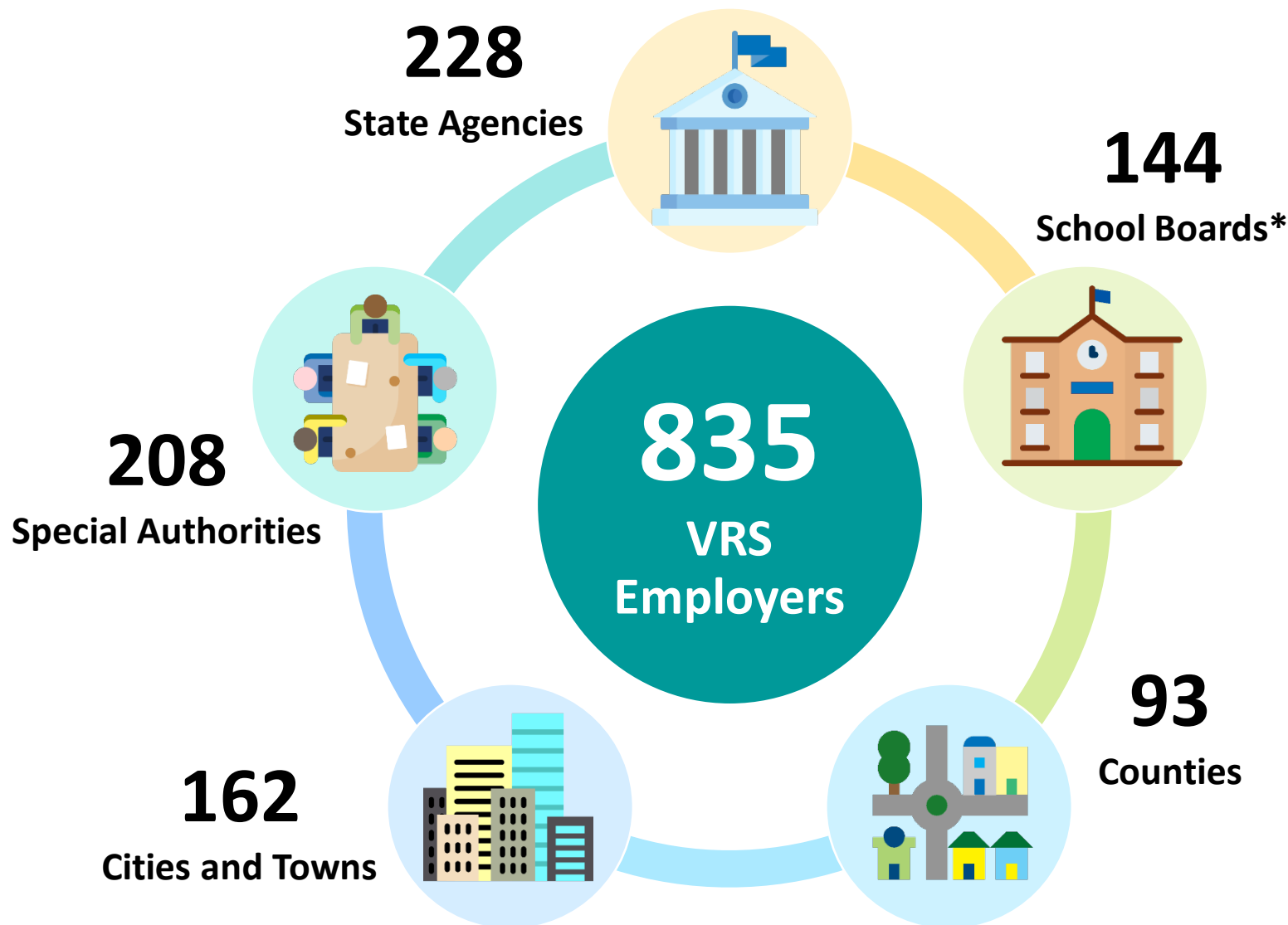
- Benefit coverage refers to retirement benefits the Virginia Retirement System provides.
- *Code of Virginia* mandates benefits to be established for:
 - State agencies
 - Public colleges
 - Universities
 - School divisions
- *Code of Virginia* allows political subdivisions to make irrevocable election to participate in VRS and make benefit elections.

What Is Coverage?



- Board authority *Code of Virginia* sections:
 - § 51.1-124.22 establishes the Board's authority to administer the retirement system.
 - § 51.1-136 establishes the employer's responsibility to administer the benefits prescribed by the Board.
- Employer Representative Program Manager and Employer Coverage Coordinator:
 - Represent the Board and VRS in negotiations with employers to join VRS or modify coverage.
 - Ensure compliance with the *Code of Virginia* and VRS' policies and procedures.

VRS Employers as of June 30, 2021



New Coverage Elections 2019–2022 YTD



Fiscal Year	Actuarial Studies Conducted	New Coverage Elections
2019	16	40
2020	9	28
2021	15	33
2022 YTD	10	25

Coverage Available for Election



Join VRS as a political subdivision for retirement benefits*

Group life insurance program

Enhanced hazardous duty benefits for political subdivisions*

Health insurance credit benefits*

Pretax salary reduction for purchase of prior service

Commonwealth of Virginia 457 Deferred Compensation Plan

Virginia Cash Match Plan

VaLORS benefits for higher education institutions

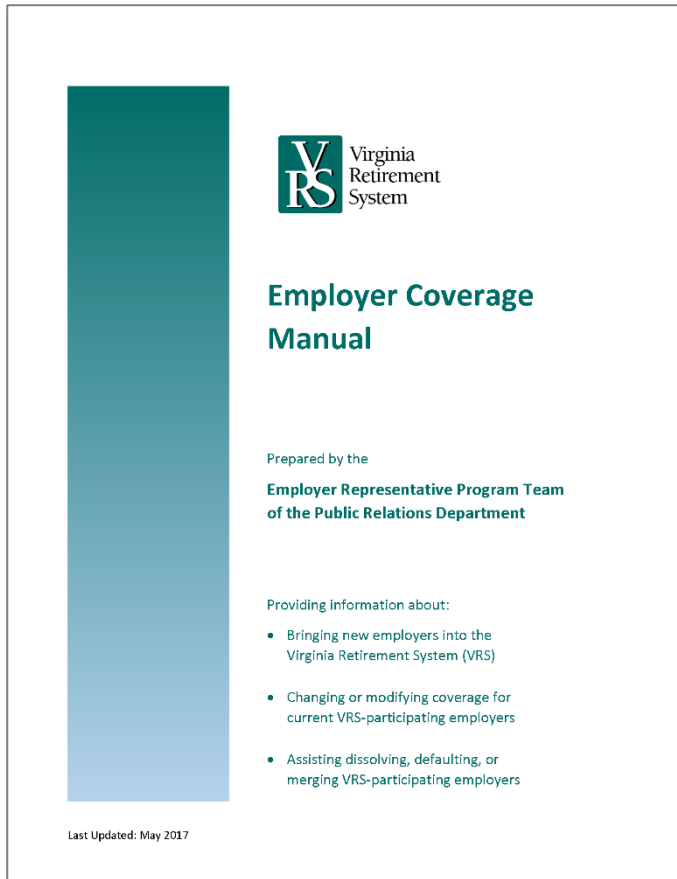
Changing retirement eligibility for Plan 1 from 55/30 to 50/30*

Optional retirement plan for school superintendents (ORPSS)

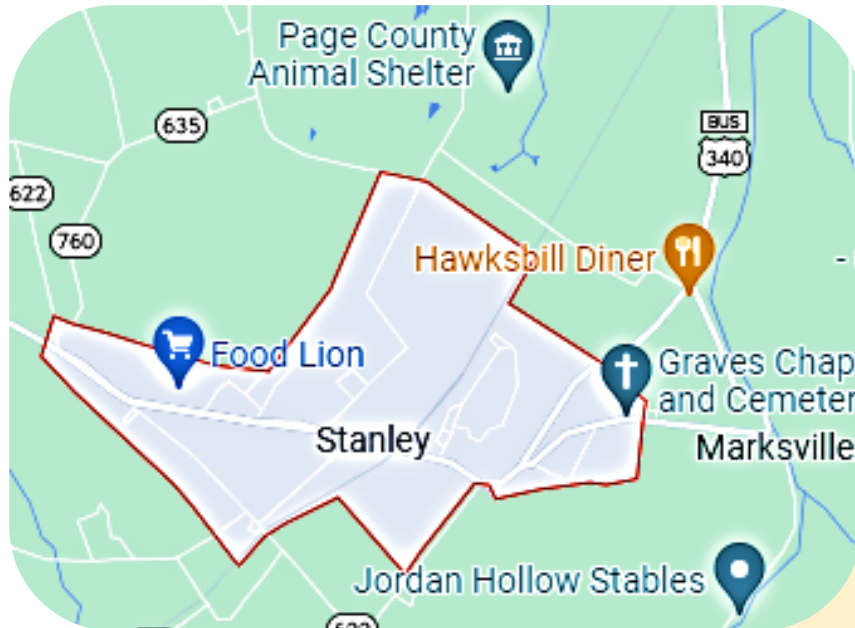
Virginia Supplemental Retirement Plan (VSRP)

