Benefits and Actuarial Committee (B&A) Meeting
1111 East Main Street
VRS 3rd Floor Board Room
Monday, 10/17/2022
1:00 - 4:00 PM ET

I. Welcome and Introductions

II. Approve Minutes

- **April 19, 2022**
  B&A April 19 2022 minutes Final - Page 2

III. Election of Committee Vice Chair

IV. Gabriel, Roeder, Smith & Company (GRS) 2022 Actuarial Valuation Results for Five Statewide Retirement Plans, Group Life Insurance, and State and Teacher Retiree Health Insurance Credit Plans

- **RBA - Accept the Plan Actuary's Valuations as of June 30, 2022, for the Five Statewide Retirement Plans, Group Life Insurance, and Health Insurance Credit Plans for State and Teachers.**
  RBA - Accept Plan Valuations - Page 4
  October Statewide Meeting_Final - Page 5

V. Funding Policy Amendments

- **RBA - Amendments to VRS Funding Policy Statement.**
  RBA - Amendments to Funding Policy Statement - Page 65
  Funding Policy Oct 2022 Final - Page 67
  VRS Funding Policy 2022 - Page 84
  VRS Funding Policy 2022 tracked changes - Page 97

VI. Information Item

- **Upcoming B&A Committee Meeting:**
  November 14, 2022 at 1:00 p.m. (Valuations for Local Plans, Line of Duty Act, VLDP and VSDP)

VII. Other Business

Minutes

A regular meeting of the Benefits and Actuarial Committee was held on April 19, 2022 in Richmond, Virginia with the following members participating:

William A. Garrett, Chair
Michael P. Disharoon, Vice Chair
John Bennett

Board members present:
O'Kelly E. McWilliams, III, Board Chair
Joseph W. Montgomery, Board Vice Chair
Troilen G. Seward

VRS Staff:

Patricia Bishop, Jennifer Schreck, Rory Badura, Judy Bolt, Cathy Carwile, Michael Cooper, Sara Denson, Valerie Disanto, Barry Faison, Jon Farmer, Brian Goodman, Tim Moore, Angela Payne, Leslie Weldon and Cindy Wilkinson.

Guests:

Emily Grimes, Department of Planning and Budget; and Jamie Bitz, Joint Legislative Audit and Review Commission.

The meeting convened at 10:41 a.m.

Opening Remarks

Chief Garrett called the meeting to order and welcomed everyone to the April 19, 2022 meeting of the Benefits and Actuarial Committee.

Approval of Minutes

Upon a motion by Mr. Bennett, with a second by Ms. Seward, the Committee approved the minutes of its April 6, 2022 meeting.

Actuarial Firms Finalist Interviews – Closed Session

Mr. Disharoon moved, with a second by Mr. Bennett, that the Benefits and Actuarial Committee of the Virginia Retirement System Board of Trustees convene a closed meeting under the Virginia Freedom of Information Act to discuss and consider the award of a public contract involving the expenditure of public funds, including interviews of bidders and offerors, and discussion of the terms or scope of such contract, where discussion in an open session would adversely affect the bargaining position or negotiating strategy of the public body, pursuant to exemption in *Code of Virginia* § 2.2-3711(A)(29).

Upon return to open meeting, Mr. Disharoon moved, with a second by Mr. Bennett, the following resolution:

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

NOW, THEREFORE, BE IT RESOLVED, that the Committee 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 Committee.

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

Mr. Bennett: Aye
Mr. Disharoon: Aye
Mr. McWilliams: Aye
Mr. Montgomery: Aye
Ms. Seward: Aye
Chief Garrett: Aye

Following a motion by Mr. Bennett, with a second by Mr. McWilliams, the Committee unanimously voted to recommend 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

Chief Garrett advised that the Committee will meet on October 17 and November 14. Both meetings will begin at 1:00 p.m.

Adjournment

There being no further business and following a motion by Ms. Seward, with a second by Mr. Bennett, the Committee agreed to adjourn the meeting at 11:13 a.m.

_________________________ _________________________

Date

William A. Garrett, Chair
Benefits and Actuarial Committee

Virginia Retirement System

Accept the Plan Actuary's Valuations as of June 30, 2022, for the Five Statewide Retirement Plans, Group Life Insurance, and Health Insurance Credit Plans for State and Teachers.

Requested Action

The Virginia Retirement System Board of Trustees accepts the June 30, 2022 Actuarial Valuations conducted by the VRS plan actuary, Gabriel, Roeder, Smith & Company, for the Five Statewide Retirement Plans, Group Life Insurance, and the Health Insurance Credit plans for both State and Teachers.

Description/Background

The VRS plan actuary conducts actuarial valuations annually as of the close of the fiscal year (June 30). The results of the valuations are used to establish employer contribution rates in odd-numbered years. The results in even-numbered years are shared with the Board of Trustees to inform the Board of any emerging trends or indications of the magnitude and direction of contribution rates.

Authority for Requested Action

Code of Virginia § 51.1-124.22(A)(3) authorizes the Board to employ an actuary as its technical advisor for the administration of the Retirement System.

The above action is approved.

____	______________________________
A. Scott Andrews, Chair VRS Board of Trustees	Date

Virginia Retirement System

June 30, 2022 Annual Actuarial Valuation Results

Presented by: Becky Stouffer, ASA, MAAA, FCA and
Jim Anderson, FSA, EA, MAAA, FCA

October 17, 2022

We are Glad to be Here!

- First GRS valuation performed for Virginia Retirement System in 20 years
- GRS replicated Cavanaugh Macdonald 2021 actuarial results within tolerances
- Today’s focus: 2022 Valuations
- GRS incorporated “Best Practice” approaches
  - Tweaks more than major changes

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Agenda

- Big Picture – Pension & OPEB
- Highlights of 2022 Pension Valuations
- Highlights of 2022 OPEB Valuations
- Looking Ahead
- Appendix

AGENDA

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BIG PICTURE – PENSION/OPEB

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Big Picture – October Meeting Content

Pension	Other Post-Employment Benefits (OPEB)
Virginia Retirement System • State Employees • Teachers	Health Insurance Credit (HIC) • State Employees • Teachers
Virginia Law Officers (VaLORS)	Group Life Insurance
State Police Officers (SPORS)	
Judicial (JRS)	

<u>November Meeting Content</u>: Political Subdivision Pension & OPEB Results
HIC – Constitutional Officers, Social Services Employees, Registrars
Virginia Disability Programs (VSDP, VLDP), Line of Duty Act Fund

Big Picture: Actuarial Valuation Results

- June 30, 2022 Actuarial Valuations of VRS Pension and OPEB plans are informational
  - Measure funding progress as of June 30, 2022
  - Develop inputs for use in June 30, 2023 valuations

Odd year valuations determine contribution rates for 2 years

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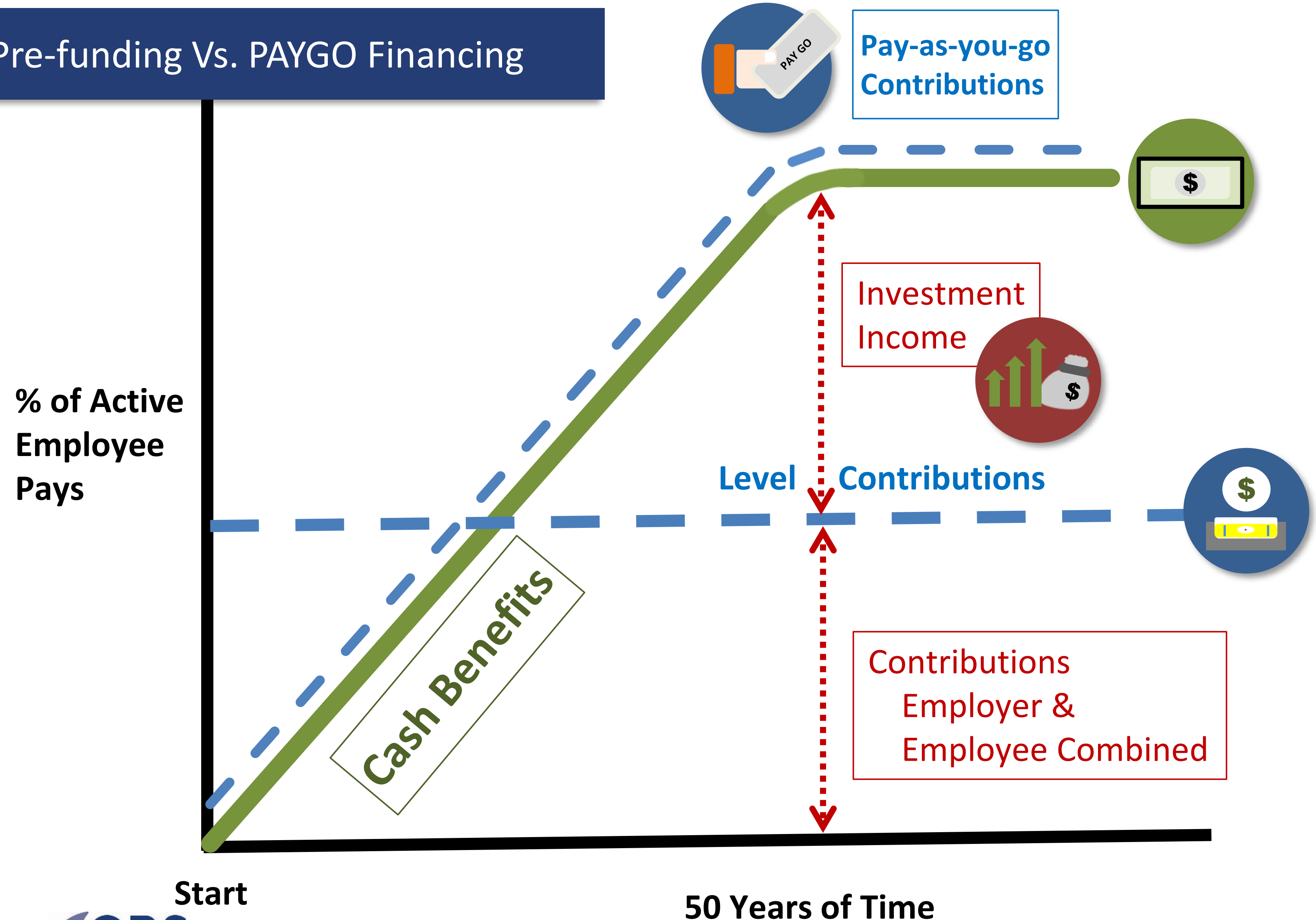
Big Picture: General Funding Objectives

- Intergenerational equity with respect to plan costs
- Stable or increasing ratio of assets to liabilities
- Stable pattern of contribution rates

