

VRS Overview

Presented to the Joint Legislative Audit
and Review Commission

July 15, 2019

Presenters:

Mitchell L. Nason, Chairman, VRS Board of Trustees

Ronald D. Schmitz, Chief Investment Officer

Patricia S. Bishop, Director



VRS Overview

- **Mitchell L. Nason**, Chairman, VRS Board of Trustees

Investments Overview

- **Ronald D. Schmitz**, Chief Investment Officer

Administration Overview

- **Patricia S. Bishop**, Director



Virginia
Retirement
System

Remarks

Mitchell L. Nason

Chairman, VRS Board of Trustees



Board Members



Mitchell L. Nason, *Chairman*

Prince William County Department of Fire and Rescue

Diana F. Cantor, *Vice Chairman*

Alternative Investment Management

The Honorable J. Brandon Bell II, CRPC

Brandon Bell Financial Partners

Wallace G. “Bo” Harris, Ph.D.

Department of Social Services (Retired)

W. Brett Hayes

Wells Fargo Advisors Financial Network

William H. Leighty

Virginia Commonwealth University

O’Kelly E. McWilliams III

Mintz Levin

Joseph W. Montgomery

The Optimal Service Group,
Wells Fargo Advisors

Troilen Gainey Seward, Ed.S.

Dinwiddie County Public Schools (Retired)

More than
722,000

members, retirees
and beneficiaries
as of March 31, 2019



19th
largest*

public or private pension
system in the U.S.,
based on assets

43rd
largest*

public or private pension
system in the world,
based on assets

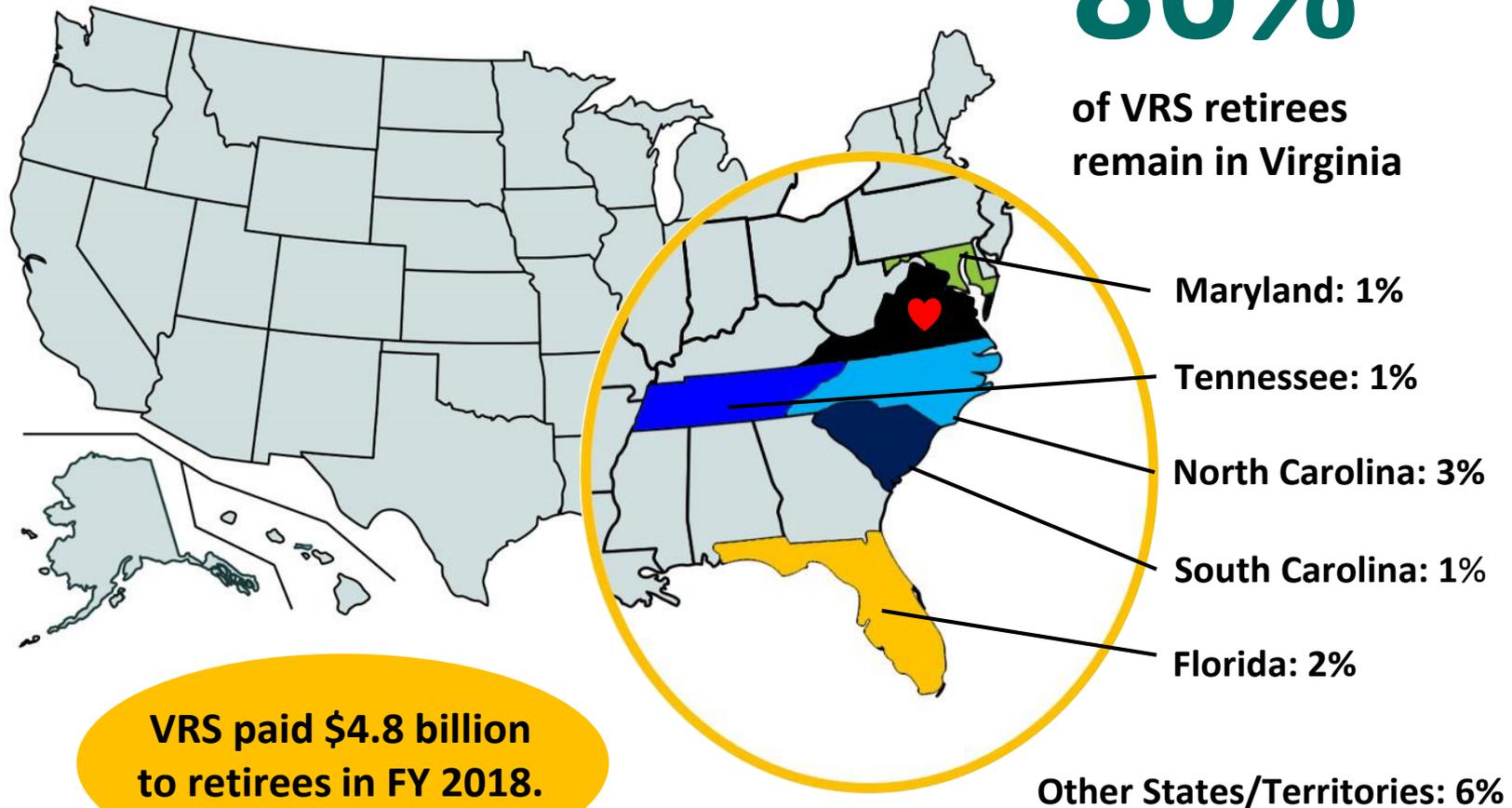


* As ranked by *Pensions & Investments*, Sept. 2017

Where VRS Retirees Live

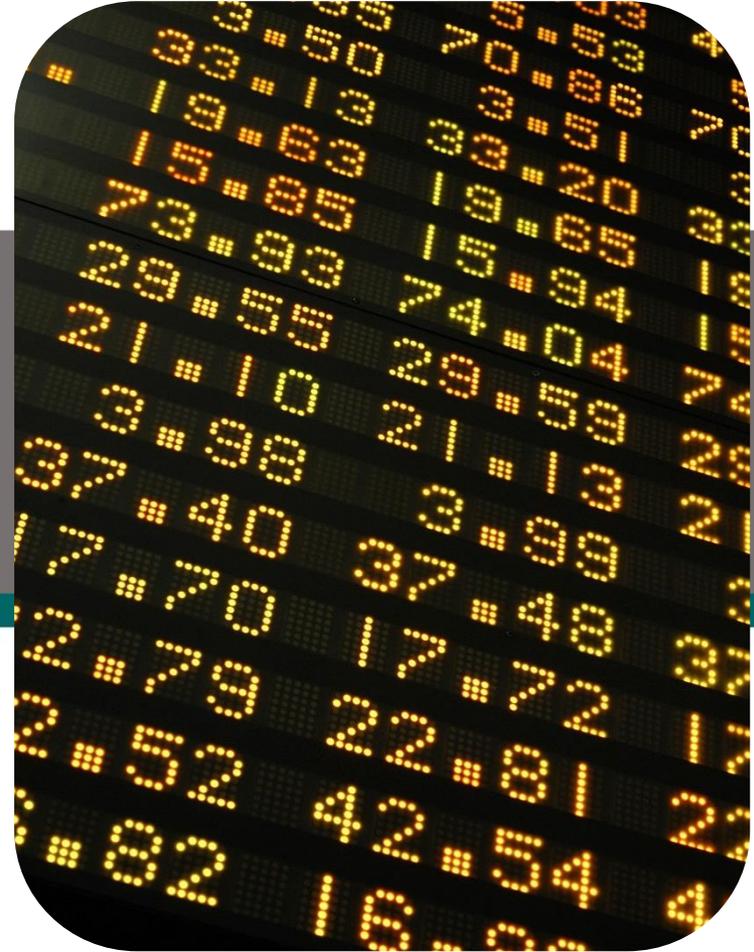
86%

of VRS retirees
remain in Virginia



VRS paid \$4.8 billion
to retirees in FY 2018.

Investments



- Total fund performance ending March 31, 2019
- Returns through May 31, 2019
- Fiscal year returns for the past 25 years, compared to the actuarially assumed return
- Asset allocation overview
- Update on the asset allocation policy
- Adding value to the total fund
- Economic/market outlook

Total Fund Performance as of March 31, 2019



	10 Year	5 Year	3 Year	1 Year	Market Value (\$MM)
Total Public Equity Strategies	12.5	6.9	9.6	2.0	31,529
<i>Benchmark</i>	12.0	6.8	10.2	3.1	
Total Investment-Grade Fixed Income	5.0	3.2	2.7	4.8	12,720
<i>Benchmark</i>	3.7	2.7	2.0	4.5	
Total Credit Strategies	9.4	4.8	7.4	3.8	11,520
<i>Benchmark</i>	8.2	4.7	7.0	4.5	
Total Real Assets	10.8	10.7	9.7	9.8	11,003
<i>Benchmark</i>	8.8	8.8	7.4	8.1	
Total Private Equity	13.5	13.0	15.2	11.7	9,081
<i>Benchmark</i>	14.3	8.6	10.8	-3.4	
Total Private Investment Partnerships	n/a	n/a	7.8	7.1	944
<i>Benchmark</i>	n/a	n/a	6.1	2.2	
Total Multi-Asset Public Strategies	n/a	n/a	n/a	n/a	2,174
<i>Benchmark</i>	n/a	n/a	n/a	n/a	
Total Fund	10.1	6.7	8.4	4.7	80,408
<i>VRS Custom Benchmark</i>	9.5	6.2	8.0	3.7	