Employer adding a previously uncovered group of employees to earn VRS benefits*

** An actuarial study is required.*



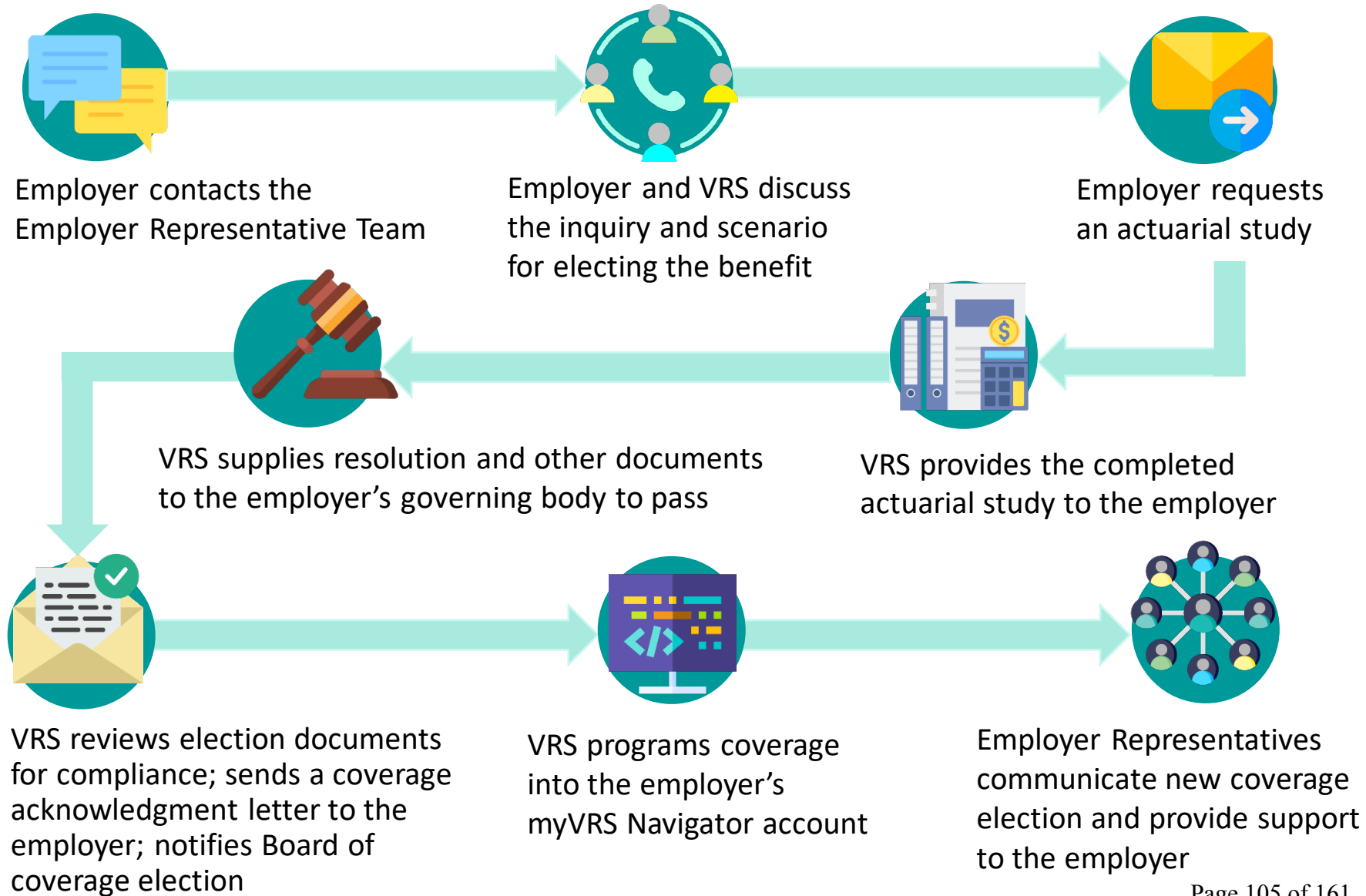
- Provides an overview of VRS and its benefits in a comprehensive reference document.
- Includes agency policies, procedures, history of benefit coverage, FAQs and *Code of Virginia* references.
- Developed with the assistance of VRS policy department, in-house actuaries, product administrators, subject matter experts and executive team members.
- Updated whenever the Board changes policies related to employer coverage.



Example: Town of Stanley joined VRS July 1, 1971.

- In 2021, they contacted VRS about electing enhanced hazardous duty benefit for their law enforcement officers with the 1.85% multiplier.
- They elected the benefit effective January 1, 2022.

Benefit Election Process Overview





Virginia
Retirement
System®

**80 Years of Serving
Those Who Serve Others.**

Thank you!

Coverage Elected	Details
Enhanced Hazardous Duty Benefits for Emergency Medical Technicians	<ul style="list-style-type: none"> - Greenville County Effective February 1, 2022
Enhanced Hazardous Duty Benefits for Firefighters and Emergency Medical Technicians.	<ul style="list-style-type: none"> - Town of West Point (King William County) Effective April 1, 2022 - Montgomery County Effective April 1, 2022
New State Agency	<ul style="list-style-type: none"> - Behavioral Health Commission (City of Richmond) Effective July 1, 2021 - Virginia Cannabis Control Authority (City of Richmond) Effective July 1, 2021 - Virginia Opioid Abatement Authority (City of Richmond) Effective July 1, 2021

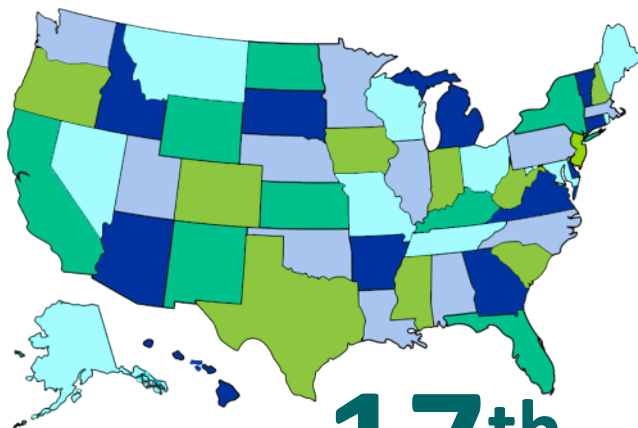
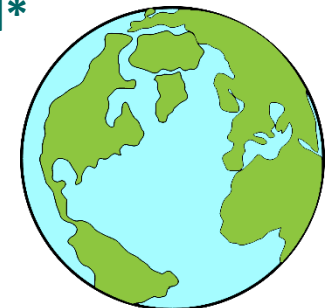
VRS Overview



As of June 30, 2021

46th largest

public or private pension system
in the world*



17th largest

public or private pension system
in the United States*

* As ranked by *Pensions & Investments* in 2022



VRS Project Portfolio FISCAL YEAR 2022 March 2022 - Monthly Status

- Status Indicator**
- Proceeding as planned
 - ▲ Off plan, mitigation in place
 - ◆ Off plan, mitigation needed
 - ★ Completed
 - Project timeline
 - N/S Not started