Pre-funding Vs. PAYGO Financing



Actuarial Valuation Process – Statewide Pension, not including Political Subdivisions

Member Data

583,990 Members

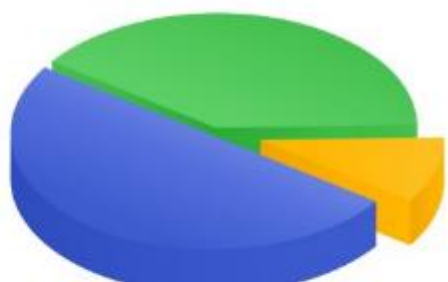
Financial Data

$ 71.3 Billion Market Value

Actuarial Valuation

Plan Provisions

Actuarial Cost Method



Actuarial Assumptions

JUNE 30, 2022
VALUATION RESULTS HIGHLIGHTS

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Active Participants at June 30, 2022

System	Plan 1	Plan 2	Hybrid	Total 2022	Total 2021	Percent Change
State	26,621	13,083	34,344	74,048	73,686	0.5%
Teachers	58,598	27,974	66,784	153,356	149,793	2.4%
SPORS	969	916	-	1,885	1,947	-3.2%
VaLORS	2,123	5,166	-	7,289	7,823	-6.8%
JRS	154	45	262	461	453	1.8%
Pol. Sub.	TBD	TBD	TBD	TBD	108,613	TBD
Total	TBD	TBD	TBD	TBD	342,315	TBD

Actives: Changes in Average Salary

System	2021	2022	Percent Change
State	$ 62,350	$ 66,799	7.1%
Teachers	57,125	60,405	5.7%
SPORS	73,341	84,463	15.2%
VaLORS	44,879	51,103	13.9%
JRS	174,669	175,152	0.3%

<u>State & Teachers</u>: 5% increase in 2022 and another 5% increase budgeted for June 2023

<u>SPORS and VaLORS</u>: targeted and compression increases

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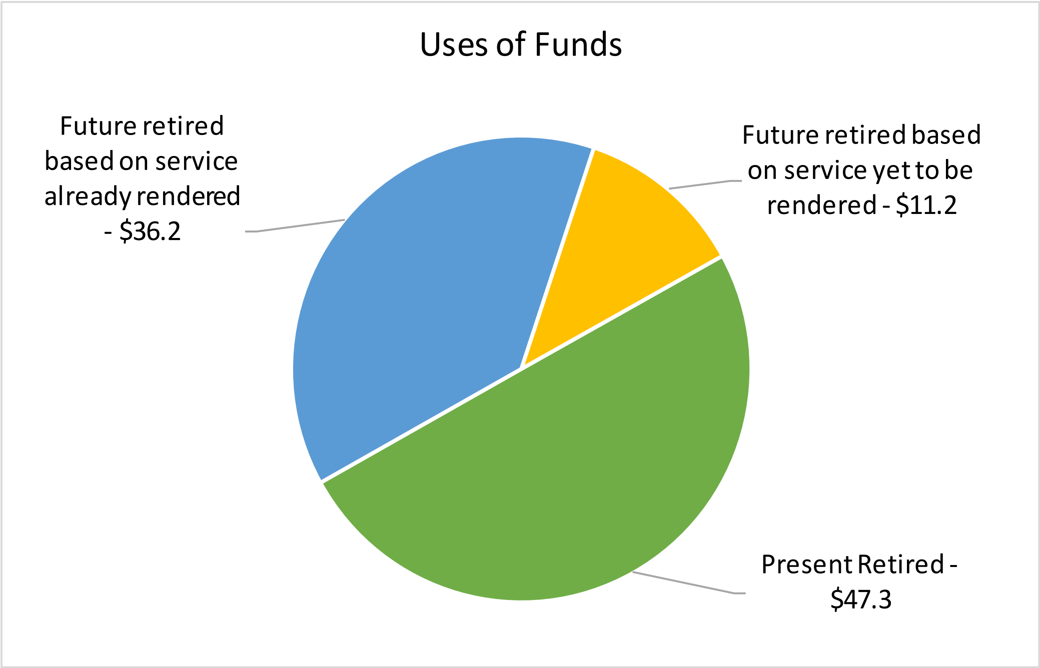
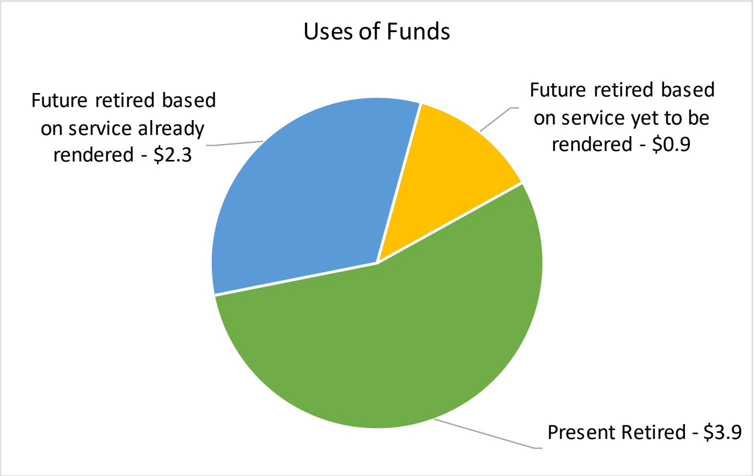
$101.9 Billion* of Benefit Promises to Present State & Teacher Active and Inactive Members

PENSION: $94.8 Billion



OPEB (GLI+HIC): $7.1 Billion



*** Present value of future benefits**

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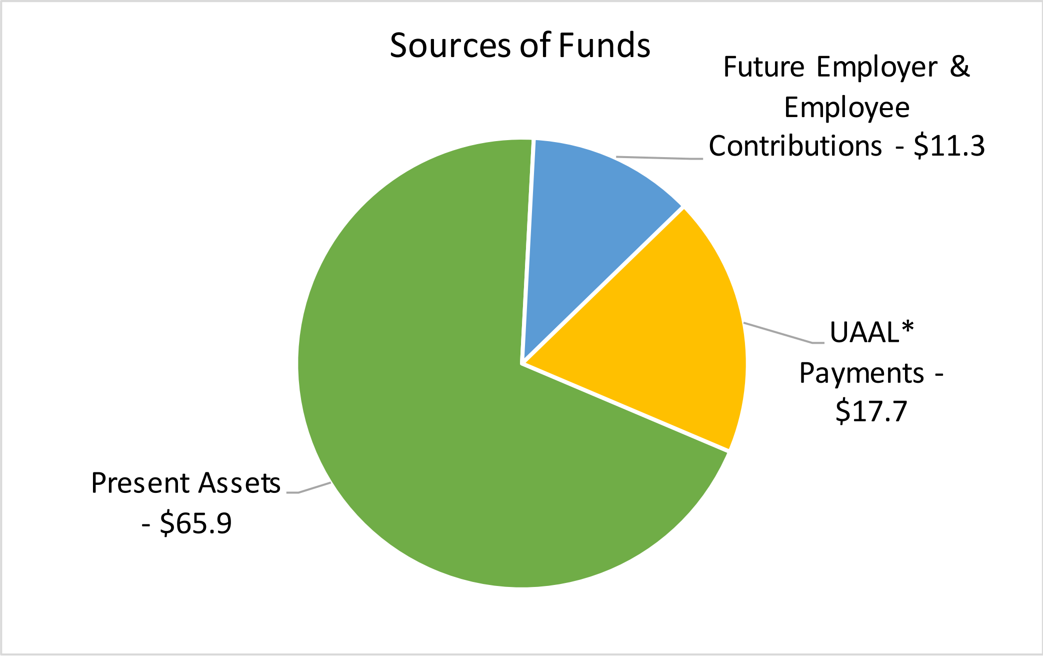
Sources of Funds for Financing $101.9 Billion of Benefit Promises to State & Teacher Employees

PENSION: $94.8 Billion



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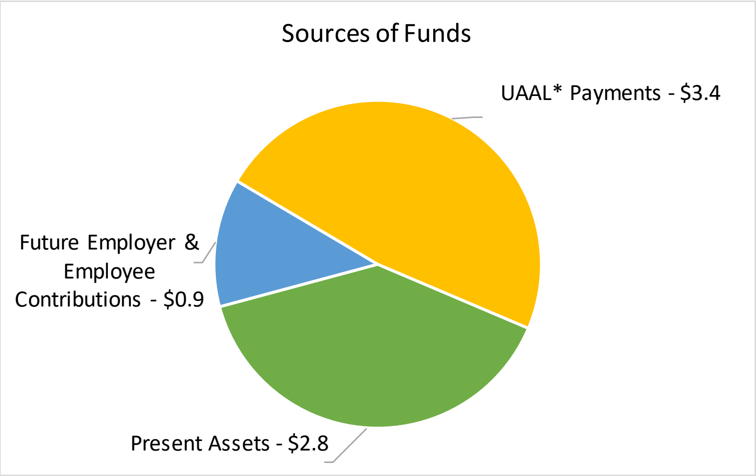

Fund Sources – Additional Funding Provisions

- Additional $750 million contributed from the general fund to the trust in June 2022

Pension	Add'l Contribution
State	$219,156,316
Teachers	$442,371,087
SPORS	$10,957,816
VaLORS	$19,886,407
JRS	$6,250,014

OPEB	Add'l Contribution
HIC - State	$8,522,746
HIC - Teachers	$12,013,013
GLI	$30,438,378
HIC - Constit. Off.	$275,975
HIC - Soc. Svcs.	$121,754
HIC – Registrars	$6,494

Additional $250 million proposed for June 2023 for pension and OPEB plans

Looking ahead: $80.4 million for certain HIC plans (state, constitutional officers, & social services) split between June 2023/June 2024; contingent on revenues

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Fund Sources – Legislation re: Financing DB/DC

- HB 473 and SB 70 separate the employer contribution into Defined Benefit and Defined Contribution components effective for contribution rates beginning July 1, 2024
- Currently employers pay a total combined rate that includes an estimate of their DC costs
  - DC costs are paid first and the remainder goes to the DB plan
  - Can result in actual DB contribution being more or less than the actuarially determined rate
- HB 473 and SB 70 allows VRS to separate the Hybrid DC contributions from the DB actuarially determined contributions

Fund Sources – Legislation re: Financing DB/DC

- The 2022 informational valuation results will continue to show the DC Rate
  - Allows continued communication to employers in the interim

Actuarial Value Assets **2021: 27.5% <u>MVA</u> Return**
State Employees Pension – $ Millions