Net of Fees

Source: Bank of New York Mellon

Total Fund Performance as of May 31, 2019



	10 Year	5 Year	3 Year	1 Year	Fiscal YTD	Market Value (\$MM)
Total Public Equity Strategies	10.1	5.8	8.1	-1.9	-1.1	30,576
<i>Benchmark</i>	9.6	5.8	8.8	-1.0	-0.5	
Total Investment-Grade Fixed Income	4.9	3.2	3.0	6.7	6.9	12,751
<i>Benchmark</i>	3.8	2.7	2.5	6.4	6.5	
Total Credit Strategies	8.3	4.6	6.8	4.1	4.1	11,654
<i>Benchmark</i>	7.1	4.4	6.4	5.0	5.2	
Total Real Assets	10.0	10.4	9.5	8.8	5.7	10,949
<i>Benchmark</i>	8.9	8.5	7.3	7.0	5.9	
Total Private Equity	13.4	12.9	15.2	11.4	8.5	9,017
<i>Benchmark</i>	17.6	10.4	16.4	5.0	6.2	
Total Private Investment Partnerships	n/a	n/a	7.8	7.1	4.6	1,022
<i>Benchmark</i>	n/a	n/a	8.2	7.4	5.7	
Total Multi-Asset Public Strategies	n/a	n/a	n/a	n/a	-0.2	2,157
<i>Benchmark</i>	n/a	n/a	n/a	n/a	2.2	
Total Fund	8.9	6.1	7.7	3.3	3.0	79,186
<i>VRS Custom Benchmark</i>	8.7	5.9	7.9	3.3	3.5	

Net of Fees

Source: Bank of New York Mellon

Total Fund Performance* as of March 31, 2019

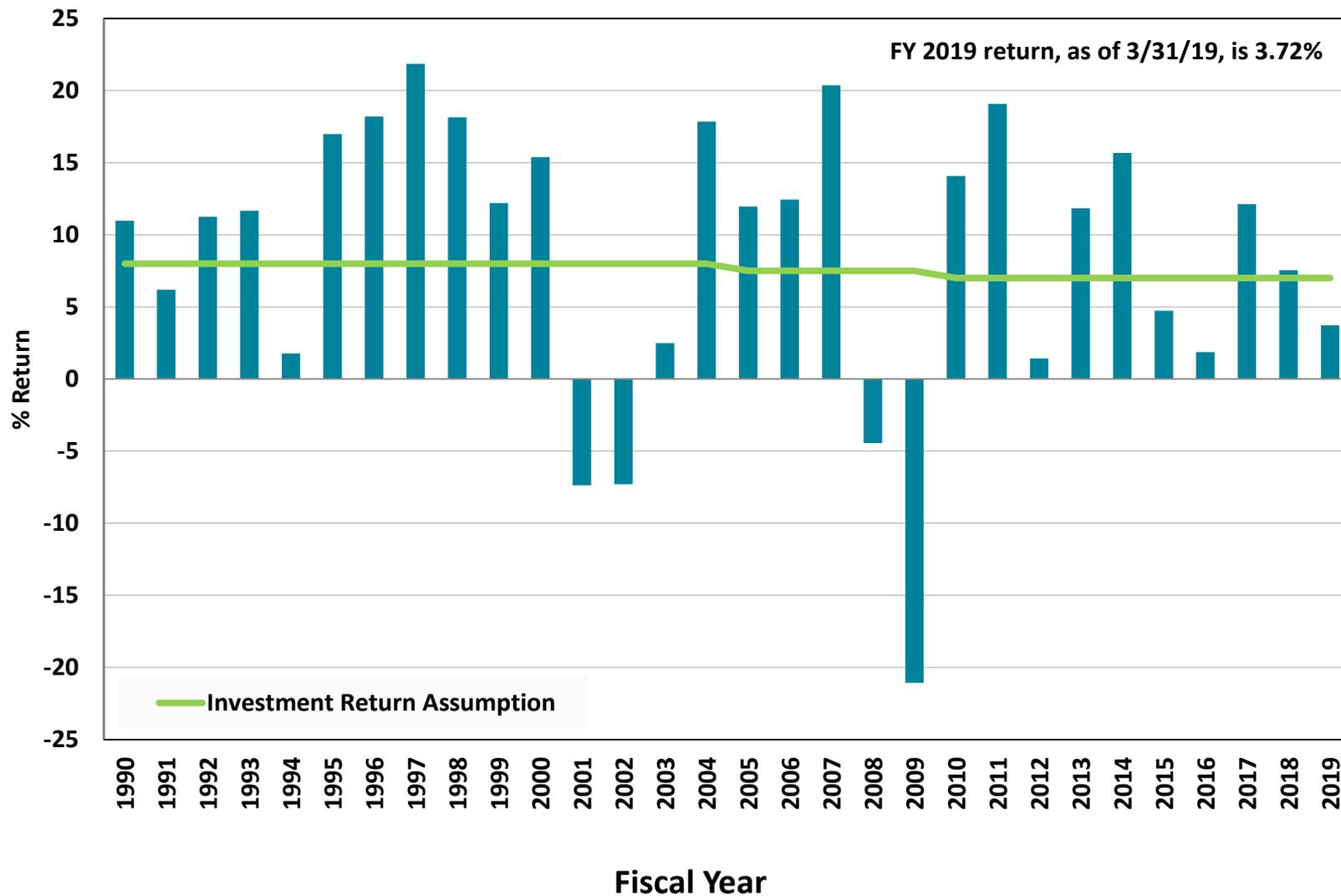


	VRS Return	Benchmark
1-year	4.7%	3.7%
3-year	8.4%	8.0%
5-year	6.7%	6.2%
10-year	10.1%	9.5%
15-year	6.9%	6.3%
20-year	6.4%	5.7%
25-year	8.2%	7.7%

* Net of fees

Source: Bank of New York Mellon

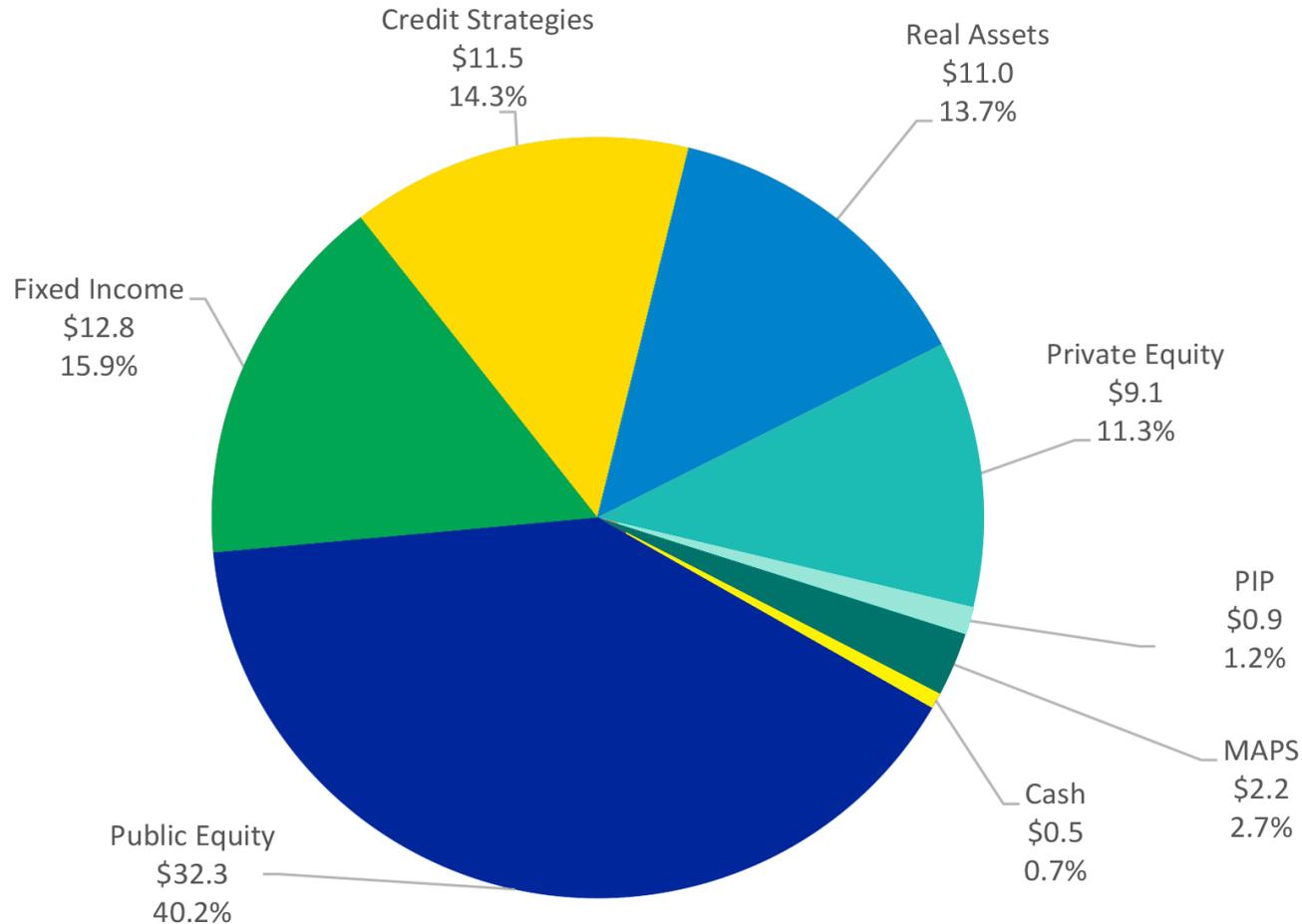
VRS Fiscal Year Returns



Asset Allocation as of March 31, 2019

Total Fund Market Value = \$80.4 billion

(Dollar amounts in Billions/Percent of Total Fund)