Agency Performance Objectives (APOs)	Status	2021						2022							
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Cloud Migration	▲														
ERM Implementation	●														
Records Management Program - Phase 1 Implementation	●														
Cardinal HCM Implementation - The Plan (Track 1), Agency (Track 2) and Retiree (Track 3)	●														
IT Initiatives ¹	Status	2021						2022							
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Upgrade Angular JS Framework to Angular	★														
IT Security - Fraud Prevention Initiatives	N/S														
Security Maturity Assessment	★														
Sagitec Framework Upgrade	★														
SharePoint Online	●														
Other Projects ²	Status	2021						2022							
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Employee Engagement Initiative Implementation	●														
Implement Performance Management Evaluation Process	●														
Develop FY 22-26 Strategic Plan Operational Initiatives	●														
VSDP and VLDP Long Term Care Plans RFP	●														
Implement Enterprise Electronic Signature Solution	N/S														
Develop and Implement Strategy to switch 'Retiree News' letter from Print to Electronic	●														
LODA Annual Report	★														
Develop Strategy and Begin CCC Customer Experience Survey	●														
Develop Strategy for Handling Undelivered Mail Received by VRS and TPAs	●														
Death Match Services RFP (current services end September 30)	●														
Convert Paper Personnel Files to Electronic	N/S														
Employees Job Descriptions Update - Phase 1 ³	●														
Post Pandemic Return to the Office	●														
Operational/Ongoing Activities	Status	2021						2022							
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
COLA 2021	★														
FYE 2021	★														
Retirement Wave 2021	★														
Teacher Contracts	★														
MBPs	★														
Annual Code of Ethics Training	★														
Annual Security Awareness Training	★														
FOIA Training	N/S														
ACFR	★														
PAFR	★														
GASB 67	★														
GASB 68	●														
GASB 74	★														
GASB 75	●														
Actuarial Valuations	★														
myVRS Annual Updates	★														
1099/W2	●														

Operational/Ongoing Activities	Status	2021						2022						
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
Annual Roadmap Review	N/S													
Biennium Budget	●													
FYE 2022	N/S													
Retirement Wave 2022	N/S													
Commonwealth Bond Disclosure	●													
ORPHE Surcharge Billing for FY 2023	N/S													
Data Fixes	●													
ALM Backlog Prioritization	●													
Employer Compliance Review	N/S													
VRS Fund Sensitivity and Stress Testing Report for GA	N/S													
Legislation FY 2022 - Placeholder	●													

¹ Initiatives led directly by Technology Services.

² Other initiatives are led by other business units and supported by Technology Services.

³ Update Employee Job Descriptions Phase 1 scope focuses on updating, reviewing and finalizing job descriptions. The corresponding system changes (RAMS) will be part of phase 2.

Yellow Status Items

Item	Due Date	Comments
Cloud Migration	TBD	VRS adjusted the approach to move VRS candidate systems to either public or private Cloud platforms to reduce costs and improve security and reliability. The project team is in the process of procuring technology and services to accomplish these goals. Design activities will begin in the coming weeks followed by construction and configuration of modern on-premises technology. The project status will remain yellow as staff maintains focus on completing this objective.

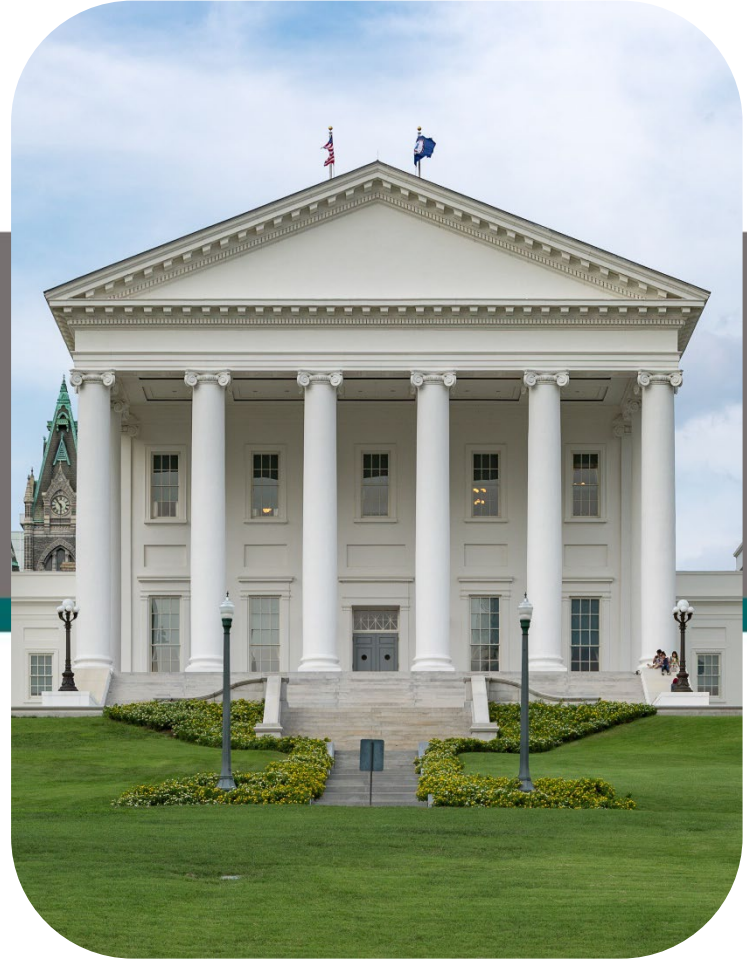
Red Status Items

Item	Due Date	Comments
N/A		

Realignments/Adjustments

Item	Due Date	Comments
N/A		

2022 Legislation*



- The General Assembly adjourned sine die on **March 12**
- They reconvened on **April 4** for a special session to address 64 bills remaining:
 - HB 29- the “caboose” budget bill
 - HB 30- the budget bill for the upcoming biennium
 - 62 other bills- none directly affect VRS
 - Recessed on **April 4** since no conference reports were ready
 - Return to special session with 48 hours notice upon call of the Speaker or chair of Senate Rules
- The Governor’s deadline to act on bills was midnight on **April 11**
- The “veto session” is **April 27**

2022 VRS-Related Bills

VRS-Requested Bills

Bill Number	Patron	Description
HB 473	Bulova	Separates the employer contribution into defined benefit and defined contribution components. The bill has a delayed implementation date of July 1, 2024, to coincide with new contribution rates. HB 473 was signed by the Governor on 3/2. SB 70 was signed by the Governor on 4/8.
SB 70	Newman	

Code Commission Bill

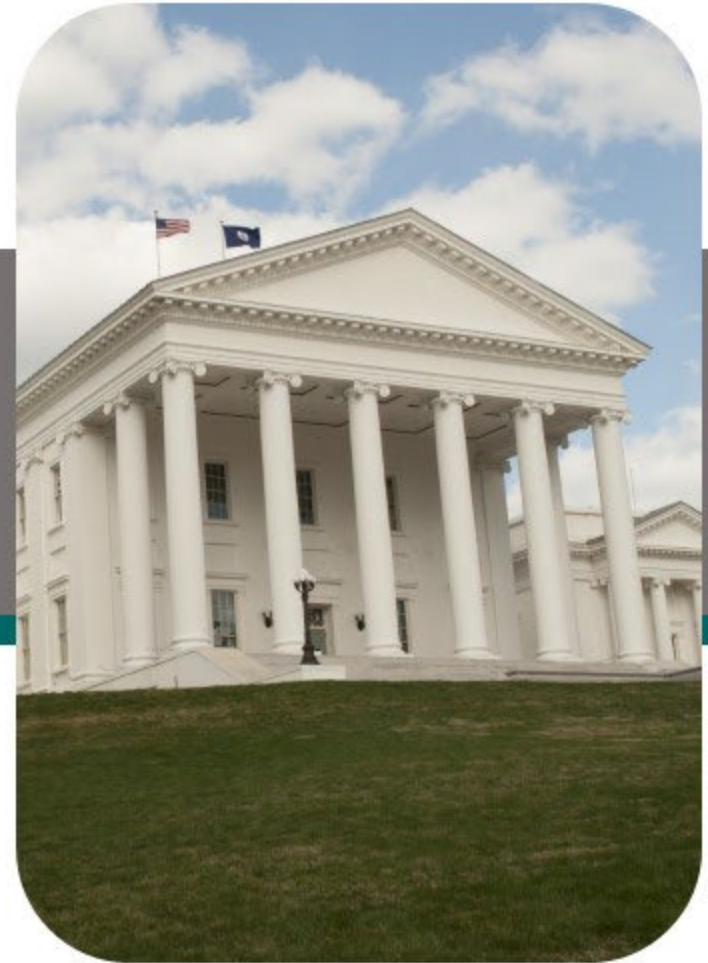
Bill Number	Patron	Description
HB 338	Simon	Sets out a section in Title 51.1 (Pensions, Benefits, and Retirement) that is currently carried by reference only. This bill is a recommendation of the Virginia Code Commission. HB 338 was signed by the Governor on 4/11.