	2021	2022	2023	2024	2025
Actual Investment Return	5,055				
Assumed Investment Return	1,243				
Gain/(Loss) to be Phased-in	3,812				
Phased-in Recognition -Current year	762	?	?	?	?
-1st prior year	-181	762	?	?	?
-2nd prior year	-13	-181	762	?	?
-3rd prior year	15	-13	-181	762	?
-4th prior year	167	15	-13	-181	762
Total Recognized Gain/(Loss)	750	583	568	581	762

2022-2026: Expect <u>$2.5 billion</u> in deferred asset <u>*GAINS*</u>
Other VRS Plans had similar asset experience

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Actuarial Value Assets **2022: 0.6% <u>MVA</u> Return**
State Employees Pension – $ Millions

	2022	2023	2024	2025	2026
Actual Investment Return	-22				
Assumed Investment Return	1,543				
Gain/(Loss) to be Phased-in	-1,564				
Phased-in Recognition -Current year	-313	?	?	?	?
-1st prior year	762	-313	?	?	?
-2nd prior year	-181	762	-313	?	?
-3rd prior year	-13	-181	762	-313	?
-4th prior year	15	-13	-181	762	-313
Total Recognized Gain/(Loss)	270	255	268	449	-313

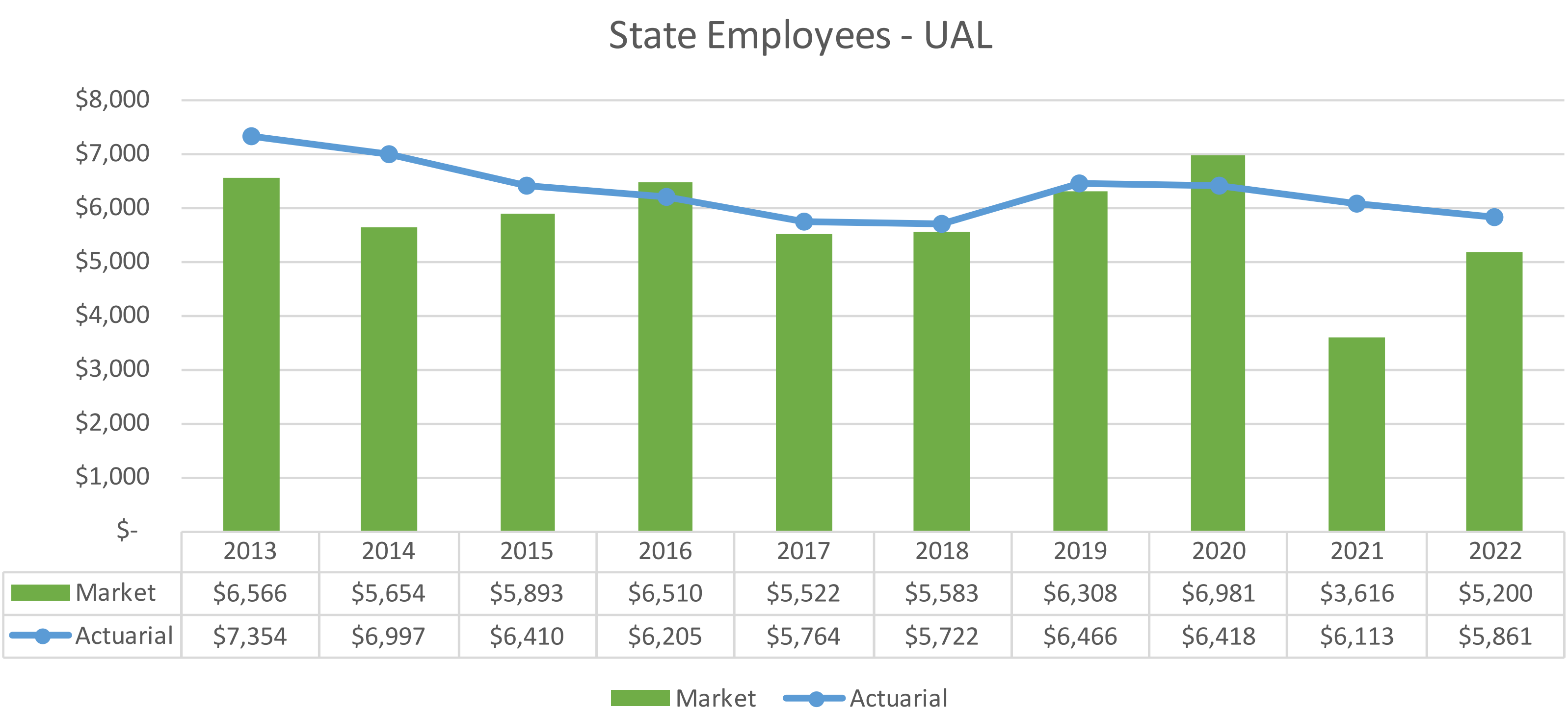
2023-2027: Expect <u>$0.66 billion</u> in deferred asset <u>*GAINS*</u>
Other VRS Plans had similar asset experience

Why We Smooth Asset Returns

VRS Code Section 51.1-145:

- *The total annual defined benefit employer contribution for each employer, expressed as a percentage of the annual membership payroll, shall be determined in a manner so as to remain relatively level from year to year.*

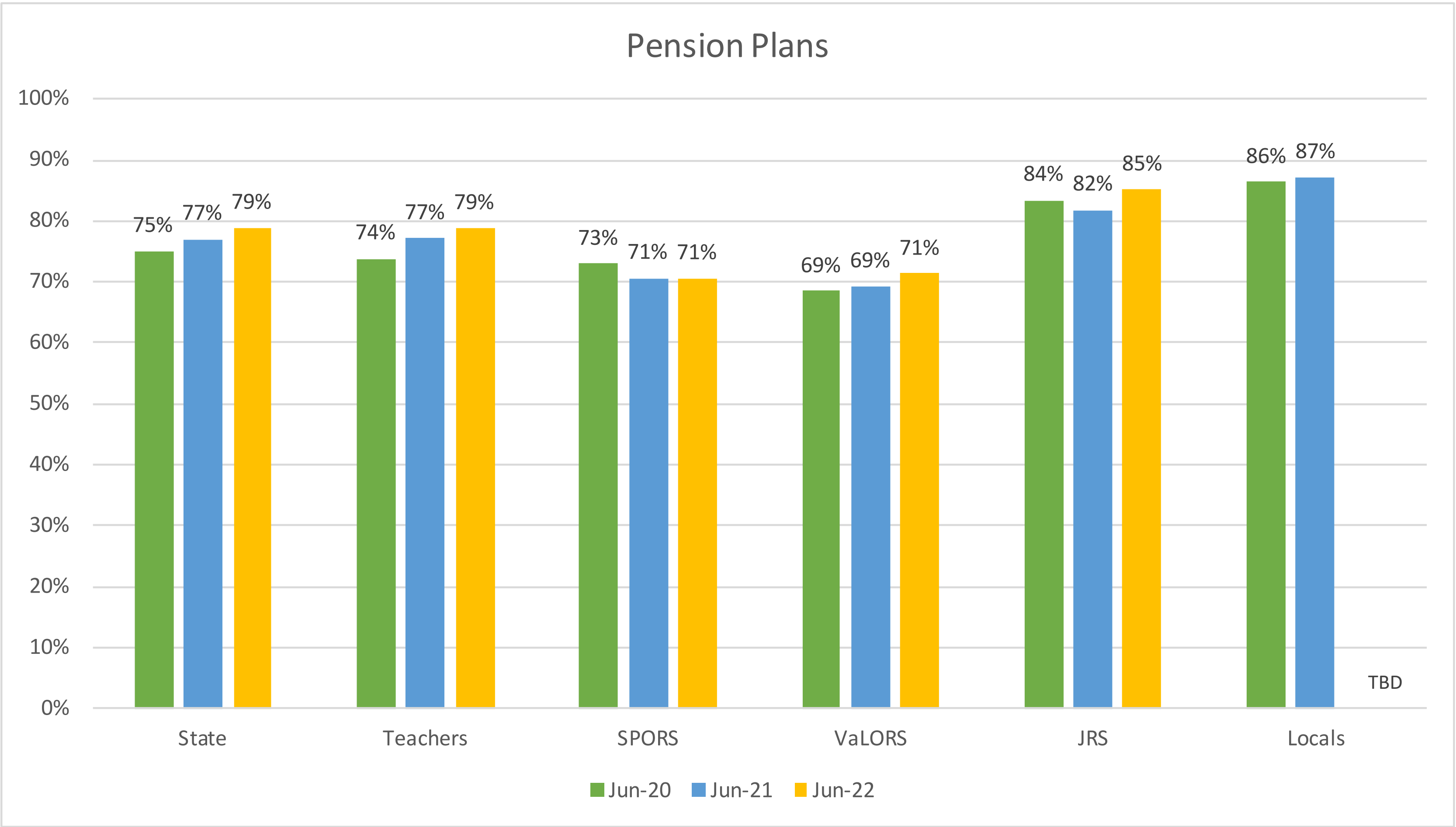
Why We Smooth Asset Returns



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Market	$6,566	$5,654	$5,893	$6,510	$5,522	$5,583	$6,308	$6,981	$3,616	$5,200
Actuarial	$7,354	$6,997	$6,410	$6,205	$5,764	$5,722	$6,466	$6,418	$6,113	$5,861

Unfunded liabilities will trend to Market Value basis over time
Other VRS Retirement Plans have similar patterns

Funded Status (AVA) – Pension Plans



Calculated Employer Contributions

- Will vary significantly for System, Plan and Employer based on:

Benefit Features

Demographics

Funded Status

- Two Components:

Normal Cost – this represents the cost of the current year benefit earned by each active member

Amortization of Unfunded Liability – uses a systematic method (funding policy) to pay off the unfunded liability for each employer