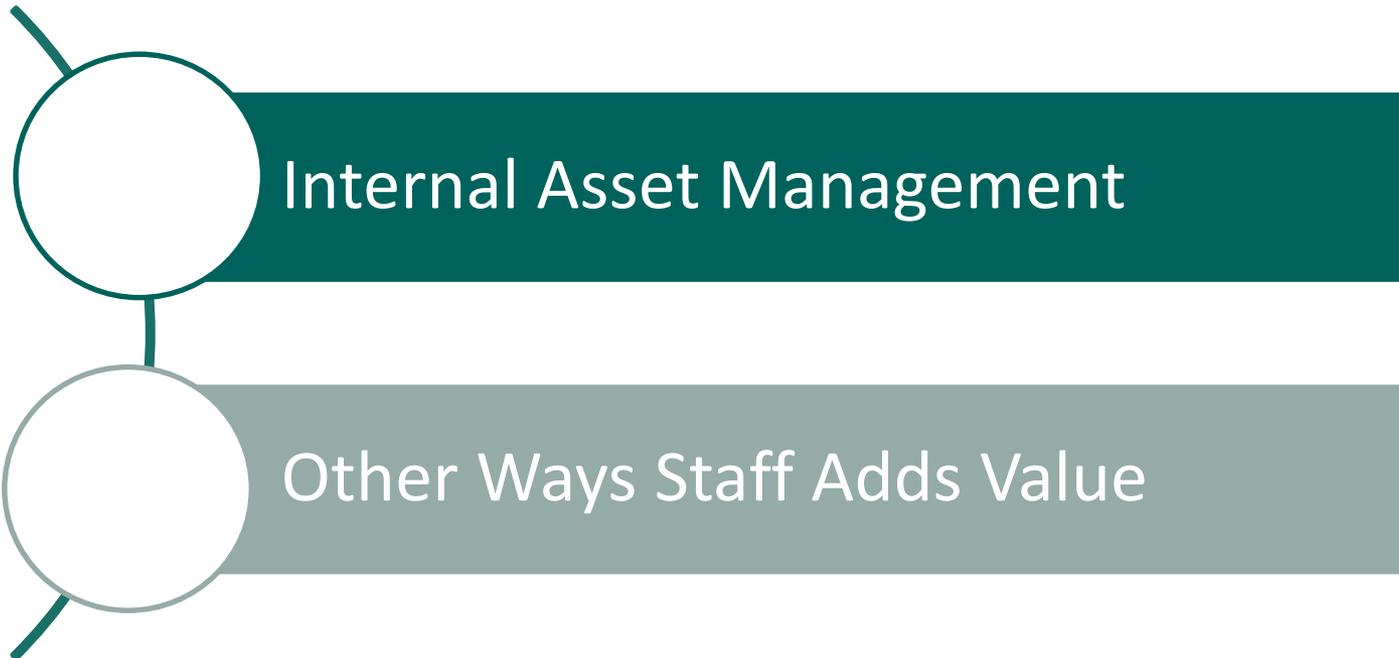
Source: Bank of New York Mellon

FY 2020 Board Target Asset Mix

	FY 2019 Policy Targets	FY 2020 Policy Targets	Long-Term Policy Targets*
Public Equity	40%	40%	40%
Fixed Income	16%	16%	15%
Credit Strategies	15%	14%	15%
Real Assets	14%	14%	15%
Private Equity	10%	11%	15%
SOP	n/a	n/a	0%
PIP	2%	2%	n/a
MAPS	3%	3%	n/a
Cash	0%	0%	0%

* Will be re-adjusted during the next asset/liability study which is currently underway.

Adding Value to the Total Fund



Internal Asset Management (IAM)

Mandates as of March 31, 2019

Asset Class	Objective	Assets (MM)
Equity	Passive, Non-U.S. Large Cap (Dogwood)	\$0.2
	Passive, Emerging Market Small Cap (Cardinal)	\$86.5
	Low Tracking Error, U.S. Large Cap (Potomac)	\$4,764.4
	Low Tracking Error, Non-U.S. Large Cap (Matoaka)	\$2,679.2
	Low Tracking Error, U.S. Small Cap (Afton)	\$620.7
	Low Tracking Error, U.S. REIT (Monroe)	\$678.7
	Low Tracking Error, Emerging Market Large Cap (Tuckahoe)	\$617.0
	Low Volatility, U.S. Large Cap (Mobjack)	\$2,094.5
	Low Volatility, Non-U.S. Large Cap (Piedmont)	\$1,893.1
	Rebalancing Account	\$198.5
	Global Passive Energy Overlay	\$0.1
	Currency Hedge (Overlay)	\$4,877.3
	Subtotal	\$18,510.2
Fixed Income	Securitized	\$4,564.3
	Credit	\$3,948.2
	Government Related	\$3,854.4
	Emerging Market Debt	\$110.1
	Opportunistic	\$129.5
	Opportunistic Overlay	\$4.8
	Rate Overlay	\$25.2
	Transition	\$83.1
	Subtotal	\$12,719.6
	Total	\$31,229.8

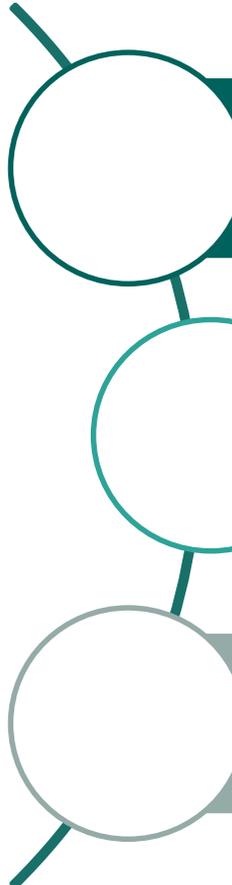
IAM Track Record as of March 31, 2019



		1 Year	3 Years	5 Years	10 Years	Inception*
Equity	Return	5.49	11.10	8.60	15.15	7.17
	Benchmark	6.91	11.37	8.38	14.11	6.43
	Excess	-1.42	-0.27	0.22	1.04	0.74
	Risk (TE)	0.69	0.74	0.83	1.11	1.00
	Info Ratio	-2.05	-0.37	0.26	0.95	0.74
Fixed Income	Return	4.83	2.61	3.18	4.14	5.64
	Benchmark	4.48	2.03	2.74	3.64	5.31
	Excess	0.35	0.58	0.44	0.50	0.33
	Risk (TE)	0.17	0.17	0.24	0.38	0.32
	Info Ratio	2.10	3.39	1.88	1.32	1.03

* Equity Inception April 2001, Fixed Income Inception August 1995. These inception dates represent the current team's tenure.

Internal Asset Management

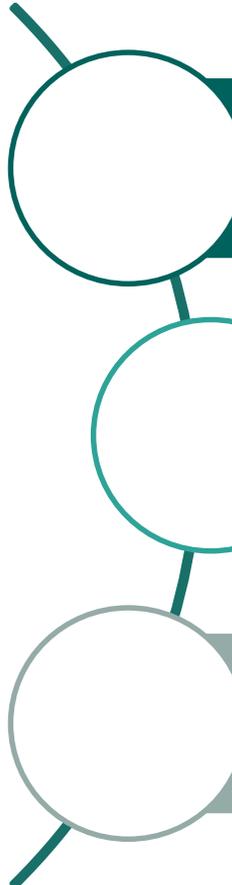


Value added over benchmark over the last 10 years was \$1 billion

Saving approximately \$52 million in fees by managing internally

Continuing to explore potential new internally managed strategies; collaborating with other teams to increase efficiency in implementing new strategies

Other Ways of Adding Value



Value add from external outperformance over the last 10 years was \$600 million

Increasing use of co-investments (approximately 10% of Private Equity)