2022 VRS-Related Bills

Other Bills

Bill Number	Patron	Description
SB 349	Surovell	<p>Provides that if the court enters an order to distribute any Virginia Retirement System managed defined contribution plan, the Virginia Retirement System shall, if ordered by the court, calculate gains and losses from the valuation date through the date of distribution of the benefits to the extent possible given available data.</p> <p>The bill also requires VRS to conduct a survey of localities and school regarding gain/loss calculation practices of governmental plans throughout the Commonwealth. A report is due by October 1, 2022.</p> <p>SB 349 was signed by the Governor on 4/11.</p>
SB 468	DeSteph	<p>Provides that, for any medical review of a claim made pursuant to the provisions of the Line of Duty Act, the Virginia Retirement System shall require that such review be conducted by a doctor, nurse, or psychologist who is licensed in Virginia or a contiguous state. The bill has a delayed effective date of July 1, 2023.</p> <p>SB 468 was signed by the Governor on 4/11.</p>

Other Bills



2022 Other Bills

FOIA Bills

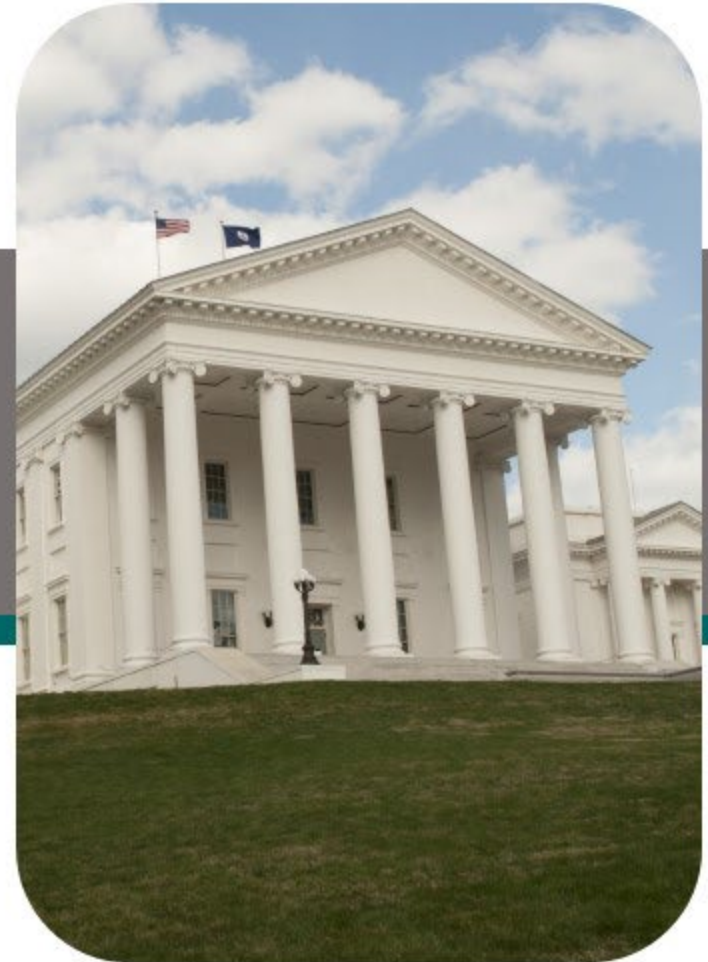
Bill Number	Patron	Description
HB 307	Freitas	<p>Provides that a public body subject to the Virginia Freedom of Information Act shall make all reasonable efforts to supply records requested by a citizen at the lowest possible cost. Prior to conducting a search for records, a public body shall notify the requester in writing that the public body may make reasonable charges not to exceed its actual cost and inquire of the requester whether he would like to request a cost estimate in advance of the supplying of the requested records.</p> <p>Governor's recommendation received 4/11.</p>
HB 444	Bennett-Parker	<p>Amends existing provisions concerning electronic meetings by allowing public bodies to conduct all-virtual public meetings where all of the members who participate do so remotely. Definitions, procedural requirements, and limitations for all-virtual public meetings are set forth in the bill, along with technical amendments. Effective 9/1/2022.</p> <p>HB 444 was signed by the Governor 4/11.</p>

2022 VRS-Related Bills

Return to Work Bills

Bill Number	Patron	Description
SB 17	Hackworth	<p>Introduced bill: Allowed a retired law-enforcement officer to continue to receive his service retirement allowance during a subsequent period of full-time employment by a state or local law-enforcement agency after a 12-month break in service following retirement.</p> <p>Substitute bill: only addresses DCJS training requirements for retired officers who return to work part-time. The substitute removes provisions related to VRS except for one reference to a subsection that would have been created in the introduced bill.</p> <p>The Governor included a recommendation that strikes the erroneous reference.</p>

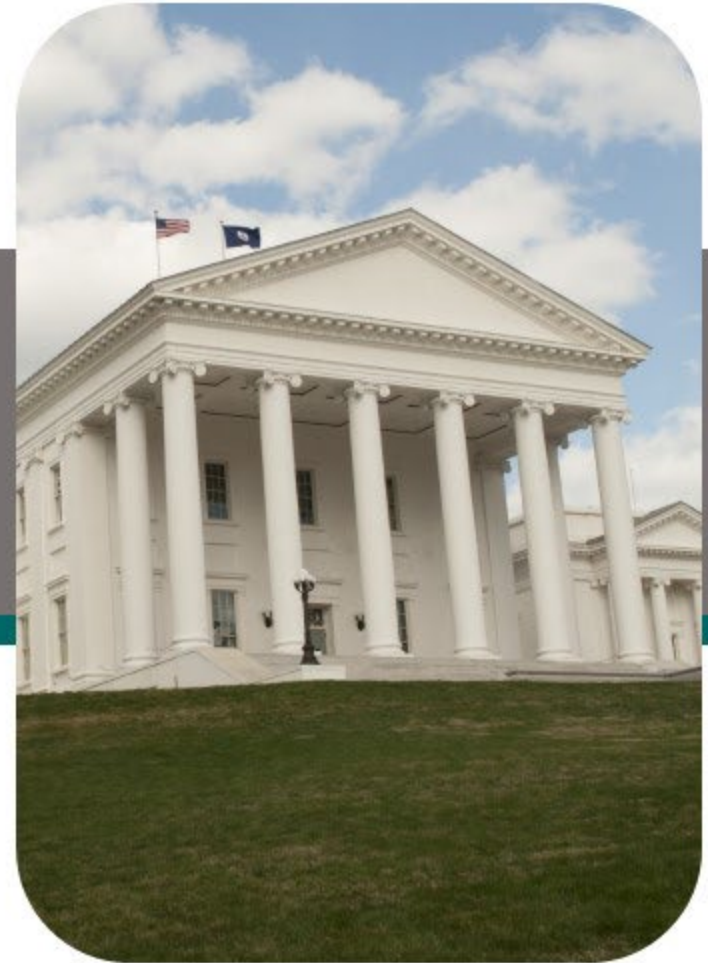
Carried Over to Special Session



College Lab School Bills

Bill Number	Patron	Description
HB 346	Davis	Permits any public institution of higher education or private institution of higher education to apply to the Board of Education (the Board) to establish a college partnership laboratory school as a new school or through the conversion of all or part of an existing school. Under current law, only public and private institutions of higher education that operate approved teacher education programs are permitted to apply to the Board to establish such a school and no explicit provision is made for the conversion of an existing school. HB 30, Item 137 #22h (GF- Direct Aid to Public Education) Carried over to Special Session 3/12.
SB 598	Pillion	

Budget Carried over to Special Session



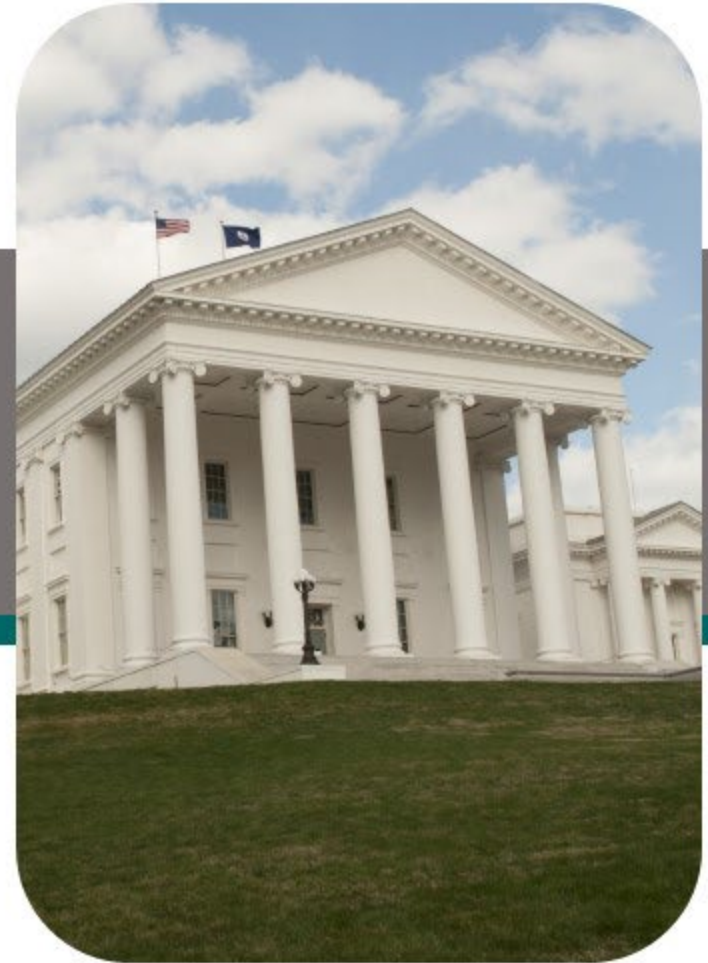
HB 30- Amendments without Corresponding Bills