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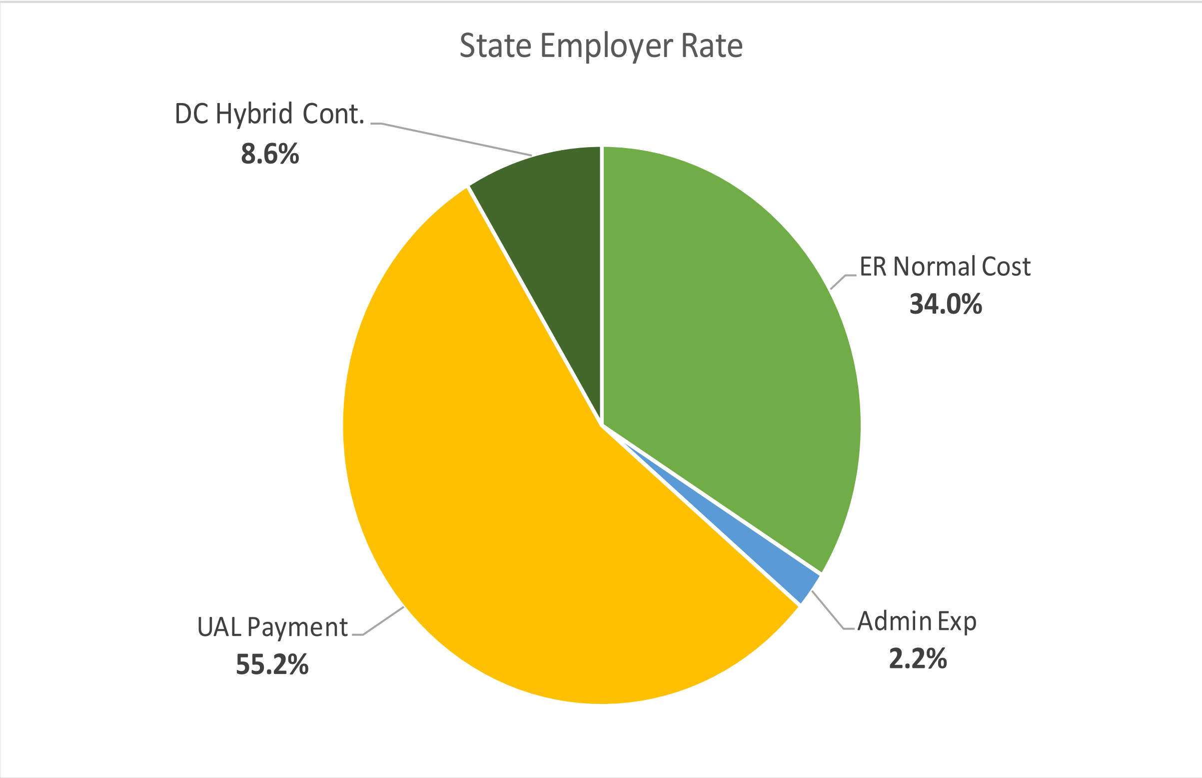
Calculated Employer Pension Contributions – State Employees



Normal Cost ultimately decreases to Plan 2/Hybrid level

Component	% of Pay
ER Normal Cost	4.5%
Admin Exp	0.3%
UAL Payment	7.3%
DC Hybrid Cont.	1.1%

UAL amortization payment = majority of the contribution for pension plans (other than JRS)

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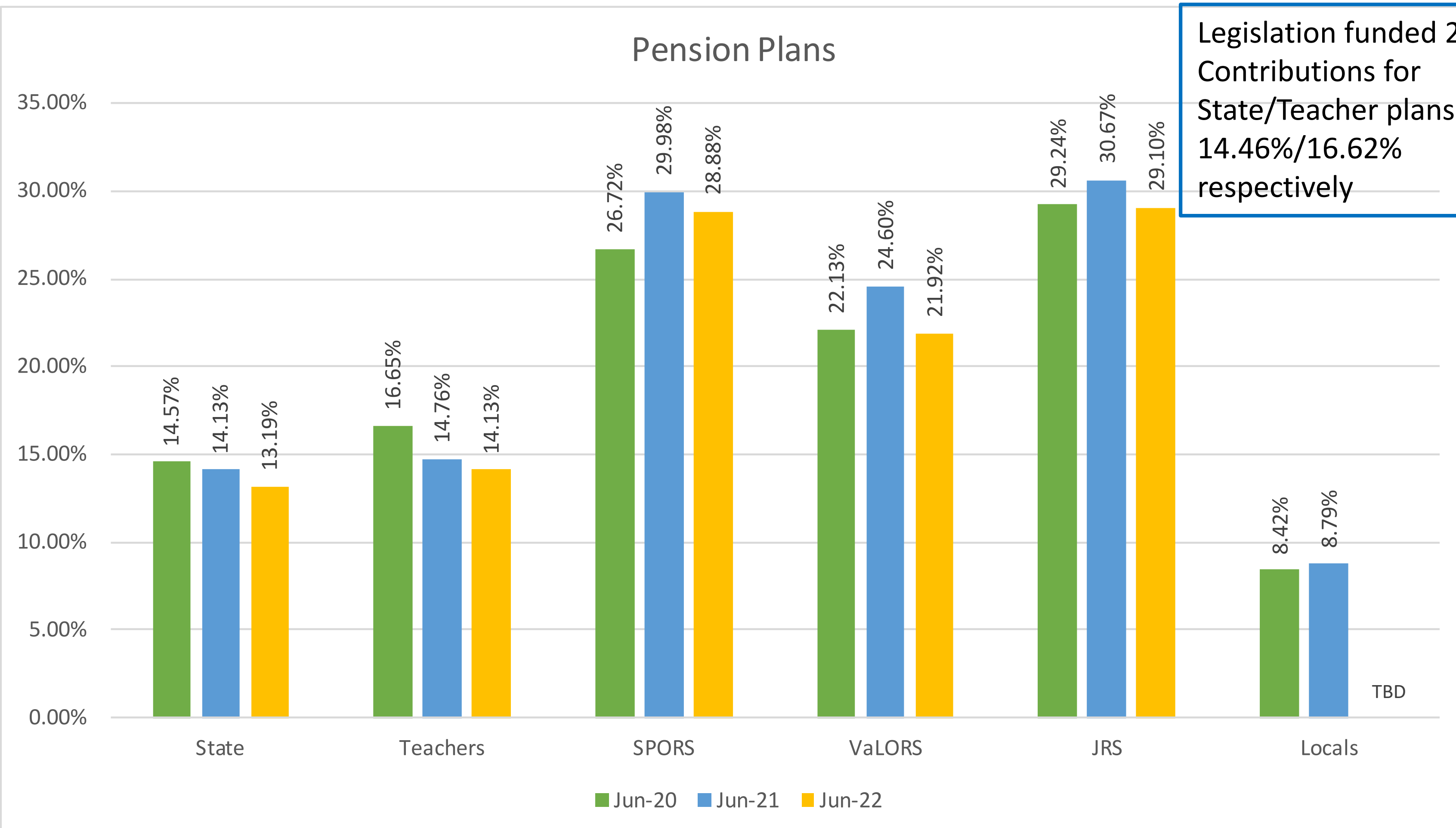
Actuarially Determined Employer Contribution Rates – Pension Plans



Legislation funded 2021 Contributions for State/Teacher plans to 14.46%/16.62% respectively

Experience 2021-2022: Pension Plans (in $millions)

	STATE	TEACHERS	SPORS	VaLORS	JRS
UAL Last Valuation	$ 6,112.7	$ 12,021.8	$ 389.3	$ 738.4	$ 132.7
Prior Year (PY) Normal Cost	418.3	921.9	25.5	49.0	18.8
Actual PY ER Contributions	(837.6)	(1,897.3)	(43.0)	(90.1)	(25.7)
Extra Contributions	(219.2)	(442.4)	(11.0)	(19.9)	(6.3)
Interest	405.2	794.7	26.2	49.4	9.1
Expected UAL	5,879.3	11,398.8	387.0	726.7	128.7
UAL This Valuation	5,861.3	11,792.1	416.6	718.0	110.9
Total Gain/(Loss)	**$ 18.0**	**$ (393.3)**	**$ (29.6)**	**$ 8.7**	**$ 17.8**
– Asset Gain/(Loss)	$ 439.8	$ 846.8	$ 19.7	$ 34.8	$ 12.7
– Liability Gain/(Loss)	$ (421.8)	$ (1,240.2)	$ (49.3)	$ (26.1)	$ 5.1

Pension Results Commentary

- Liability changes
  - COLA:
    - COLA for Plan 1 = 3.85% vs. 2.5% assumption;
    - COLA for Plan 2 / Hybrid = 3.0% vs. 2.25% assumption
  - Resulting liability loss ($millions)

	State	Teachers	SPORS	VaLORS	JRS
COLA Impact	$192	$358	$9	$17	$6

Pension Results Commentary

- Liability changes
  - Pay Increases > expected (except for JRS)
  - Resulting liability loss ($millions)

	State	Teachers	SPORS	VaLORS	JRS
Salary Impact	$344	$896	$58	$60	($7)

Pension Results Commentary

- Demographic changes
  - Active population across all plans has *almost* returned to pre-pandemic levels
  - Increasing amount of in-actives, both vested and non-vested
- Other

Pension Results Commentary

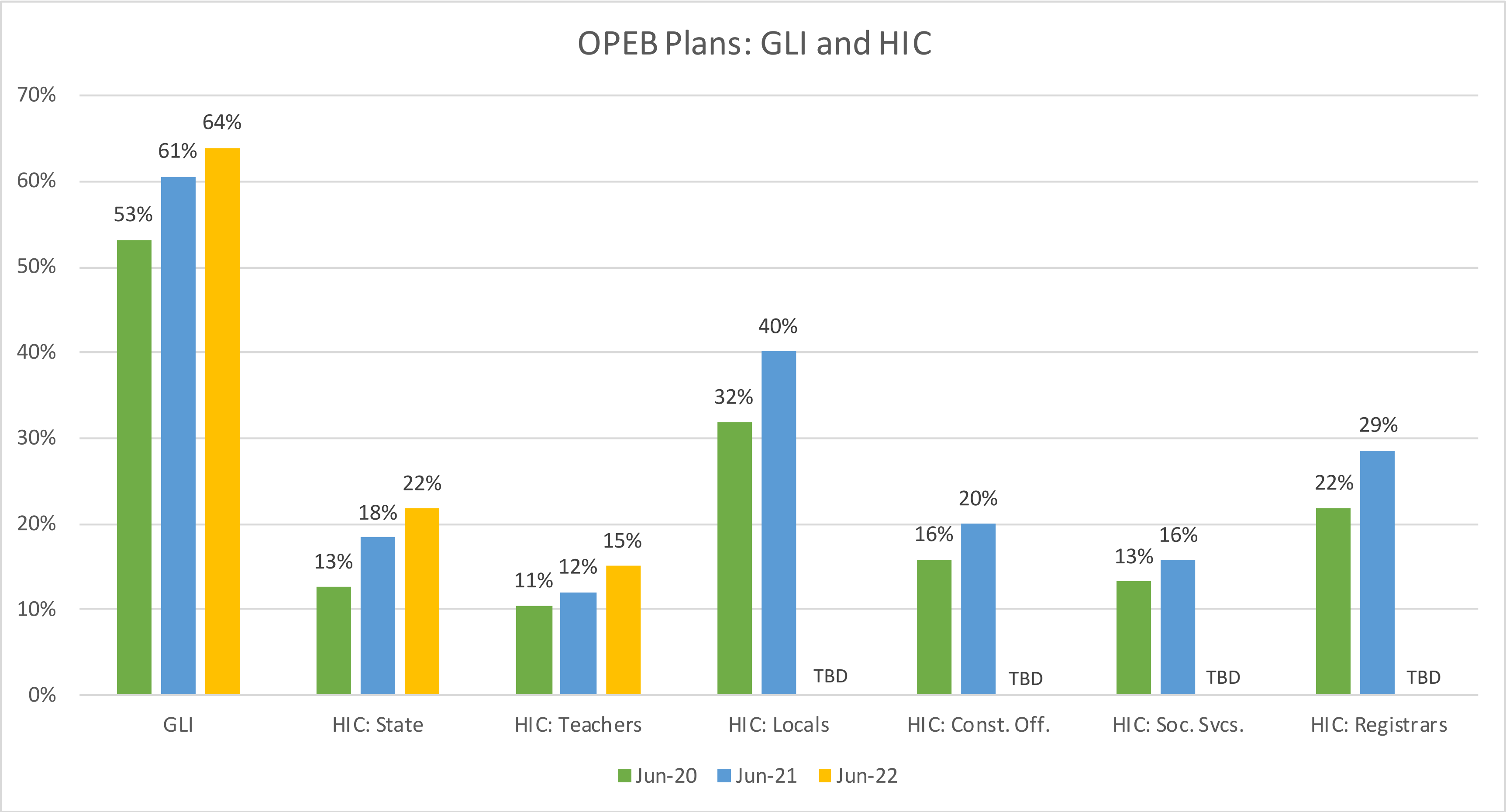
- Impact of additional $699 million infusion in June 2022