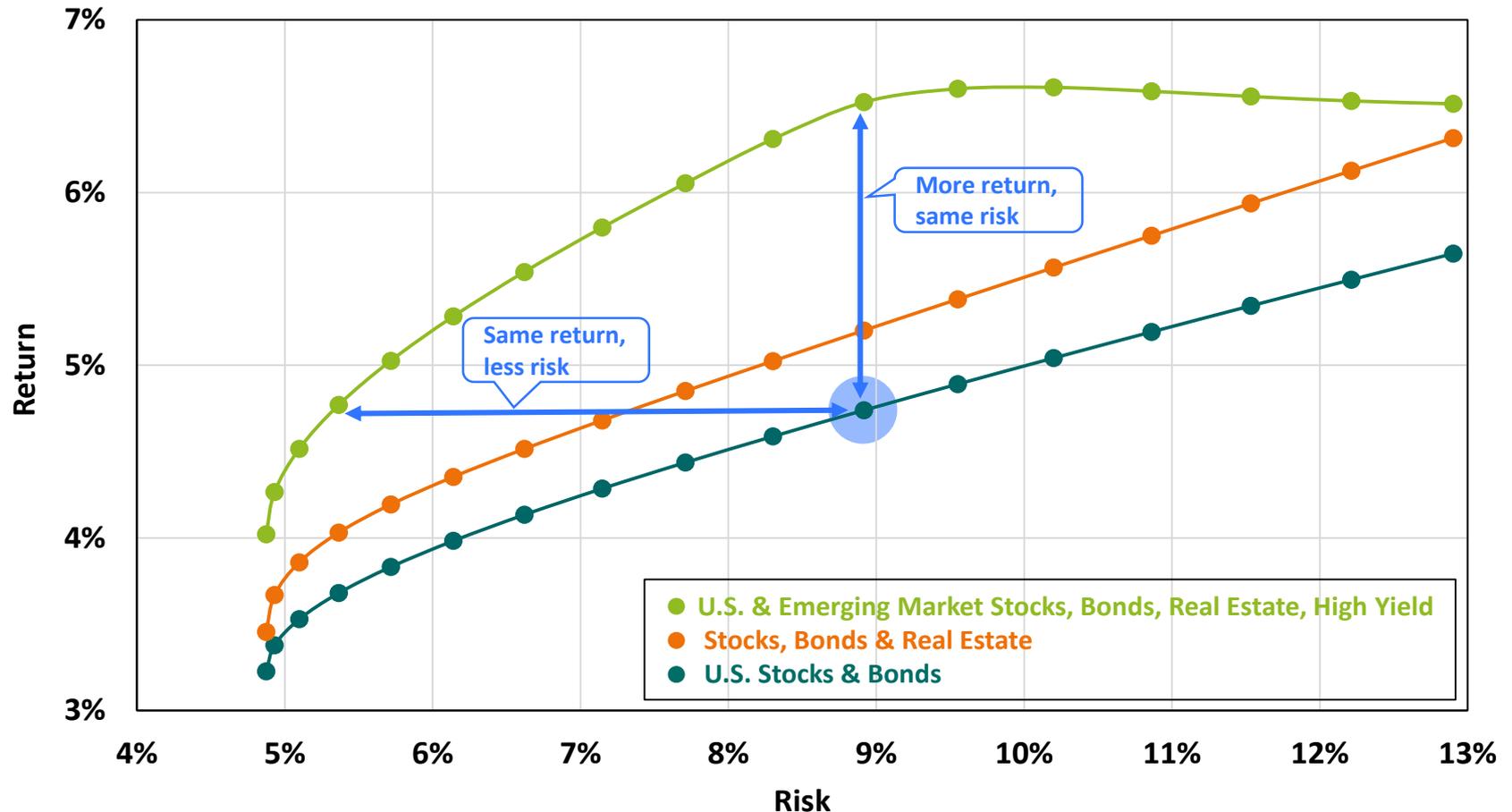
Lower implementation cost of board's asset allocation policy (CEM DATA); negotiating lower fee arrangements with external managers (CEM DATA)

Other Staff Initiatives (Innovation Lab)



Risk/Return Efficient Frontier

U.S. & Emerging Market Stocks, Bonds, Real Estate, High Yield



Macroeconomic & Policy Dashboards

Regime-Based Risk Modeling



Cycle Indicators

Staff Intensive Training

Research Trips

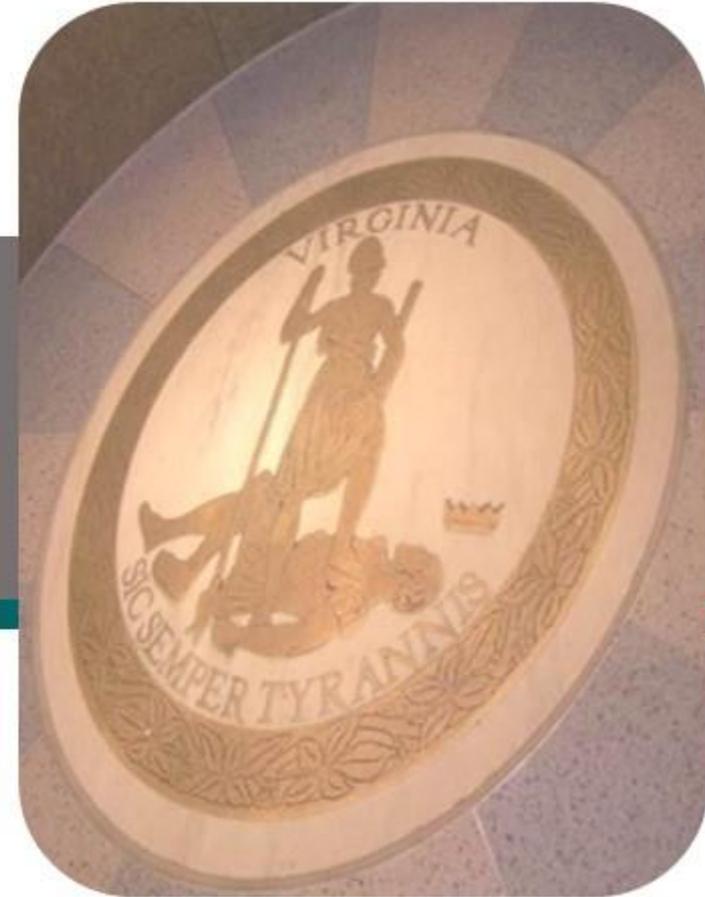
Customized Hedge Design

Quantitative Signal Packets

Individualized Research Requests

- Global growth decelerating
- Trade tensions accelerating
- Fed has gone from considering rate hikes to possible easing
- Developed market central banks poised to ease as well
- Equity markets have rebounded from a weak 4Q 2018
- Debt levels are increasing, but debt servicing is manageable
- Private Market Assets are higher than average and return expectations are moderating

Administration



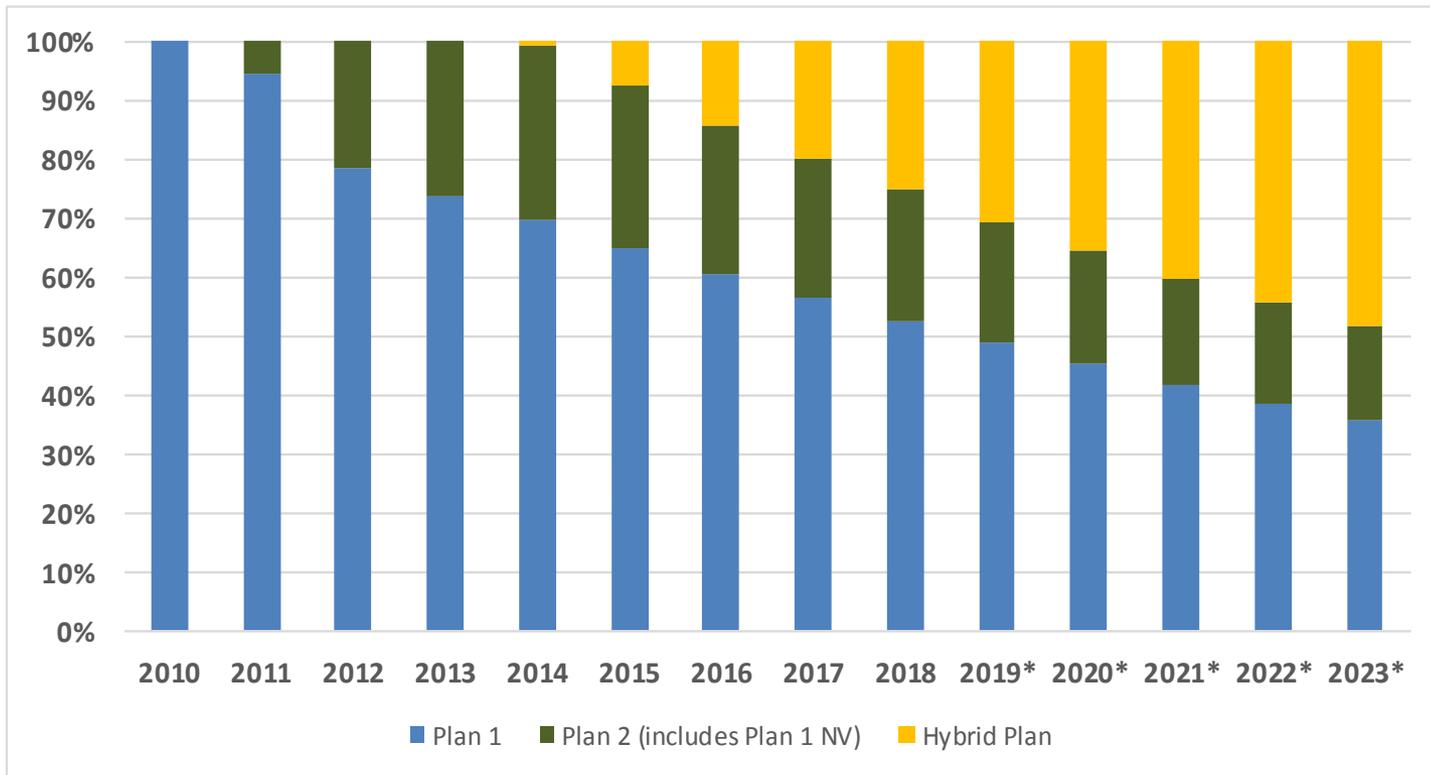
VRS Total Membership as of March 31, 2019