Item #	Description
137 #8h	Direct Aid to reduce break in service for retirees in hard to staff positions from 12 months to 6 months (language only)

SB 30- Amendments without Corresponding Bills

Item #	Description
86 #2s	DHRM to take an inventory of all state employees remote or in-person work status and determine whether the work being done by remote workers may be adequately performed remotely and whether there is adequate opportunity to supervise the work being performed remotely (language only)

Budget- Rates and Funding



VRS Rates

Item #	Description
483	Fund the required Board-certified contribution rates for JRS, SPORS, VaLORS and OPEBs. Fund the prior biennium's higher contribution rates for State (14.46% vs. 14.13%) and Teachers (16.62% vs. 14.76%), as well as for any OPEB plan rates that decreased.
483	Fund LODA premiums at \$681.84 per covered employee.

Amendments- Teacher Retirement Funding

Item #	Description
137 #4h	Direct Aid- provides \$55 million in FY 24 from the Literary Fund to support teacher retirement costs, reducing the GF appropriation by the same amount. This amendment only impacts the source of the funding, not the amount.

2022 Budget- VRS Infusion (details on next slides)



	Introduced	House	Senate
HB/SB 29, Item 277		Provides \$500,000,000 in FY 2022 on or before June 30, 2022 to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.	
HB/SB 30, Item 269	\$923,998,000 on or before June 30, 2023 to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.	Moves lump sum payment to VRS to FY 2022 (HB 29). Making the payment a year earlier than originally proposed allows the funds to be invested a year earlier and realize an additional year of investment returns prior to the next valuation. Additional \$80.4 million GF for certain HIC plans to increase funded status to 30%.	Increases deposit (by \$76,002,000) to a total of \$1,000,000,000 in FY 2023 on or before June 30, 2023 to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.

VRS Funding- HB/SB 30 as Introduced

Item #	Description
269	<p>\$923,998,000 on or before June 30, 2023 to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.</p> <p>This is a voluntary deposit and in the event of an economic downturn, the deposit could be reduced or eliminated if needed for liquidity relief.</p>
<p>b. \$270,000,000 to the state employee plan.</p> <p>c. \$545,000,000 to the public school teacher plan.</p> <p>d. \$13,500,000 to the State Police Officers' Retirement System.</p> <p>e. \$24,500,000 to the Virginia Law Officers' Retirement System.</p> <p>f. \$7,700,000 to the Judicial Retirement System.</p> <p>g. \$10,500,000 to the HIC plan for state employees.</p> <p>h. \$14,800,000 to the HIC plan for public school teachers.</p> <p>i. \$37,500,000 to the GLI plan.</p> <p>j. \$340,000 to the HIC plan for Constitutional Officers and their employees.</p> <p>k. \$150,000 to the HIC plan for local social services employees.</p> <p>l. Any remaining balance, estimated at \$8,000, to HIC plan for Registrars and their employees.</p>	

VRS Funding- HB 29 House Amendments

Item #	Description
277 #1h	<p>Provides \$500,000,000 in FY 2022 on or before June 30, 2022 to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.</p> <p>This is a voluntary deposit and in the event of an economic downturn, the deposit could be reduced or eliminated if needed for liquidity relief.</p>
<p>b. \$146,104,212 to the state employee plan.</p> <p>c. \$294,914,058 to the public school teacher plan.</p> <p>d. \$7,305,211 to the State Police Officers' Retirement System.</p> <p>e. \$13,257,211 to the Virginia Law Officers' Retirement System.</p> <p>f. \$4,166,676 to the Judicial Retirement System.</p> <p>g. \$5,681,830 to the HIC plan for state employees.</p> <p>h. \$8,008,675 to the HIC plan for public school teachers.</p> <p>i. \$20,292,252 to the GLI plan.</p> <p>j. \$183,983 to the HIC plan for Constitutional Officers and their employees.</p> <p>k. \$81,169 to the HIC plan for local social services employees.</p> <p>l. Any remaining balance, estimated at \$4,329, to HIC plan for Registrars and their employees.</p>	

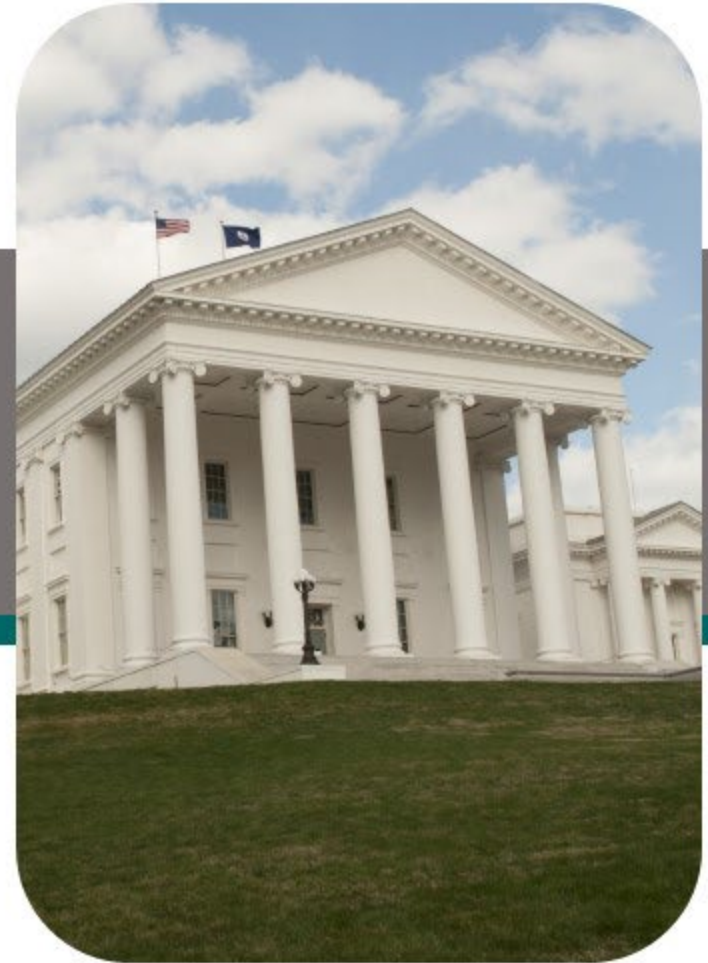
VRS Funding- HB 30 House Amendments

Item #	Description
269 #1h	Moves lump sum payment to VRS to FY 2022 (HB 29). Making the payment a year earlier than originally proposed will allow the funds to be invested a year earlier and realize an additional year of investment returns prior to the next valuation.
483 #3h	Additional \$80.4 million GF for certain HIC plans to increase funded status to 30%. <ol style="list-style-type: none">1. Estimated \$77,118,170 to the HIC plan for state employees.2. Estimated \$1,576,017 to the HIC plan for Constitutional Officers and their employees.3. Estimated \$1,740,831 to the HIC plan for local social services employees.

VRS Funding- SB 30 Senate Amendments

Item #	Description
269 #1s	<p>Increases deposit (by \$76,002,000) to a total of \$1,000,000,000 in FY 2023 (on or before June 30, 2023) to reduce the unfunded liabilities of the State Plan, the Teacher Plan, SPORS, VaLORS, JRS, State HIC, Teacher HIC, GLI plan, and HIC for constitutional officers, local social services employees, and registrars. Contingent on not needing a revenue re-forecast.</p> <p>This is a voluntary deposit and in the event of an economic downturn, the deposit could be reduced or eliminated if needed for liquidity relief.</p>
	<ul style="list-style-type: none"> b. \$292,000,000 to the state employee plan. c. \$590,000,000 to the public school teacher plan. d. \$15,000,000 to the State Police Officers' Retirement System. e. \$26,500,000 to the Virginia Law Officers' Retirement System. f. \$8,000,000 to the Judicial Retirement System. g. \$11,400,000 to the HIC plan for state employees. h. \$16,000,000 to the HIC plan for public school teachers. i. \$40,500,000 to the GLI plan. j. \$400,000 to the HIC plan for Constitutional Officers and their employees. k. \$190,000 to the HIC plan for local social services employees. l. Any remaining balance, estimated at \$10,000, to HIC plan for Registrars and their employees.