	Additional Contribution	Funded Status Impact	Contrib. Rate Impact
State	$219,156,316	+0.81%	-0.32%
Teachers	$442,371,087	+0.81%	-0.32%
SPORS	$10,957,816	+0.80%	-0.49%
VaLORS	$19,886,407	+0.81%	-0.39%
JRS	$6,250,014	+0.86%	-0.56%

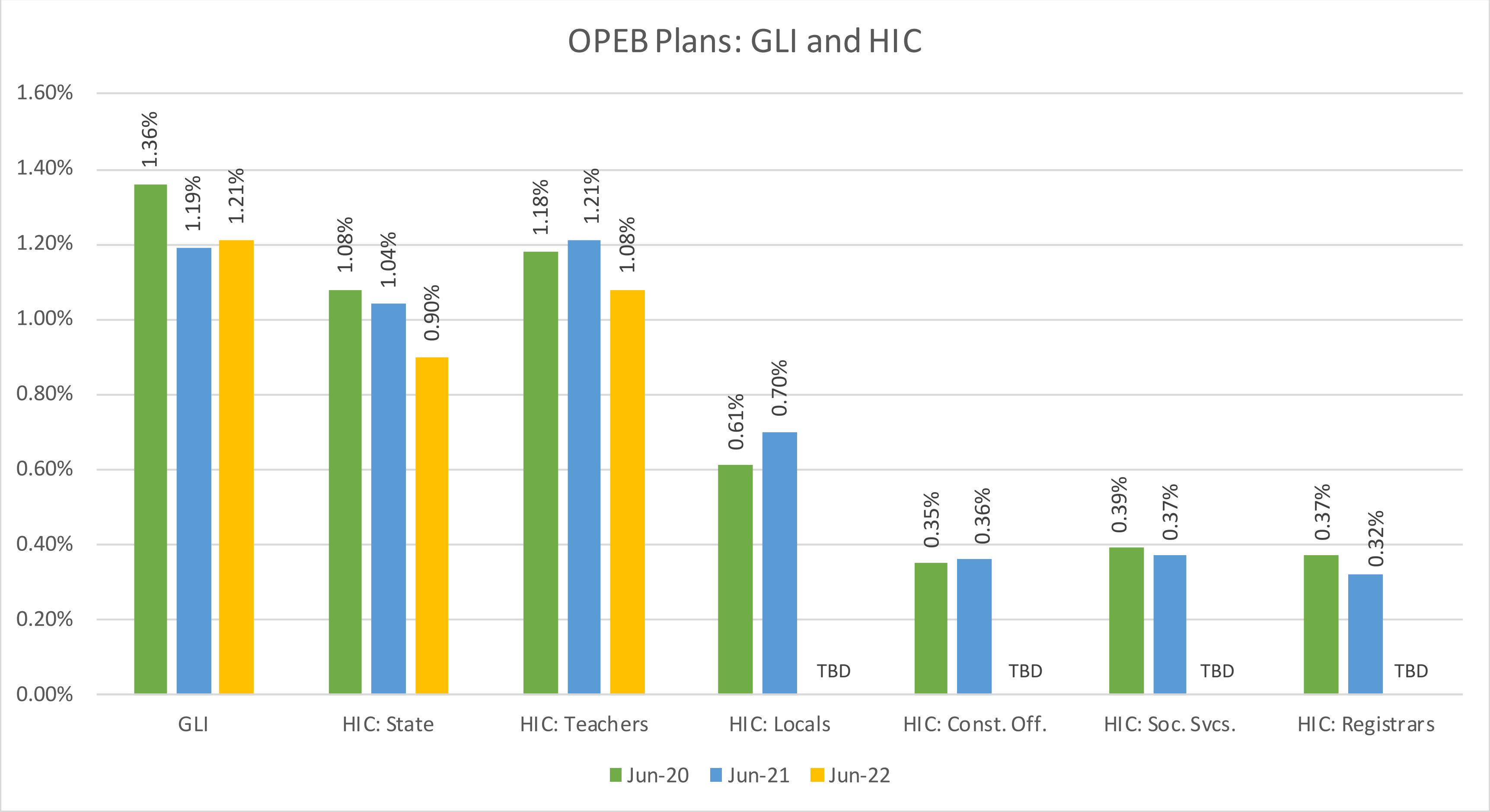
OPEB: HIC Allocation to Employers

- Health Insurance Credit actual benefit payments charged back to the employer(s)
  - For each disbursement for each payee
- Prior allocation: charged last employer with HIC benefit based on total service
- Revised allocation: allocate to all employers the retiree worked for based on
  - Service
  - Accrual level

Funded Status (AVA) – OPEB Plans



Actuarially Determined Employer Contribution Rates – OPEB Plans



Experience 2021-2022: OPEB (in $millions)

	GLI	HIC: State	HIC: Teachers
UAL Last Valuation	$ 1,389.3	$ 852.8	$ 1,294.1
Prior Year (PY) Normal Cost	79.6	18.8	18.9
Actual PY ER Contributions	(175.8)	(85.0)	(112.5)
Extra Contributions	(30.4)	(8.5)	(12.0)
Expected UAL	1,392.4	852.4	1,291.5
UAL This Valuation	1,349.0	802.2	1,237.0
Total Gain/(Loss)	**43.4**	**50.2**	**54.5**
-- Asset Gain/(Loss)	115.1	19.9	19.7
-- Method Change Gain/(Loss)	-	(13.3)	(10.0)
-- Liability Gain/(Loss)	(71.7)	43.6	44.7

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OPEB Results Commentary

- Impact of additional $51 million infusion in June 2022

	Additional Contribution	Funded Status Impact	Contrib. Rate Impact
HIC - State	$8,522,746	+0.85%	-0.00%
HIC - Teachers	$12,013,013	+0.84%	-0.01%
GLI	$30,438,378	+0.84%	-0.01%
HIC - Constit. Off.	$275,975	TBD	TBD
HIC - Soc. Svcs.	$121,754	TBD	TBD
HIC – Registrars	$6,494	TBD	TBD

OPEB Results Commentary

- GLI: increased active life insurance rate
  - effective 7/1/22 = 16.2 cents per $1,000
    - Increase from 14.7 cents per $1,000
- HIC: instituted new HIC allocation methodology
  - State AAL Loss = $13.3 million
  - Teachers AAL Loss = $10.0 million

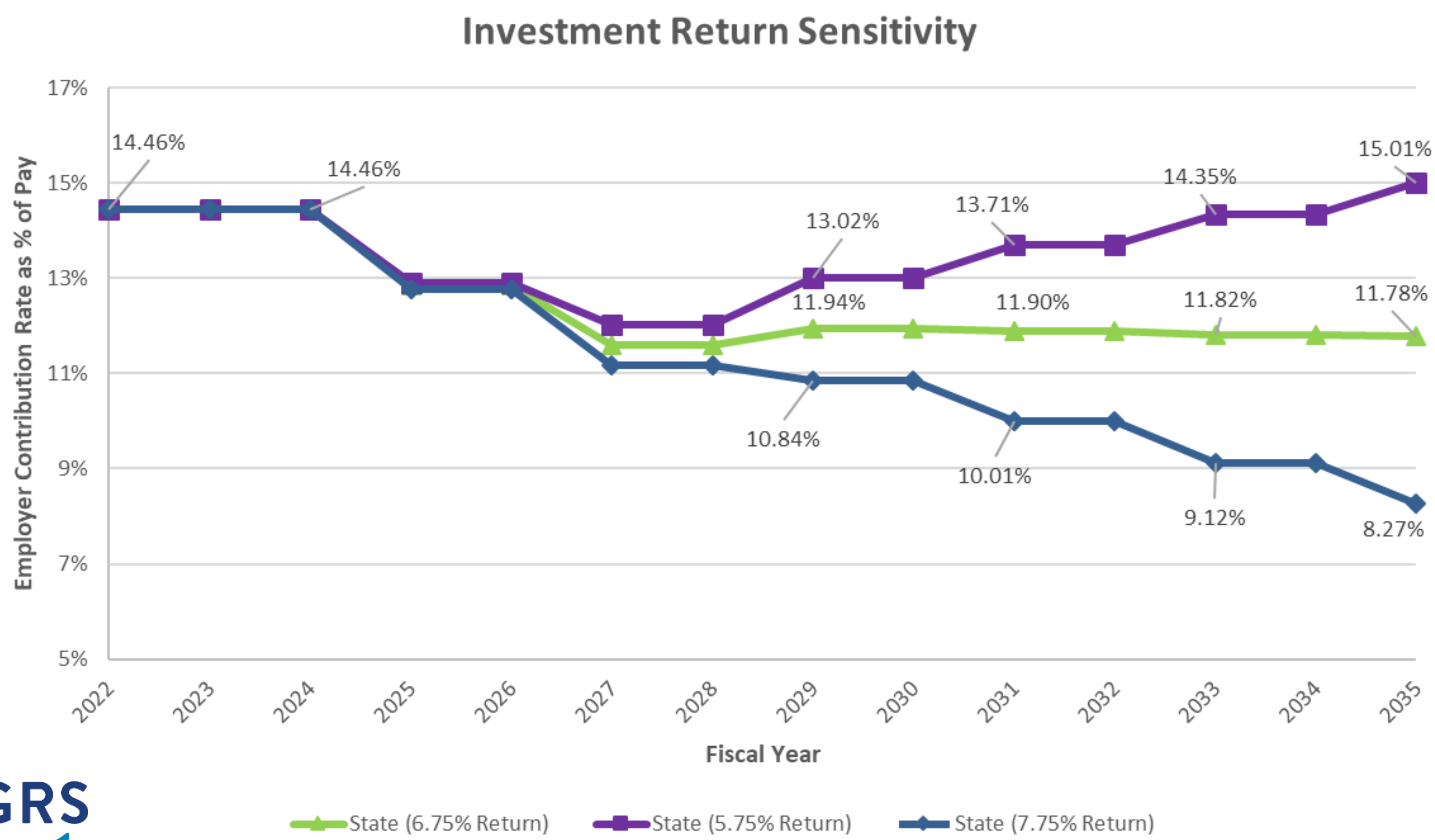
Pension Projections

State Employees and Teachers

- The following pages show projected pension contributions & funded status
  - Liabilities are calculated at 6.75%
  - Investment returns shown at assumed 6.75% rate, and 5.75%/7.75% for sensitivity
- Contribution rates include:
  - Defined Benefit portion
  - Defined Contribution portion (will be decoupled from Employer Rate in future years)