	Plan 1	Plan 2	Hybrid	Total
Teachers	75,539	32,620	46,320	154,479
Political Subdivisions	46,198	31,556	32,015	109,769
State Employees	37,367	15,905	23,924	77,196
State Police Officers' Retirement System (SPORS)	1,184	699	—	1,883
Virginia Law Officers' Retirement System (VaLORS)	3,253	5,481	—	8,734
Judicial Retirement System (JRS)	240	48	127	415
Total Active Members	163,781	86,309	102,386	352,476



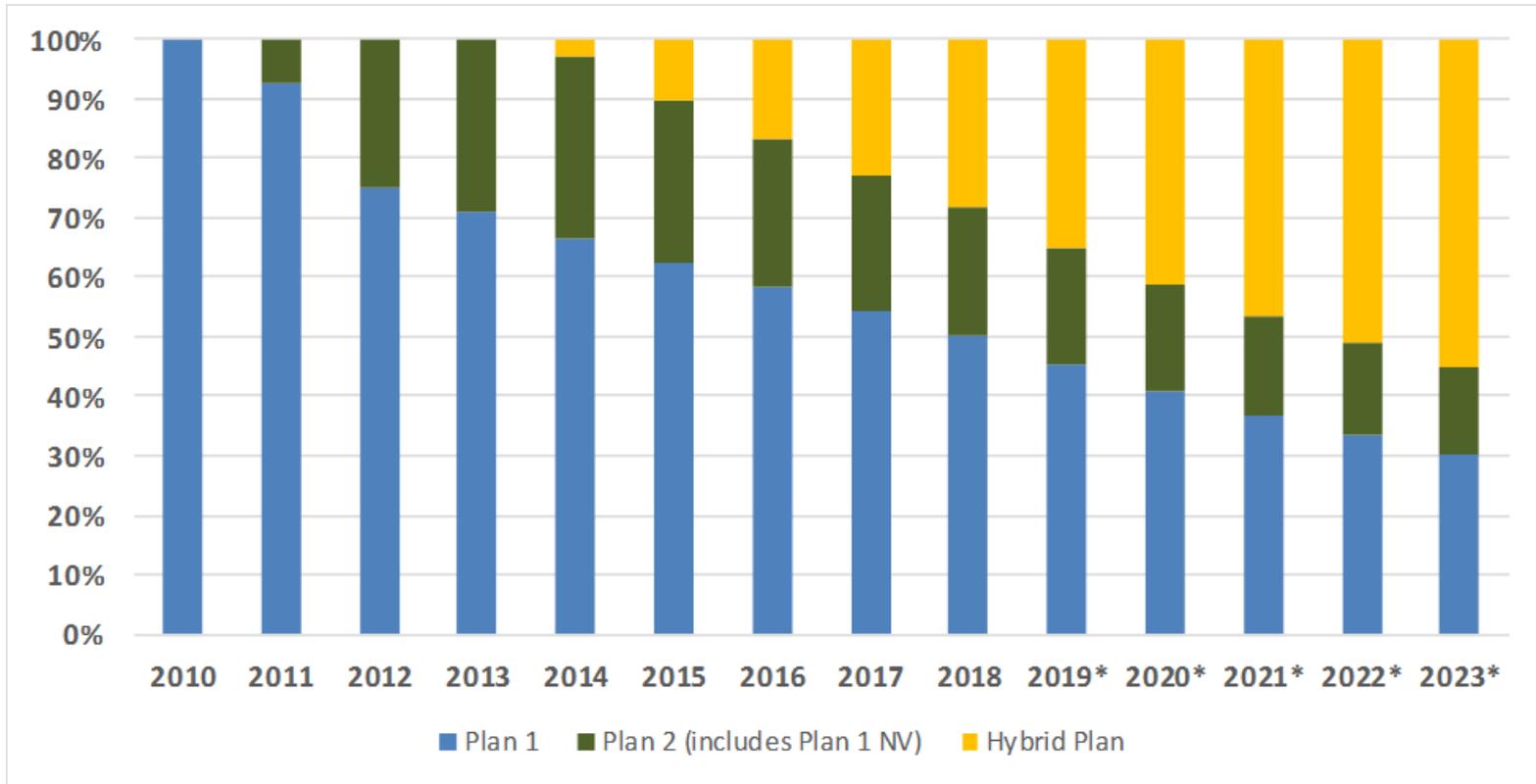
Teacher Active Member Breakdown



* Fiscal years 2019-2023 show projected membership breakdown based on historical turnover experience.

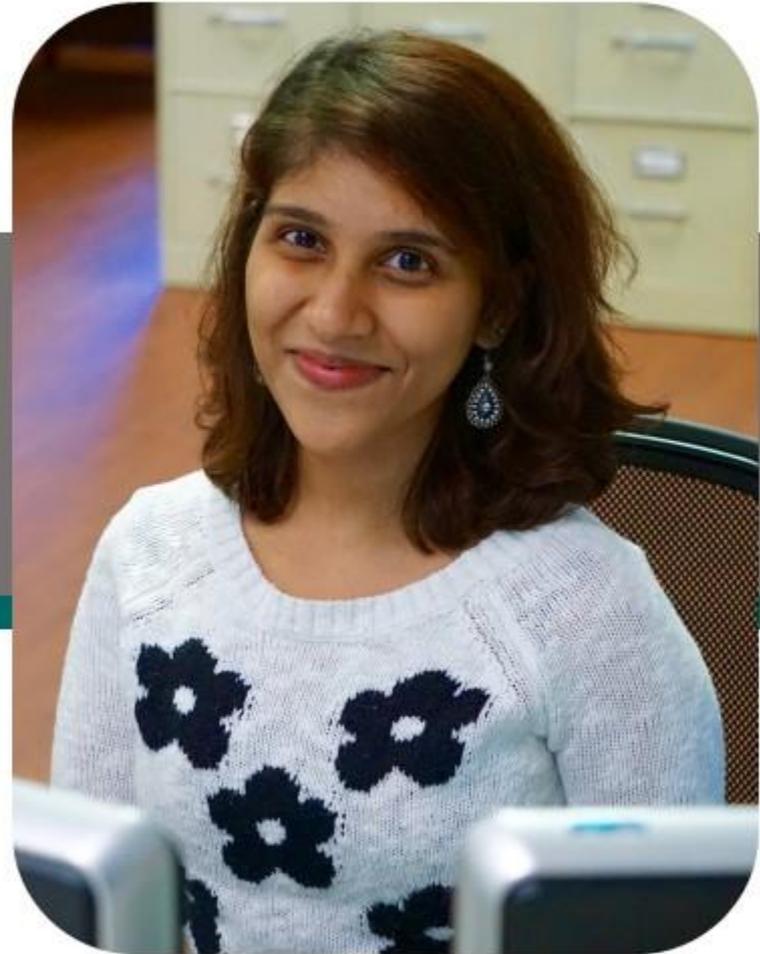
Note: The turnover experienced in the Teacher Plan has been less than the turnover experienced by the State Plan. Thus, the Teacher Plan is migrating to the Hybrid Plan slower than the State Plan.

State Active Member Breakdown



* Fiscal years 2019-2023 show projected membership breakdown based on historical turnover experience.

Hybrid Retirement Plan



Hybrid Retirement Plan

Hybrid Retirement Plan Member Profile



Active Hybrid Retirement Plan Members

(as of April 1, 2019)

102,689



Largest Member Group

Teachers



Median Salary

\$41,944

Median Age

36 years old

Average Days in the Plan

719



Developed an **employer toolkit** to assist in communicating plan provisions; importance of voluntary contributions.

SmartStep

Implemented **SmartStep**, which allows members to increase their voluntary contributions at a date they choose.



Implemented the **hybrid paycheck calculator** so members see the change in their paycheck if making voluntary contributions.



Implemented **enhanced voluntary contribution messaging** on account pages of members not making a voluntary contribution.



Launched **GoHybrid** in June 2018, which allows employees to elect a voluntary contribution before their hire date or enrollment in VRS.