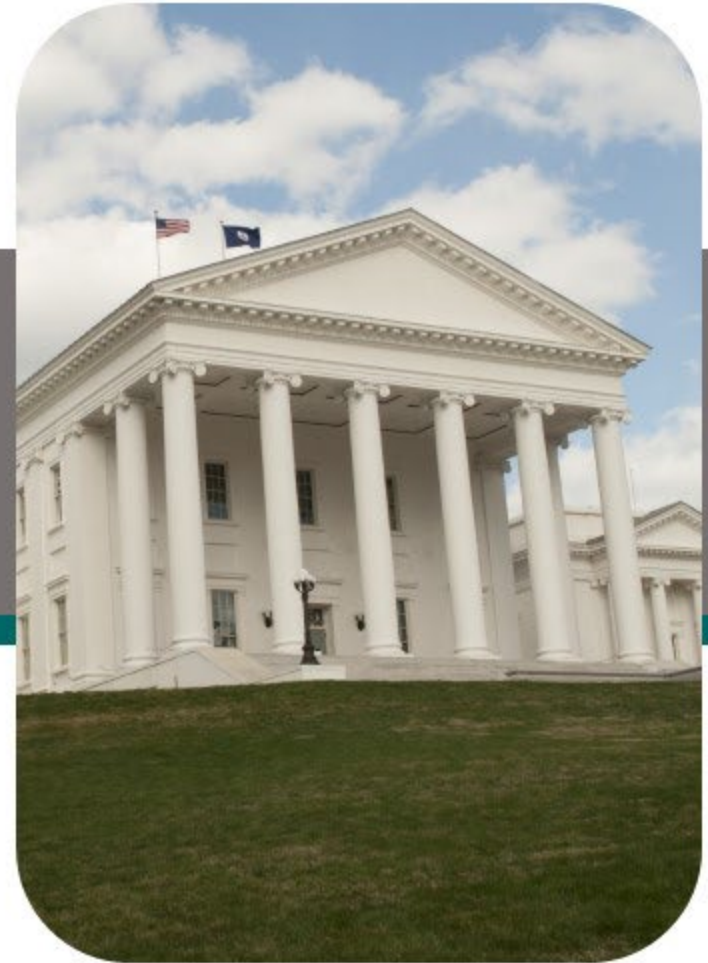
Budget- Salary Actions



2022 Budget- Salary Increases

	Introduced	House	Senate
HB/SB 29, Item 477	<p>Language authorizing 5% increase for state employees on June 10, 2022.</p> <p>Contingent on funding in the 2022 Appropriation Act for the 2023-2024 biennium.</p>	<p>Adjust language authorizing pay increases in FY 23 to 4% on June 10, 2022.</p> <p>Authorizes 1% bonus on December 1, 2022.</p> <p>Contingent on funding in the 2022 Appropriation Act for the 2023-2024 biennium.</p> <p>Excludes employees from 1st year pay raise & bonus if they are receiving a targeted salary increase >7.5% in FY 23.</p>	<p>Retains language authorizing 5% increase for state employees on June 10, 2022. Contingent on funding in the 2022 Appropriation Act for the 2023-2024 biennium.</p> <p>477 #1s- Additional \$1,000 bonus for state employees paid on June 1, 2022 (contingent on subparagraph 2a).</p>
HB/SB 30, Item 483 (Teachers, Item 137)	<p>Language authorizing 5% increase for state employees on June 10, 2023. Not contingent on revenues.</p> <p>Funding for both increases.</p>	<p>Adjust funding & language for 4% increase for state employees on June 10, 2023. Not contingent on revenues.</p> <p>Authorizes 1% bonus on December 1, 2023.</p>	<p>Retains language authorizing 5% increase for state employees on June 10, 2023. Not contingent on revenues.</p> <p>Funding for both increases.</p>

Carried Over to 2023



2022 VRS-Related Bills

JRS Bills

Bill Number	Patron	Description
SB 382	McDougle	<p>Increases, for the purposes of determining benefits provided under the Judicial Retirement System, the retirement multiplier from 1 percent to 1.7 percent. The increase would apply only to judges appointed on or after July 1, 2022, who are participants in the hybrid retirement program, and who are at least age 55 at the time of appointment.</p> <p>Budget amendment: SB 30, Item 483 #4s (GF- placeholder)</p> <p>Carried over to 2023 for SFAC General Gov't subcommittee, OES, DHRM, & VRS review.</p>

2022 VRS-Related Bills

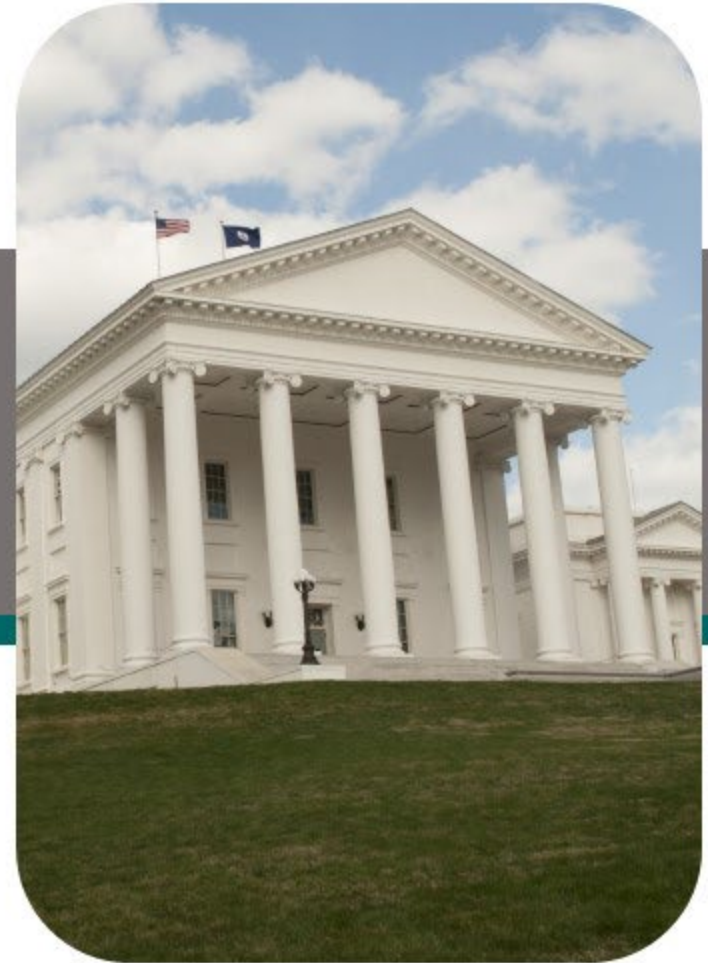
Hazardous Duty Benefits Bills- VaLORS

Bill Number	Patron	Description
SB 752	Stuart	<p>Adds sworn members of the enforcement division of the Department of Motor Vehicles and conservation officers of the Department of Conservation and Recreation to the membership of the Virginia Law Officers' Retirement System (VaLORS).</p> <p>Budget amendment: SB 30, Item 483 #6s (GF- placeholder)</p> <p>Carried over to 2023 with letter to JLARC & VRS.</p>

Hazardous Duty Benefits Bills- § 51.1-138

Bill Number	Patron	Description
HB 854	Reid	Adds 911 dispatchers to the list of local employees eligible to receive enhanced retirement benefits for hazardous duty service. Under
SB 585	Reeves	<p>current law, localities may provide such benefits to first responders, including firefighters and emergency medical technicians, and certain other hazardous duty positions. Similar to HB 131; See also HB 56, HB 162.</p> <p>HB 854/HB 131 substitute eliminates “first responder,” adds dispatcher, and makes the bill effective for service earned on or after July 1, 2023.</p> <p>Budget amendments: HB 29, Item 494 #1h and SB 30, Item 500 #1s (NGF- VRS implementation)</p> <p>SB 585 substitute also adds VSP dispatchers to VaLORS. SB 585 was carried over to 2023 with a letter to JLARC or referred to joint subcommittee.</p> <p>HB 854 incorporated into HB 131 and was laid on table with letter to JLARC.</p>