Projected Employer Contribution Rates Including Defined Contribution Hybrid

State Employees



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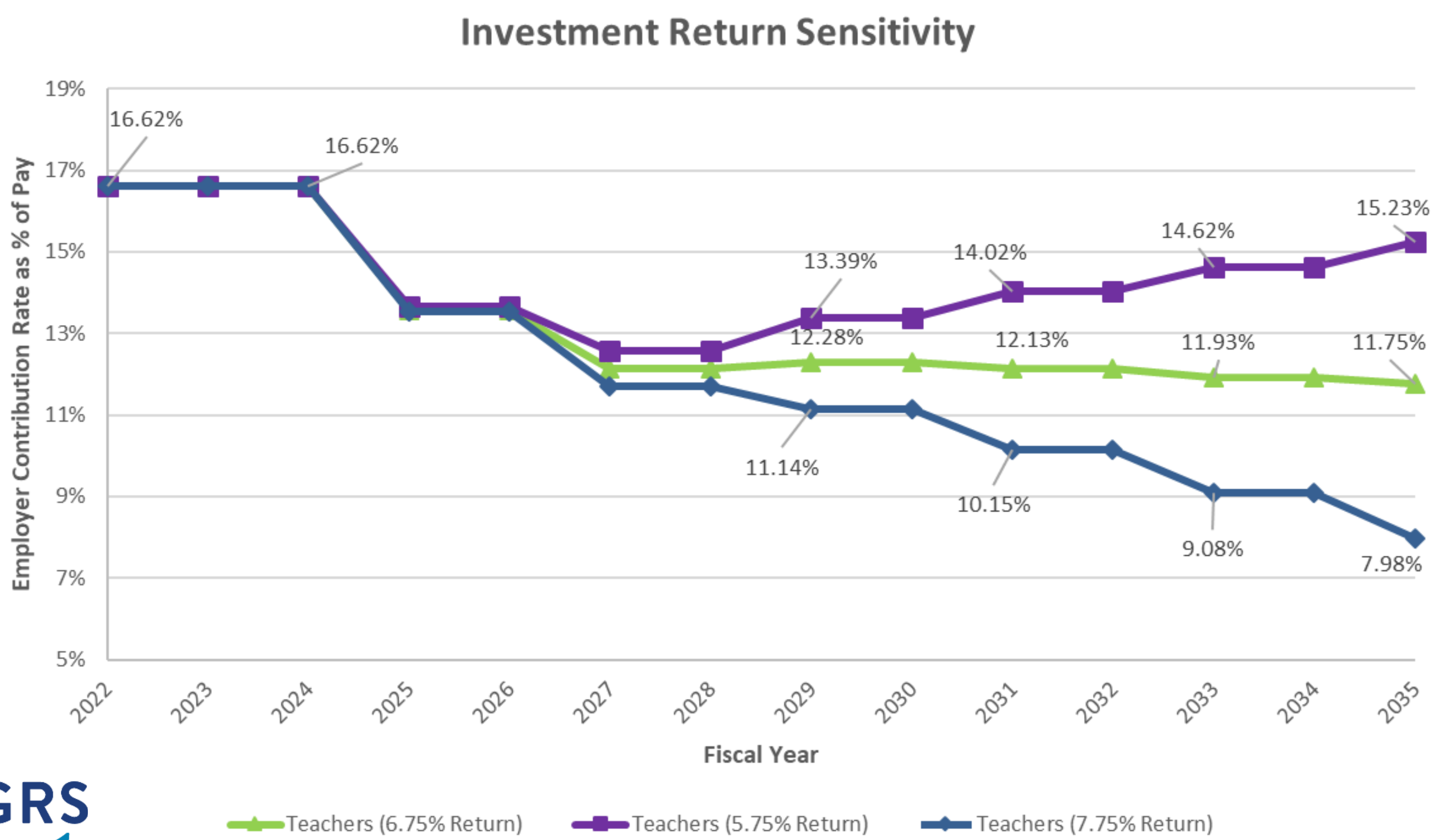
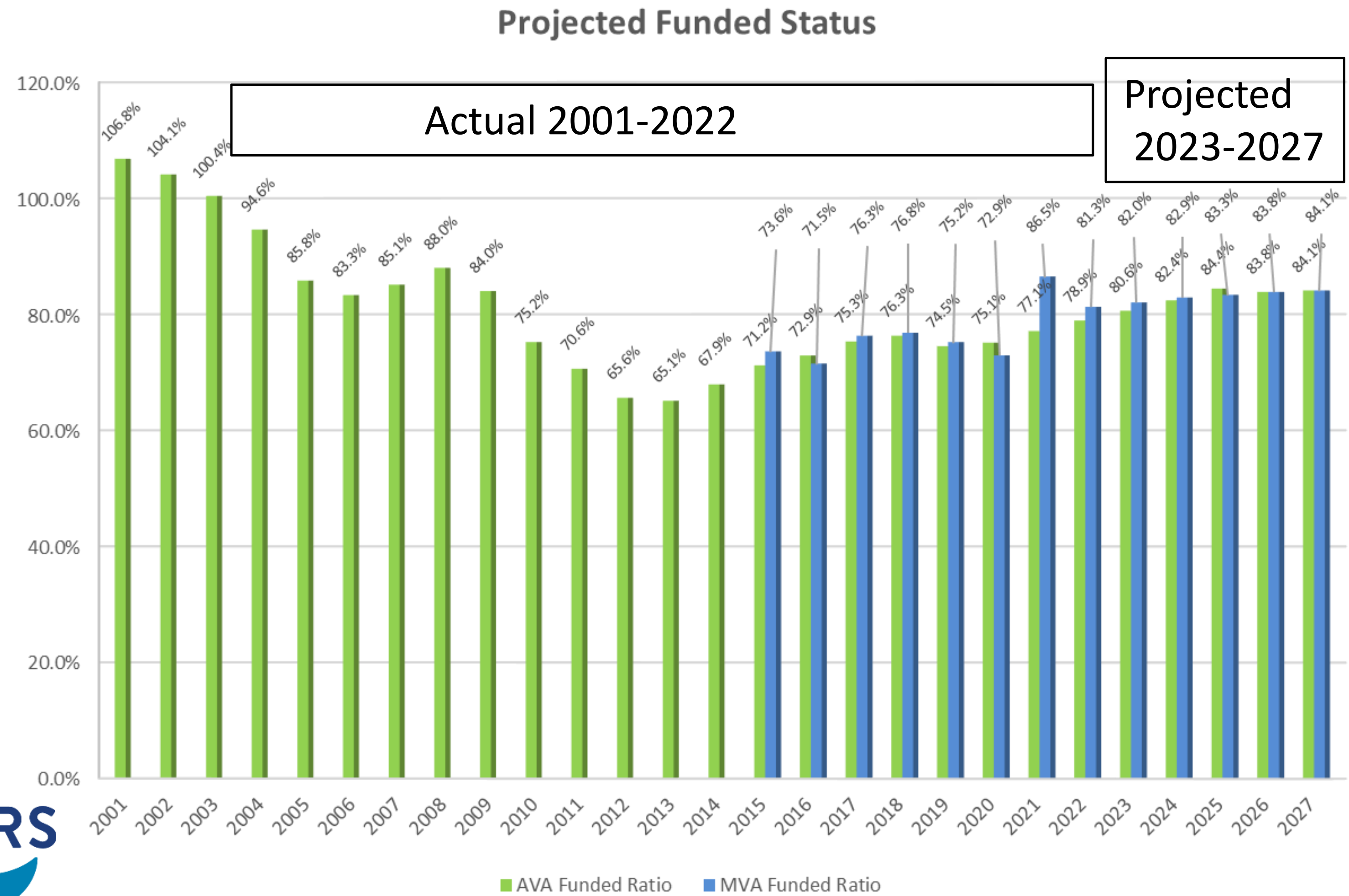
Projected Employer Contribution Rates Including Defined Contribution Hybrid