Auto-Escalation 2020



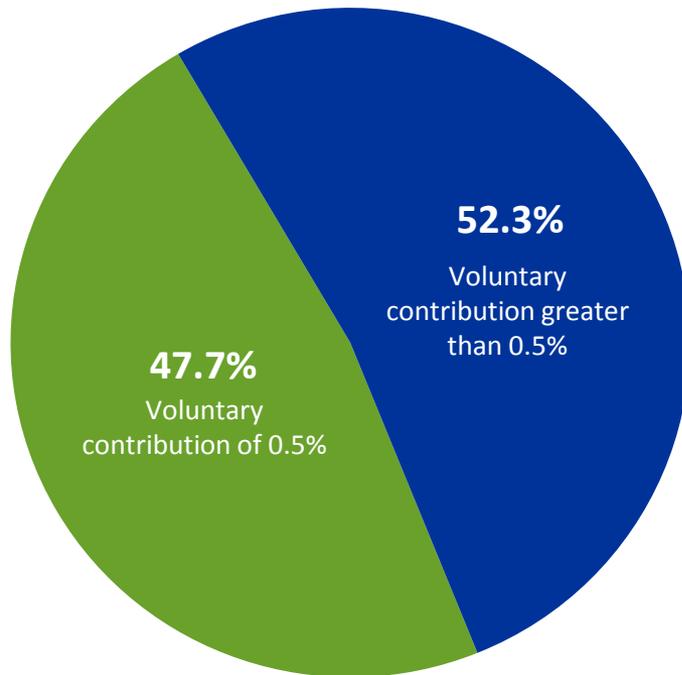
Estimated population eligible for auto escalation:

84,235

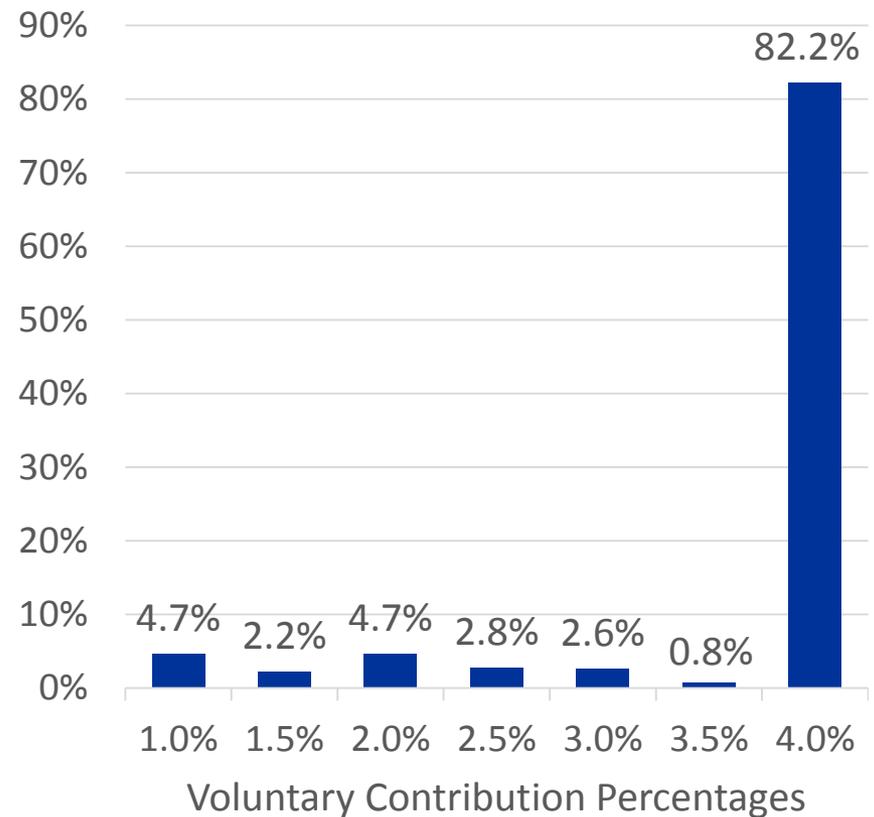
- Auto-escalation set for **Jan. 1, 2020**
- **Helps members save** for the future
- **Every three years**, members' voluntary contributions to their Hybrid 457 Deferred Compensation Plan accounts automatically **increase by 0.5%** until reaching the maximum 4%
- **Extensive communications** efforts
- Members can **opt out Oct. 1 – Dec. 16** online or by phone
- **Less than 3%** opted out in 2017, the last auto-escalation

Hybrid 457 Plan: Voluntary Contribution Elections

Active members who had a voluntary contribution effective April 1, 2019



Active members with a voluntary contribution greater than 0.5%



- Accelerate auto-escalation to 0.5% increase in voluntary contributions every two years for members not at the maximum voluntary level
 - Currently, auto-escalation is 0.5% every three years
- Set default member voluntary contribution to 0.5% at date of hire, with ability to opt-out
 - Currently, there is no default voluntary contribution
- Change allocation of member contribution
 - Current 4% DB and 1% DC
 - Proposed 3% DB and 2% DC
 - Change would increase member contributions to DC plan and more closely align member's contribution toward normal cost of the Hybrid Plan with Plan 1 and Plan 2

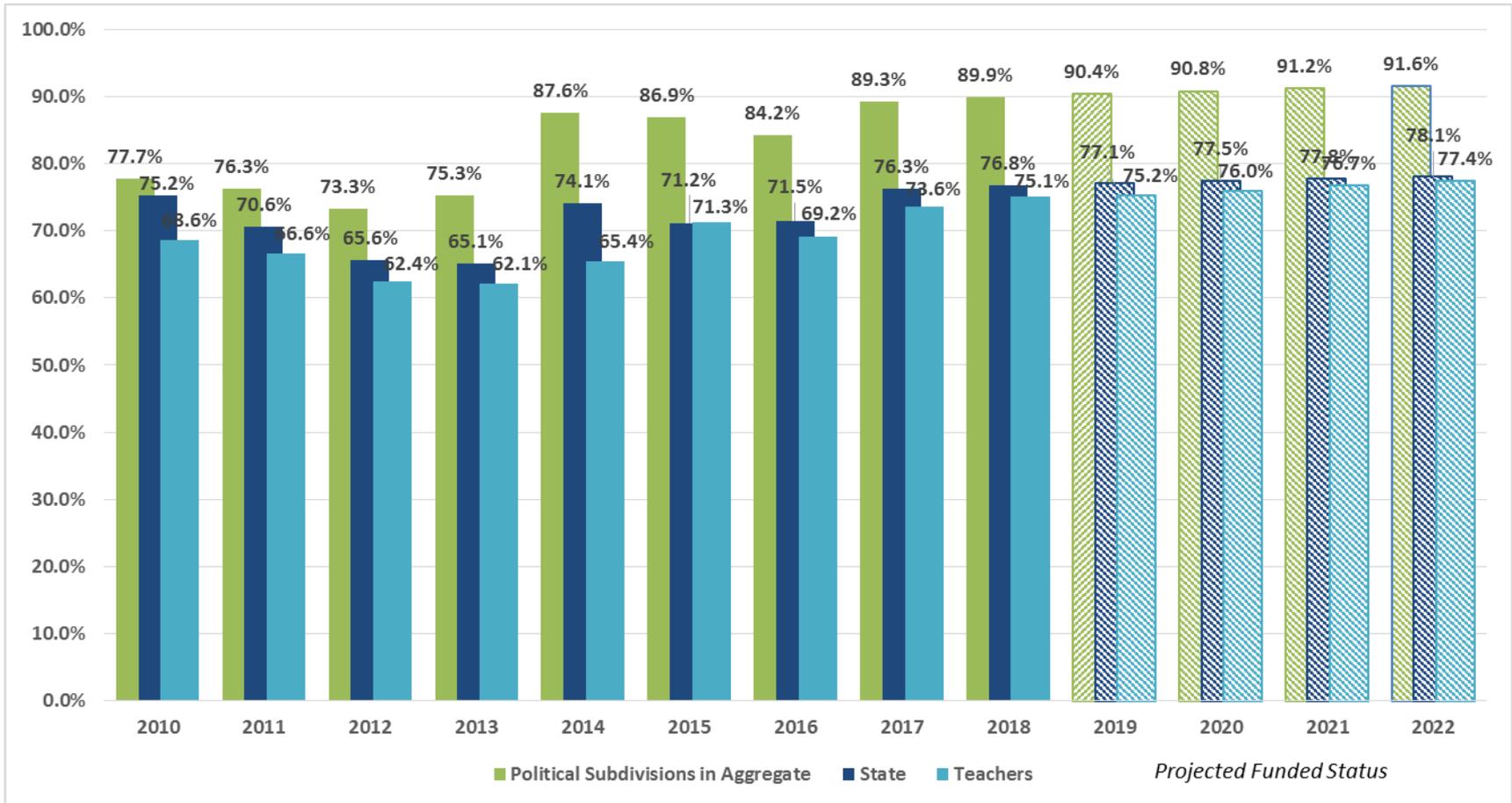


Virginia
Retirement
System

Funded Status and Contribution Rates



Funded Status and Pension Reforms



- Projected years 2019 - 2022 are estimates of future funded status assuming investment returns of 7.0% through projection period.
- Since 2012, State and Teacher plans have experienced a 10% improvement in funded status and Political Subdivisions in aggregate have seen a 15% improvement.

Funding Scenarios Fiscal Year 2021



Plan	Estimated Employer Rates FY 2021/2022 *		
	Current Discount Rate 7.0%	Reduced Discount Rate 6.75%	Reduced Discount Rate 6.50%
State	13.47%	14.86%	16.29%
SPORS	24.12%	26.55%	29.06%
VaLORS	20.40%	22.10%	23.86%
JRS	29.86%	32.05%	34.28%
Teachers	15.23%	16.83%	18.51%
Total Estimated Employer Contributions	\$2,084,644,000	\$2,298,902,000	\$2,526,565,000
General Fund	\$918,205,000	\$1,013,559,000	\$1,111,252,000
Non-General Fund	\$1,166,439,000	\$1,285,343,000	\$1,415,313,000
Additional Required Annual Funding		\$214,258,000	\$441,921,000
General Fund		\$95,354,000	\$193,047,000
Non-General Fund		\$118,904,000	\$248,874,000

* Estimated rates for FY 2021/2022 based on all assumptions prior to the 2019 valuation being met, including an investment return of 7.0% for fiscal year ending 6/30/19. Actual rates for FY 2021/2022 will be based on upcoming 2019 actuarial valuations.