Failed Legislation



2022 VRS-Related Bills

JRS Bills

Bill Number	Patron	Description
SB 83	Stanley	<p>Increases the mandatory judicial retirement age from 73 to 75. Allows judges who would be subject to mandatory retirement during the 2022 General Assembly session to revoke their notice of retirement.</p> <p>The bill contains an emergency clause.</p> <p>Budget amendment: SB 30, Item 483 #1s (GF savings)</p> <p>Bill not reported from Sen. Judiciary</p>

2022 VRS-Related Bills

Divestment Bills

Bill Number	Patron	Description
HB 645	Kory	Requires the Virginia Retirement System and local retirement systems to divest from fossil fuel companies by January 1, 2027. Budget amendment: SB 30, Item 500 #2s (GF placeholder-VRS implementation) HB 645 was PBI'd in subcommittee on 1/27. SB 213 was PBI'd in SFAC on 2/10.
SB 213	McPike	

2022 VRS-Related Bills

Return to Work Bills

Bill Number	Patron	Description
SB 18	Cosgrove	<p>Provides that a retired law-enforcement officer employed by a local school division as a school security officer on January 1, 2020, who had a bona fide break in service of at least one month between retirement and employment as a school security officer, is not required to have the 12-month break in service that would otherwise be required by law to continue receiving his service retirement allowance while employed full time as a school security officer.</p> <p>Budget amendment: SB 29, Item 494 #1s (NGF- VRS implementation) PBI'd in SFAC 2/1.</p>

Hazardous Duty Benefits Bills- § 51.1-138

Bill Number	Patron	Description
HB 131	Cherry	<p>Adds 911 dispatchers to the list of local employees eligible to receive enhanced retirement benefits for hazardous duty service. Under current law, localities may provide such benefits to first responders, including firefighters and emergency medical technicians, and certain other hazardous duty positions. The bill provides that such benefits would be available only to dispatchers hired starting on or after January 1, 2022.</p> <p>Similar to HB 854/SB 585; See also HB 56, HB 162.</p> <p>Budget amendment: HB 29, Item 494 #2h (NGF- VRS implementation) Subcommittee laid on table with letter to JLARC</p>
HB 854	Reid	<p>Adds 911 dispatchers to the list of local employees eligible to receive enhanced retirement benefits for hazardous duty service. Under current law, localities may provide such benefits to first responders, including firefighters and emergency medical technicians, and certain other hazardous duty positions.</p> <p>Similar to HB 131; See also HB 56, HB 162.</p> <p>Budget amendments: HB 29, Item 494 #1h (NGF- VRS implementation) HB 854 incorporated into HB 131.</p>

2022 VRS-Related Bills

Hazardous Duty Benefits Bills

Bill Number	Patron	Description
HB 593	Van Valkenburg	<p>Provides that when a member of the State Police Officers' Retirement System or the Virginia Law Officers' Retirement System or a local employee who is eligible for similar benefits dies before retirement by suicide or in the line of duty, the retirement allowance payable to his beneficiary shall include any hazardous duty supplement for which the member or local law-enforcement officer was eligible.</p> <p>Budget amendments: HB 29, Item 494 #3h, (NGF- VRS implementation) & HB 30, Item 483 #12h (GF- placeholder)</p> <p>Stricken in subcommittee 2/3.</p>
HB 834	Wilt	<p>Provides that service in the Fire and Rescue Department of the Virginia Air National Guard shall be treated as service in a hazardous position for purposes of the hazardous duty supplement or increased retirement multiplier in the State Police Officers' Retirement System, in the Virginia Law Officers' Retirement System, or as a local employee eligible for similar benefits. The bill applies to creditable service earned before July 1, 2022, but only allows additional benefits to be paid prospectively.</p> <p>Budget amendment: HB 30, Item 483 #11h (GF- placeholder)</p> <p>Laid on table with letter to JLARC 2/3.</p>

2022 VRS-Related Bills

Hazardous Duty Benefits Bills- § 51.1-138

Bill Number	Patron	Description
HB 56	Wiley	<p>Requires each political subdivision participating in the Virginia Retirement System and each county or city participating in the Virginia Retirement System to provide retirement benefits comparable to the benefits provided to state police officers to juvenile detention specialists.</p> <p>See also HB 131, HB 162, HB 854, SB 585.</p> <p>Laid on table in subcommittee 1/27.</p>
HB 162	Runion	<p>Adds animal control officers to the list of local employees eligible to receive enhanced retirement benefits for hazardous duty service. Under current law, localities may provide such benefits to first responders, including firefighters and emergency medical technicians, and certain other hazardous duty positions.</p> <p>See also HB 56, HB 131, HB 854, SB 585.</p> <p>Budget amendment: HB 29, Item 494 #3h (NGF- VRS implementation)</p> <p>Laid on table in subcommittee with letter to the Compensation Board.</p>

2022 VRS-Related Bills

Hazardous Duty Benefits Bills- § 51.1-138

Bill Number	Patron	Description
SB 507	Lewis	<p>Requires localities to use the 1.85 percent multiplier for determining the annual retirement allowance for local eligible employees receiving benefits similar to those provided to State Police officers. Currently, localities may elect to provide a 1.7 percent multiplier in lieu of the 1.85 percent multiplier.</p> <p>Substitute applies only to deputy sheriffs for service earned on or after July 1, 2023.</p> <p>Reported from SFAC on 2/9; referred to HAC.</p> <p>HAC laid on table 2/25</p>

2022 VRS-Related Bills

Other Bills

Bill Number	Patron	Description
HB 1119	Campbell	Provides that a law-enforcement officer shall not lose his benefits in any retirement system administered by the Board of Trustees of the Virginia Retirement System upon being convicted of a felony, unless such felony was (i) the result of gross negligence or intentional misconduct by such officer or (ii) resulted in any pecuniary benefit for such officer. Struck in HAC subcommittee 2/3.

2022 Other Bills

Charter School Bills

Bill Number	Patron	Description
HB 344	Davis	Permits the Board of Education to receive, review, and rule upon applications for public charter schools and enter into agreements for the establishment of public charter schools. Under current law, the power to grant or deny a public charter school application and enter into an agreement for the establishment of a public charter school rests solely with local school boards. The bill also provides that the decision to grant or deny a public charter school application or to revoke or fail to renew a public charter school agreement is final and is not subject to appeal. HB 344 left in committee 2/15. Senate bills PBI'd in committee 2/10.
SB 608	Suetterlein	
SB 638	Chase	

Charter School Bills

Bill Number	Patron	Description
<p>HB 356</p> <p>SB 125</p>	<p>Tata</p> <p>Obenshain</p>	<p>Authorizes the Board of Education (the Board) to establish regional charter school divisions consisting of at least two but not more than three existing school divisions in regions in which each underlying school division has (i) an enrollment of more than 3,000 students and (ii) one or more schools that have accreditation denied status for two out of the past three years. The bill requires such regional charter school divisions to be supervised by a school board that consists of eight members appointed by the Board and one member appointed by the localities of each of the underlying divisions. The bill authorizes the school board, after a review by the Board, to review and approve public charter school applications in the regional charter school divisions and to contract with the applicant. The bill requires that the state share of Standards of Quality per pupil funding of the underlying school district in which the student resides be transferred to such school.</p> <p>HB 356 passed House 2/15; Sen. Education and Health passed by indefinitely.</p> <p>SB 125 not reported from committee 2/3.</p>

FY 2022 APO Update VRS Board Meeting April 2022



- Recap of December 2021 Cloud Migration Presentation
- Data Center Migration Update
- Summary and Next Steps

Cloud Migration Recap



- Original plan called for full migration to public cloud (Azure)
- Ongoing due diligence and consultation with 3rd party experts determined a more cost effective and secure solution
- After consideration of multiple options, determined that Hyper Converged Infrastructure (HCI) is the best approach for VRS

How does this technology benefit VRS?

The public cloud, for all its benefits, has limitations. While the public cloud is a viable, cost-effective option for elastic workloads where demand is highly variable or unpredictable, it is not as cost-effective as on-premises infrastructure for more predictable workloads.

In fact, managing predictable workloads is where IT shines.

We've been doing that for decades and we do it really well. On the economic front, it's often less expensive to implement and maintain your own environment for predictable workloads than it is to pay monthly expenses for cloud infrastructure.