Teachers



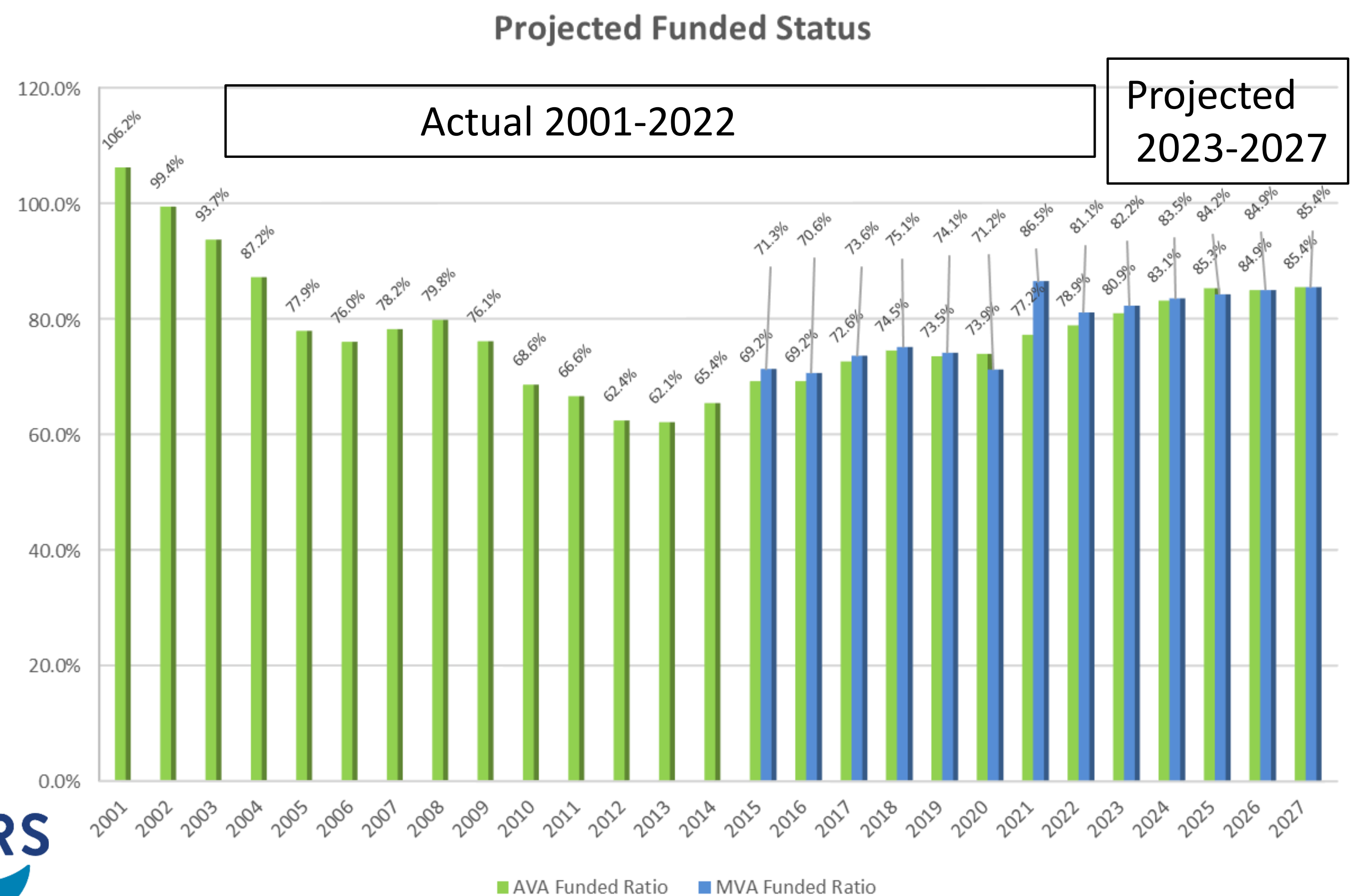
Projected Pension Funded Status

State Employees



Projected Pension Funded Status

Teachers



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Conclusion

1. **Improved Funded Status on Actuarial Asset Basis**
   - Despite lower than expected returns for fiscal year 2022, recognition of prior gains led to improved funded status
2. **Contributions**
   - Lower for Pension
   - Lower for OPEB
3. **Looking Forward:**
   - Planned additional funding for 2023-2024 based on 2022 appropriation act
   - Market volatility/inflation
   - Continued monitoring of payroll growth and head count

HOT TOPICS

ASOP 4 – LDROM

- ASOP = Actuarial Standard of Practices
- Most controversial of additions for ASOP 4 (Pensions) – *significate debate among actuaries*

  LDROM = Low-Default-Risk Obligation Measure
  - Actuaries must calculate and disclose a liability using a discount rate tied to a low-default-risk index
    - Treasury yields, municipal bonds yields, or investment grade corporate bonds
  - Intends to show the liabilities for a plan without being exposed to investment risk

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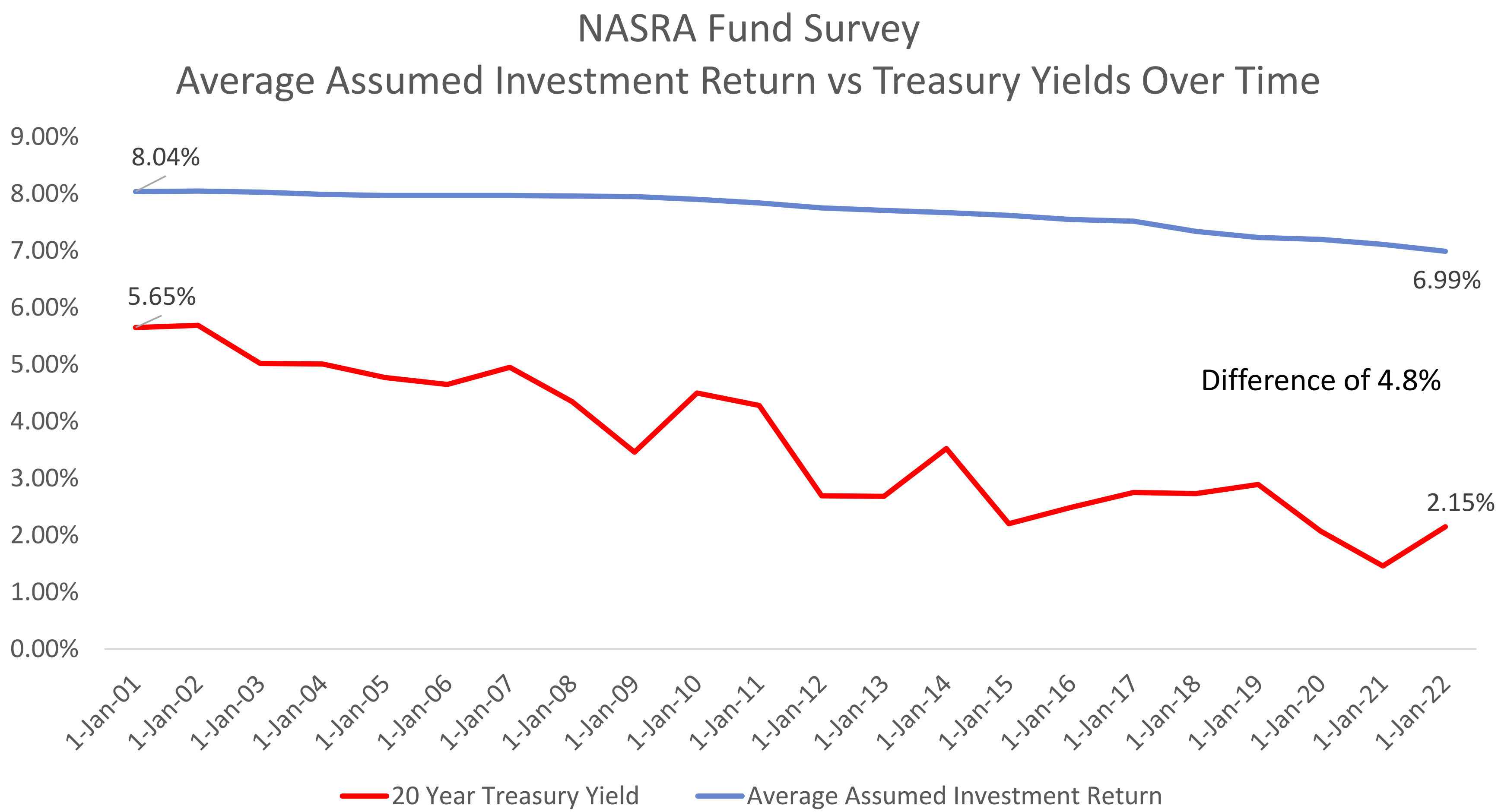
Assumed Investment Returns vs Risk-Free Yields



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October 3, 2022: 20-year Treasury Yield = 4%, difference of 2.9%

Arguments For LDROM

- Some believe this provides a more complete picture of the financial position of the plan
  - Difference between LDROM and the valuation AAL can be seen as the potential savings generated by taking a reasonable amount of investment risk
  - Measures cost of risk free rate of return vs diversified portfolio
  - Help revise the investment return assumption if the difference appears too large

Arguments Against LDROM

- Does not provide universally useful information regarding the funded status of the pension plan or the security of member benefits
  - Serves a limited purpose, trustees won't use for decision making
  - No evidence that similar, historically disclosed information was used for decision making
  - Potential to be a distraction
- Could be misleading
- Does not add material information - already required to disclose discount rate sensitivity

LDROM Quantified 6-30-21 – VRS State EES

- Actuarial accrued liability (AAL)
  = $27.8 billion at 6.75%
- LDROM on June 30, 2021
  ~= $36.7 billion at 4.0%
  - Low default discount rate
- Difference of $8.9 billion can be viewed as:
  – Projected savings generated from a reasonable investment strategy, or
  – The amount of investment risk associated with benefit funding