Sensitivity Analysis and Stress Testing



Stress Testing Update



VRS formally adopted a policy (HB 1768) to regularly report sensitivity and stress testing analyses to General Assembly members. This simply codified an existing practice.

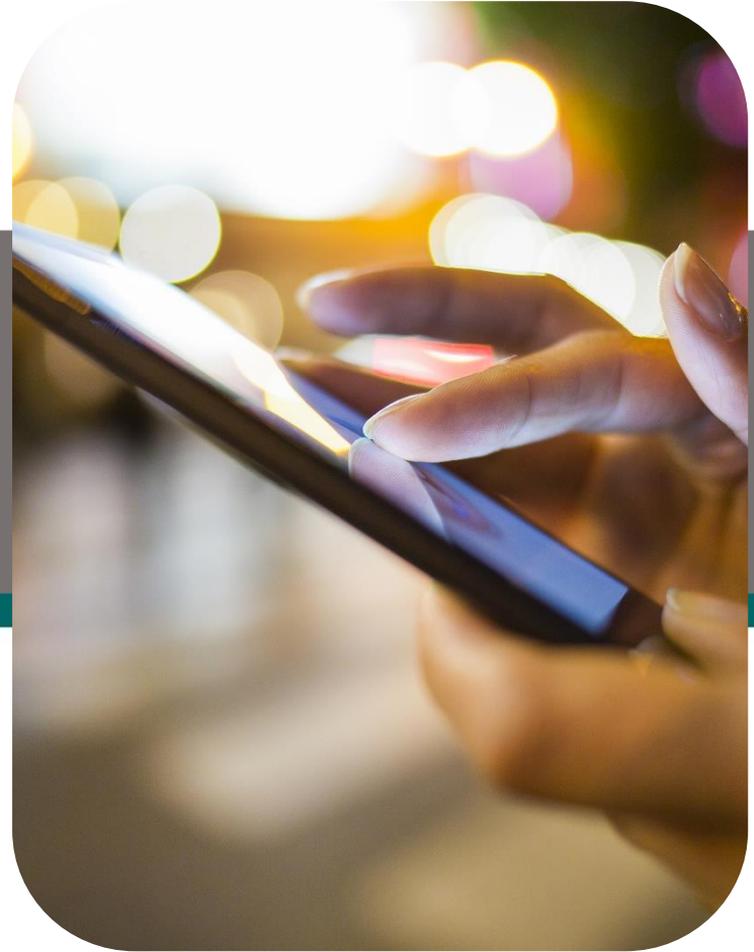
- Stress testing report first issued in June 2017
- Second report published in December 2018
- Next report to be published in fall 2019

<https://www.varetire.org/stresstest>

- Opportunities exist to proactively better position the retirement plans to provide the financial stability for current and future members of VRS.

- This could potentially be achieved by implementing one or more of the following:
 - Adjusting methodologies used to amortize unfunded liabilities.
 - Maintaining current employer contribution rates when positive experience would otherwise allow for a reduction in employer rates.
 - Considering making lump sum contributions such as those used to pay down the 2010-2012 deferred contributions for State and Teacher plans.
 - Avoiding the expansion of benefits while plans remain underfunded.

Financial Wellness



Financial Wellness Features

Courses

Learn the fundamentals of money management



Calculators

Experiment with mortgage, budget, auto, student loan calculators



Games

Play financial trivia and real-world simulator games



Budget

Plan for expenses, set goals and keep your finances on track



Live Webinars

Watch video webinars with financial wellness experts



Scholarship Search

Find quality scholarships to help pay for school



Student Loan Snapshot

Track all your student loans in one place in five minutes or less



VRS Awards Received in 2018-19



**First Place,
2019 Eddy Awards
Pensions &
Investments**



**2018 Leadership Recognition Award
National Association of Government
Defined Contribution Administrators,
Inc. (NAGDCA)**



**Finalist,
2019 Plan Sponsor of the Year
PLANSPONSOR**

**Commonwealth Award
of Excellence and
Capital Award of Merit
2019 Virginia Public
Relations Awards**



**Communicator Award
of Distinction
Academy of Interactive
& Visual Arts (AIVA)**



Modernization





GOVERNING
THE STATES AND LOCALITIES

FINANCE | HEALTH | INFRASTRUCTURE | MGMT | WORKFORCE | POLITICS | PUBLIC SAFETY | URBAN | EDUCATION | DATA | PUB
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Transforming Benefits Administration

Public employees increasingly want to know retirement administrators are applying best practices to protect retirement plans and they desire easy access to information about retirement options, as well as coaching to help make investment and retirement decisions. These demands create new challenges around an essential but often underappreciated component of pension reform: benefits administration. This guide offers a formal framework for transformation of pension plan administration through modernizing workflow processes, investing wisely in new technology, and serving the needs of internal and external stakeholders. With a framework in place, administrators can contribute to the long-term viability of retirement programs and better meet the financial needs of public retirees.

TRANSFORMING BENEFITS ADMINISTRATION
How modern technology and practices can boost plan efficiency and performance, while improving services for members and retirees.

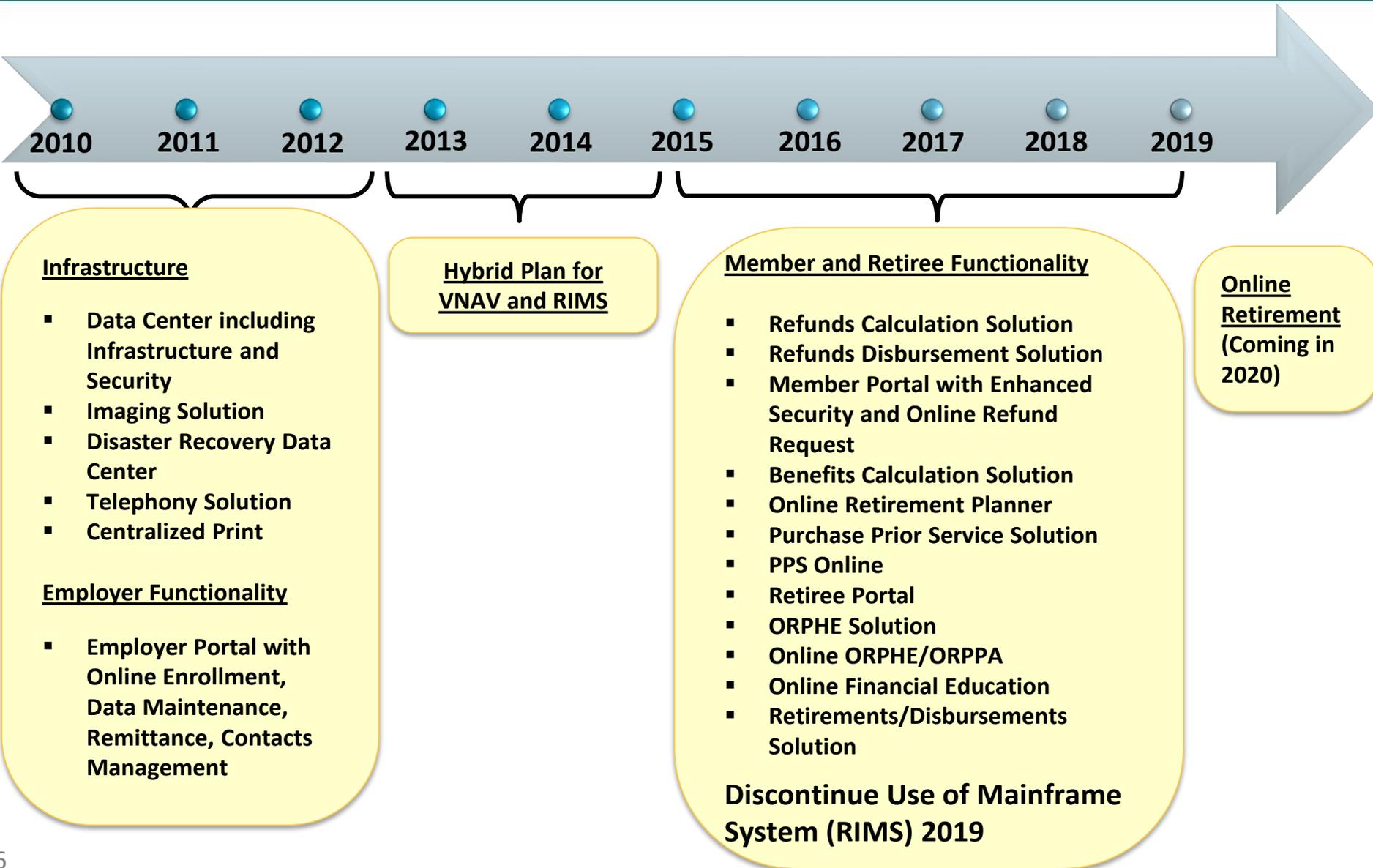
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GOVERNING