Legacy Data Center View



Hypervisor – Virtualization Software



Server Hardware



Storage Connectivity – Fibre Channel



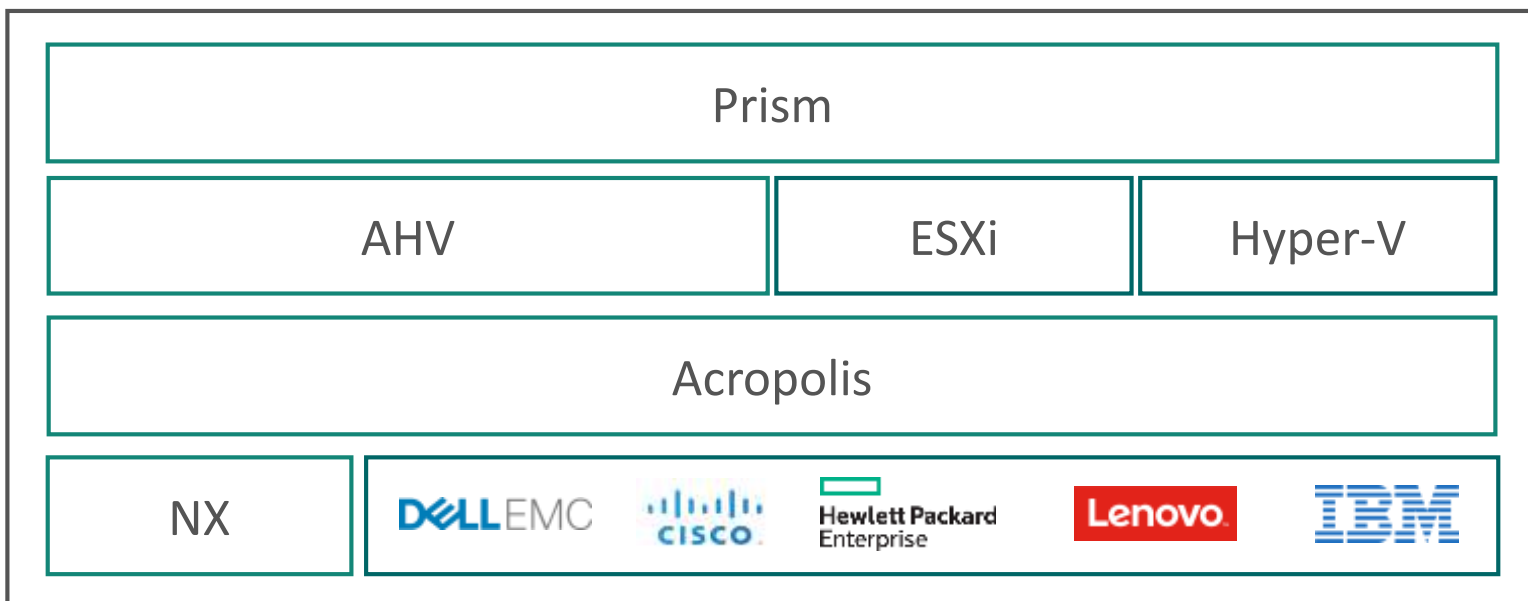
Storage



Networking

Hyper-Converged Data Center View

Hyper-Converged Data Center View



One-Click HCI Management

Virtualization Choice

HCI Software

Commodity Hardware

Executive Summary

5-Year TCO: Nutanix is **\$1.9M (30%)** & **\$4.4M (49%)** less expensive than Legacy 3-tier and Azure respectively

Key drivers to address:

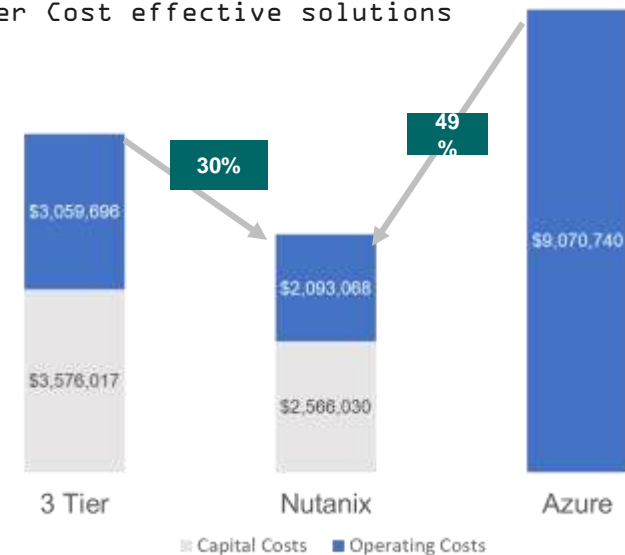
- Simplify technology stack
- Built-in end to end security
- Low total cost of ownership (TCO) and high ROI solution
- Ability to scale easily and cost effectively
- Provide seamless integration with multi-cloud operating model
- Simplicity to backup and restore during disaster event

VRS avoiding the full public cloud (Azure) will save approximately \$4.4 over the a five (5) year time period

Target Business Outcomes

- ✓ Pay retirement benefits on-time
- ✓ Provide superior customer service
- ✓ Ability to meet or exceed operational service level agreements
- ✓ Ability to deliver Agency portfolio projects on time
- ✓ Deliver Cost effective solutions

				Solution vs Nutanix	
	3-Tier	Nutanix	Azure	3-Tier	Azure
CapEx	\$3,576,017	\$2,566,030	\$0	\$1,009,987	(\$2,566,030)
OpEx	\$3,059,696	\$2,093,068	\$9,070,740	\$966,628	\$6,977,671
Total	\$6,635,713	\$4,659,098	\$9,070,740	\$1,976,615	\$4,411,641
% TCO Savings				30%	49%



Actual VRS Projection for Azure Move

Cloud project estimated costs (project + annualized operational costs)

Item	FY21	FY22	FY23	FY24	FY25	FY26	FY27
Microsoft Consulting Services	\$ 230,321	\$ 1,091,580	\$ 1,639,450	\$ 135,970	\$ -	\$ -	\$ -
VRS Contractors (CGI)	\$ 31,261	\$ 1,221,204	\$ 2,009,424	\$ 1,334,904		\$ -	\$ -
Azure Spend	\$ 102,990	\$ 815,764	\$ 2,652,834	\$ 3,138,259	\$ 3,138,259	\$ 3,138,259	\$ 3,138,259
Yearly Total	\$ 364,572	\$ 3,128,548	\$ 6,301,708	\$ 4,609,133	\$ 3,138,259	\$ 3,138,259	\$ 3,138,259
Cummulative Total	\$ 364,572	\$ 3,493,120	\$ 9,794,828	\$ 14,403,961	\$ 17,542,220	\$ 20,680,479	\$ 23,818,738

←
→

Project

←
→

Operations

Data Center Migration



- Evaluating modern data centers within the Richmond area
Foundation Criteria:
 - Direct connections to multiple cloud providers
 - High speed connections to fully redundant data center in distant city
 - Ability to provide synchronous replication
 - Smart hands services availability to reduce need for travel
 - On-ramps to Microsoft 365 Cloud
 - Variety of Tier One Internet Service Providers

- Timeline likely impacted by current supply chain environment; anticipate January 2023 migration

Summary








- **As described in December, HCI model determined to be the most beneficial approach for VRS.**
 - **Security**
 - **ROI**
 - **Efficiency**
- **VRS re-baselined and developed the requirements to create a private cloud environment in lieu of moving to public cloud.**
- **Current VRS personnel continues formal public cloud technology training in 2021 to compliment current skillset.**

Summary and Next Steps

- **Ongoing work includes:**
 - **Development of data center requirements**
 - **Identifying equipment, licensing and professional services**
 - **Evaluating and analyzing backup and recovery software requirements**

- **APO #1 being adjusted to reflect the new approach**
 - **Certain components of APO #1 have already been completed**
 - **Revised plan requires greater effort and volume of work compared to the original APO**
 - **Revised APO will be provided at the June Administrative and Personnel meeting**
 - **Work on this initiative will also be included in the FY 2023 APOs**

FY 2022 APO #1 (Current)

 AGENCY PERFORMANCE OUTCOMES STATUS REPORT FISCAL YEAR 2022 APO 1										APO Status Indicator  Proceeding as planned  Off plan, mitigation in place  Off plan, mitigation needed  Completed N/S Not started <i>APO 1 Measure: 4 of 6 completed</i>			
APO #	APO Description	July	August	September	October	November	December	January	February	March	April	May	June
1	Cloud Migration												
1.1	Complete Azure Security and Governance design and configure VRS Azure tenant to meet security standards.												
1.2	Adjust Security and Governance settings as workloads are migrated to Azure Cloud, per the approved plan.												
1.3	Implement Azure Modern Service Management processes and complete operational and process readiness activities, per the approved plan, for successful operation of the VRS Azure environment.												
1.4	Complete high-level planning, discovery and assessment activities for workload migrations to Cloud.												
1.5	Initiate lift and shift workloads migration to the Cloud in accordance with the approved plan.												
1.6	Begin Investments workload migrations to the Cloud, including user readiness, education and training activities, as applicable.												