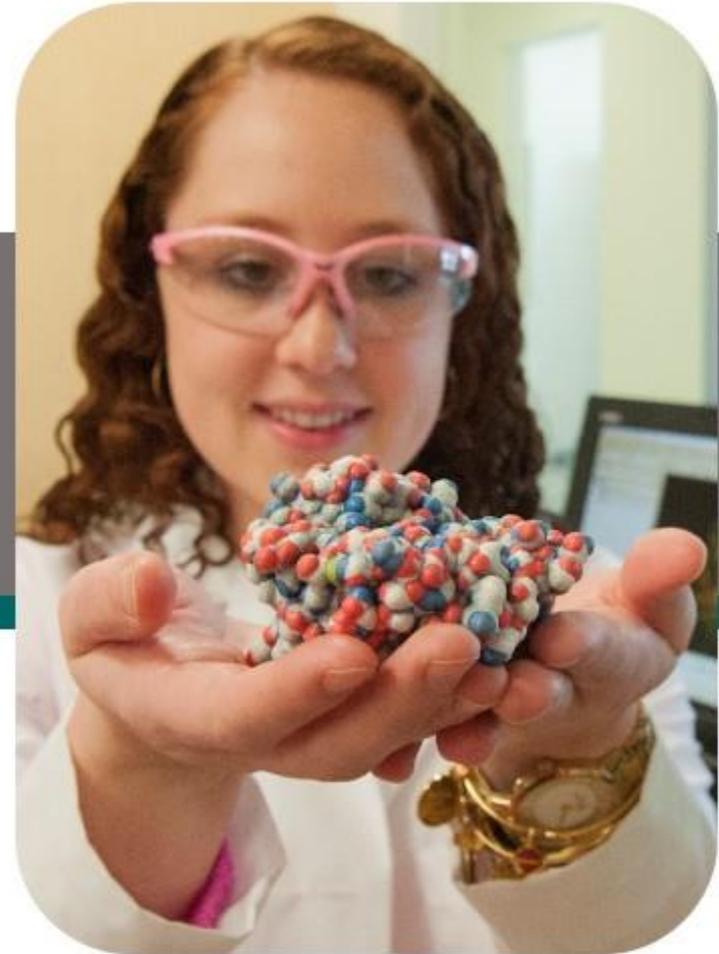
Guiding Principles

- Web-based, self-service for members and employers
- Reliable and efficient delivery of member benefits
- Paperless, to the extent possible
- Safeguard member confidence and VRS reputation
- Security of members' data and personal information

Modernization



Optional Retirement Plan for Higher Education (ORPHE)



Upcoming ORPHE Modifications

ORPHE:

- Available to faculty at 35 higher education institutions, including community colleges
- Currently, three providers:
 - DCP (VRS-managed; record-kept by ICMA-RC)
 - TIAA
 - Fidelity

Effective
June 1, 2019

- Fidelity removed as a provider for new hires

Effective
Jan. 3, 2020

- Fidelity closed for all new contributions
- TIAA investment menu updated

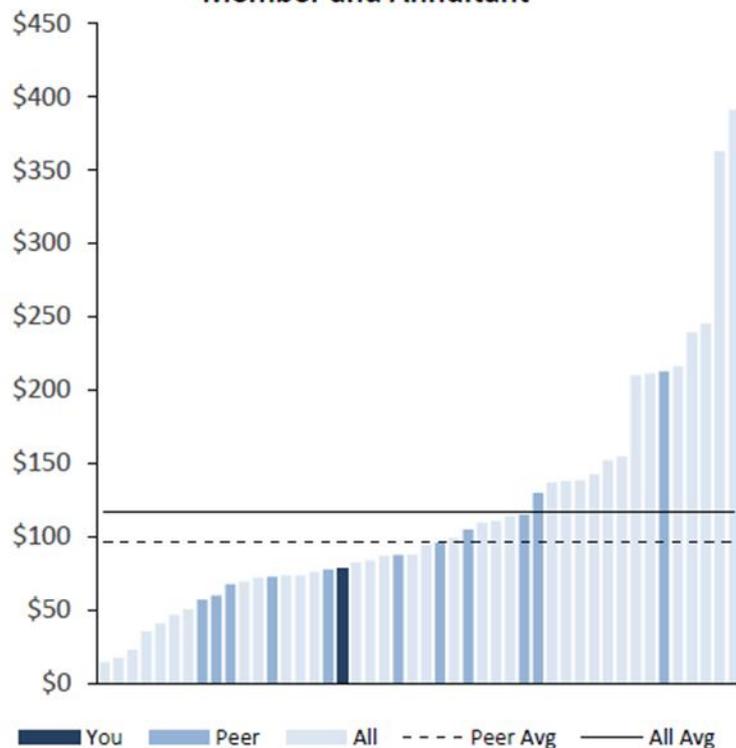
Benchmarking



External Benchmarking: VRS Cost

Your total pension administration cost of \$78 per active member and annuitant was \$18 below the peer average of \$97.

Pension Administration Cost Per Active Member and Annuitant



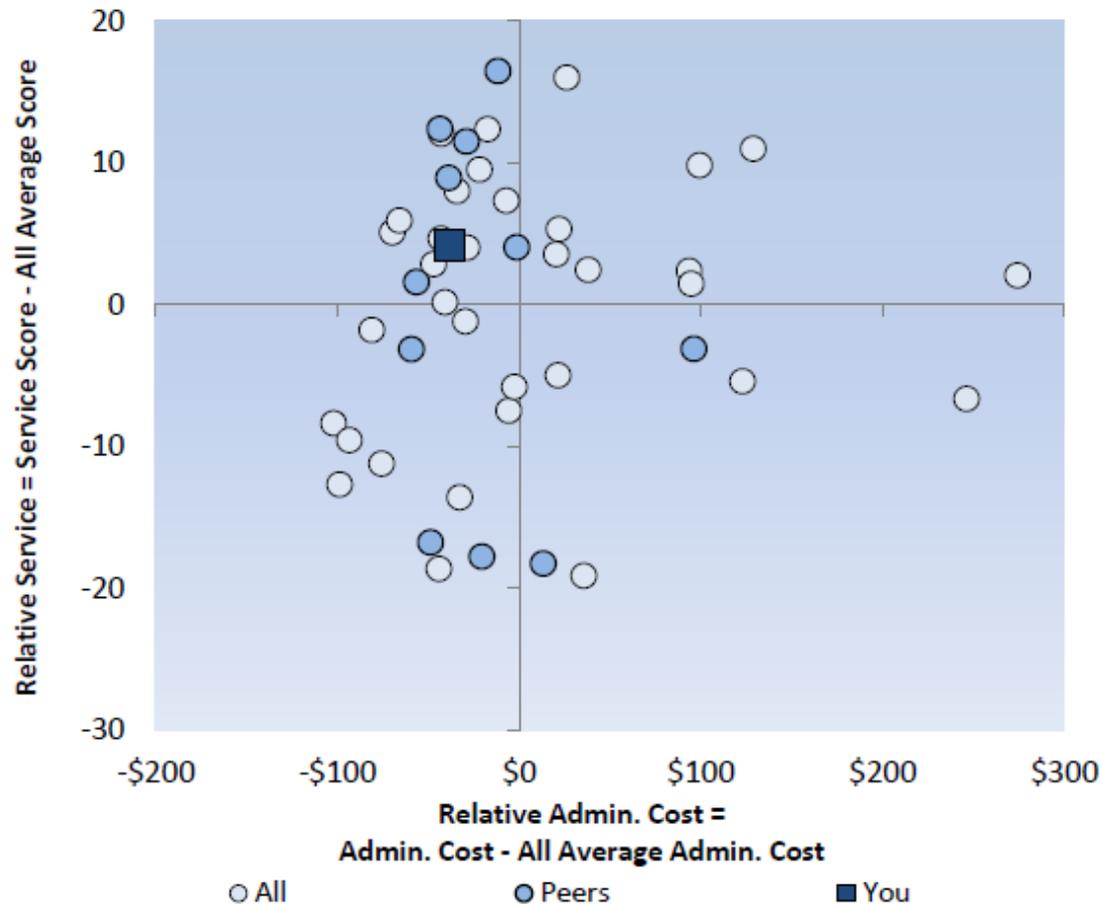
Category	\$000s	\$ per Active Member and Annuitant	
	You	You	Peer Avg
<u>Front office</u>			
Member Transactions	3,763	7	13
Member Communication	6,174	11	18
Collections and Data Maintenance	3,387	6	7
<u>Back office</u>			
Governance and Financial Control	2,946	5	6
Major Projects	11,315	21	8
Information Technology	10,286	19	26
Building	2,122	4	6
Legal	868	2	3
HR, Actuarial, Audit, Other	2,135	4	10
Total Pension Administration	42,995	78	97

Your total pension administration cost was \$43.0 million. This excludes the fully-attributed cost of administering healthcare, and optional and third-party administered benefits of \$10.8 million.

External Benchmarking: Service and Cost Relationship

The relationship between service and pension administration cost in the CEM universe:

Relative Service versus Relative Cost



Positive Impact of Pension Reform Efforts



Pension Reform Efforts

Elements That Contribute to Health of System	VRS
Fund 100% of actuarially determined contribution rates	✓
Use judicious discount rate	✓
Closed and shortened amortization periods	✓
Incorporate risk-sharing between employee and employer	✓
Reduce the costs of future benefits	✓
Increase flexibility for members while providing foundational monthly benefit income stream	✓