Discount Rate	AAL (billions)
4.00%	$36.7
6.75%	$27.8
	$8.9

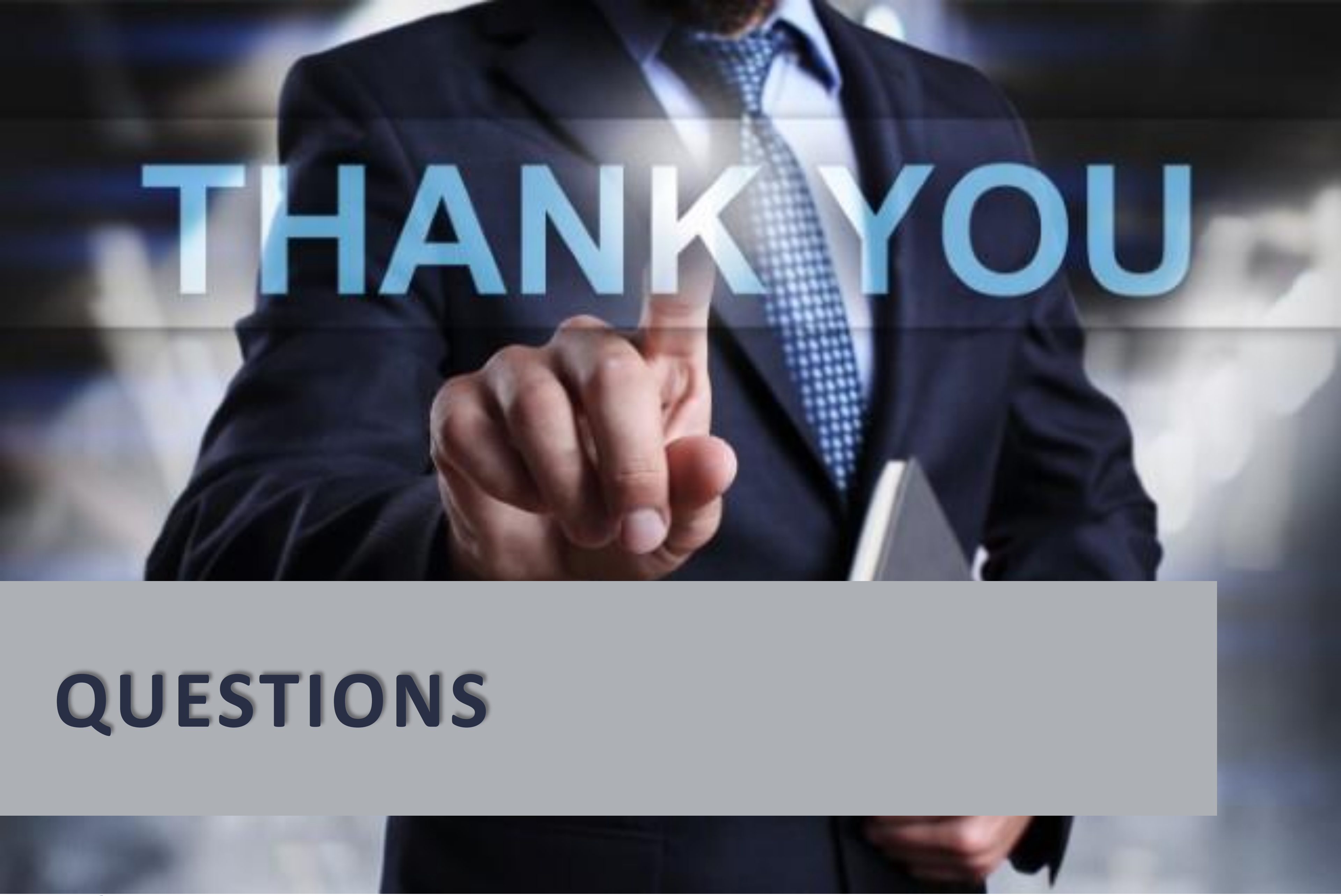
LDROM Summary

- There is a new disclosure requirement in valuation reports for retirement systems
- Will ***NOT*** impact contributions, UAAL, funded ratio, or funding period
- Will only be an additional item added to the Risk Assessment section
- This should not be a meaningful event

GRS

Thank YOU!!

- VRS – Trish Bishop, Rory Badura (ASA), Sara Denson (ASA)
- GRS – Jamal Adora (ASA), Mark Buis (FSA), Jennifer Cagasan (EA), Conan Cui (ASA), Bill Detweiler (ASA), Kurt Dosson (ASA), Marli Henderson (ASA), Rich Koch (FSA), Mike Kosciuk (FSA), Danielle Mathiesen, Shana Neeson (ASA), Shelby Nichols, Renee Nowak, Francois Pieterse (ASA), Travis Robinson (ASA)



QUESTIONS

APPENDIX

Summary: Pension Plan Contribution Rates

	FY 2021/2022	FY 2023/2024	Informational
	2019 Valuation	2021 Valuation	2022 Valuation
State	14.46%	14.46%*	13.19%
Teachers	16.62%	16.62%*	14.13%
SPORS	26.26%	29.98%	28.88%
VaLORS	21.90%	24.60%	21.92%
JRS	29.84%	30.67%	29.10%
Political Subdivisions (Avg)	8.33%	8.79%	TBD

* State and Teachers contribution rates set at 2019 valuation level, increased from 14.13% and 14.76% respectively, and include DC rate for Hybrid members.

GRS

Summary: OPEB Contribution Rates

	FY 2021/2022	FY 2023/2024	Informational
	2019 Valuation	2021 Valuation	2022 Valuation
Group Life Insurance	1.34%	1.34%*	1.21%
Health Insurance Credit (HIC)			
-- State	1.12%	1.12%*	0.90%
-- Teachers	1.21%	1.21%	1.08%

* GLI and HIC-State contribution rates held at 2019 valuation level, ADEC decreased to 1.19% and 1.04% respectively

Summary: Unfunded Pension Plan Liabilities - ($000)

Unfunded Liability

(AVA)

	2021	2022
State	$ 6,112,670	$ 5,861,321
Teachers	12,021,814	11,792,090
SPORS	389,314	416,642
VaLORS	738,351	718,017
JRS	132,738	110,861
Total	$ 19,394,887	$ 18,898,931

(MVA)

	2021	2022
State	$ 3,615,554	$ 5,199,844
Teachers	7,129,718	10,550,802
SPORS	276,498	387,081
VaLORS	538,229	666,103
JRS	60,256	91,593
Total	$ 11,620,255	$ 16,895,423

Summary: Unfunded OPEB Liabilities ($000)

Unfunded Liability

(AVA)

	2021	2022
GLI	$ 1,389,277	$ 1,349,005
HIC - STATE	852,834	802,184
HIC - TEACHERS	1,294,093	1,237,047
Total	$ 3,536,204	$ 3,388,236

(MVA)

	2021	2022
GLI	$ 1,111,390	$ 1,273,766
HIC - STATE	836,808	801,741
HIC - TEACHERS	1,277,187	1,235,793
Total	$ 3,225,385	$ 3,311,300

Inactive Participants at June 30, 2022

System	Plan 1	Plan 2	Hybrid	Total 2022	Total 2021	Percent Change
State	10,251	19,940	18,211	48,402	47,534	1.8%
Teachers	19,619	30,797	28,211	78,627	69,943	12.4%
SPORS	135	335	-	470	448	4.9%
VaLORS	815	7,233	-	8,048	7,800	3.2%
JRS	7	1	2	10	6	66.7%
Pol. Sub.	TBD	TBD	TBD	TBD	66,695	TBD
Total	TBD	TBD	TBD	TBD	192,426	TBD

Retired Participants at June 30, 2022

System	Plan 1	Plan 2	Hybrid	Total 2022	Total 2021	Percent Change
State	69,430	1,672	272	71,374	70,231	1.6%
Teachers	106,348	1,992	239	108,579	106,011	2.4%
SPORS	1,762	12	-	1,774	1,755	1.1%
VaLORS	6,363	180	2	6,545	6,234	5.0%
JRS	570	3	7	580	577	0.5%
Pol. Sub.	TBD	TBD	TBD	TBD	80,790	TBD
Total	TBD	TBD	TBD	TBD	265,598	TBD

GRS

Disclaimers

- This presentation expresses the views of the authors and does not necessarily express the views of Gabriel, Roeder, Smith & Company.
- Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

Disclaimers

- This presentation is intended to be used in conjunction with the forthcoming actuarial valuation reports. This presentation should not be relied on for any purpose other than the purposes described in the valuation reports.
- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Jim Anderson and Becky Stouffer are independent of the plan sponsor, are Members of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

GRS

Request for Board Action
RBA 2022-10-____

Amendments to VRS Funding Policy Statement.

Requested Action

The Board approves the changes to the VRS Funding Policy Statement presented at this meeting and attached to this RBA. The changes reflect a new requirement that when electing the health insurance credit (HIC), employers will be required to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least a 25 percent funded status for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years, as well as requiring that the amortization period for unfunded liabilities generated by all elected plan amendments be set at 10 years rather than the current 20 years.

Description/Background

VRS staff recommends this change to the VRS Funding Policy Statement in order to ensure that employers electing the HIC have initial funds available to pay benefits and to establish at least a minimum funded status at the outset and that the amortization period for all elected plan amendments be shortened to 10 years. This change mirrors the current requirement that an employer electing to participate in VRS must be at least 75% funded for pension benefits at the time of the election, and that any benefit enhancements do not reduce the employer's funded status below 75%. The Funding Policy Statement requires prepayment of benefit enhancements or granted service to ensure the minimum funded status, and will now also require employers electing HIC to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least 25 percent funded for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years.

Rationale for Requested Action

The VRS Funding Policy Statement memorializes the methods by which the Board has elected to fund each plan, and the proposed amendments to the policy statement allow for the change to the HIC and plan amendment election requirements.

Authority for Requested Action

Article X, § 11 of the *Constitution of Virginia* requires that VRS benefits be funded using methods that are consistent with generally accepted actuarial principles, and *Code of Virginia* § 51.1-124.22(A)(8) authorizes the Board to promulgate regulations and procedures and make determinations necessary to carry out the provisions of Title 51.1.

The above action is approved.

____ ______________________________

A. Scott Andrews, Chair
VRS Board of Trustees

Date

Virginia Retirement System

VRS Funding Policy

October 17, 2022

Agenda

Virginia Retirement System

- Overview of current funding policy
- Proposed Modifications

Funding Policy Purpose

- The VRS Funding Policy memorializes the methods by which the Board has elected to govern how it funds each plan.

- The policy determines how much should be contributed each year by employers and participants* to provide for the secure funding of benefits in a systematic fashion.

- The principal goal of a funding policy is to ensure that future contributions along with current plan assets are sufficient to provide for all benefits expected to be paid to members and their beneficiaries when due.

*Member contributions are statutory.

Funding Policy History

- In June 2012 GASB revised public pension accounting standards, making a clear separation between accounting and funding of pensions.
- Many public employers, including VRS, had previously relied on GASB standards as the guideline for pension funding.
- Pension Funding Taskforce made up of several national public sector groups was formed to create new funding policy guidelines for employers.
- VRS Board suggested that VRS document and review the current funding policy and create a written policy.

Funding Policy Objectives

Virginia Retirement System

- Funding policy based on actuarially determined contributions.
- Build funding discipline into policy to ensure that promised benefits can be paid.
- Maintain intergenerational equity so that cost of employee benefits is paid by the generation of those who receive services.
- As required by the *Code of Virginia*, make employer costs a consistent percentage of payroll.
- Require clear reporting to show how and when pension plans will be fully funded.

Funding Policy Core Elements

- **Actuarial Cost Method**
  Method used to allocate the plan costs and contributions over an employee's career.

- **Asset smoothing method**
  Method used to recognize gains or losses in plan assets over some period of time to reduce the effects of market volatility and provide stability to contributions.*

- **Amortization Policy**
  Determines the length of time and structure of payments required to systematically fund accrued employee benefits not covered by actuarial value of assets (unfunded liability).

** Code Section 51.1-145 provides that "[t]he total annual defined benefit employer contribution for each employer, expressed as a percentage of the annual membership payroll, shall be determined in a manner so as to remain relatively level from year to year."*

Funding Policy
Actuarial Cost Method

Virginia Retirement System

- Each participant's benefit should be fully funded under a reasonable allocation method by their expected retirement date.

- The benefit costs should be determined as a level percentage of member compensation and include expected income adjustments.

VRS Actuarial Cost Method

The Entry Age Normal level percentage of payroll actuarial cost method is especially well-suited to meeting this policy objective.

Funding Policy
Asset Smoothing Method

Virginia Retirement System

- Funding policy should specify the components of asset smoothing, such as amount of return subject to smoothing and the time period(s) used for smoothing a specific gain or loss.

- The asset smoothing method should be the same for gains and losses and should not be reset or biased toward high or low investment returns.

VRS Asset Smoothing Method

The use of a five-year period for "smoothing" investment experience is especially well-suited to meeting this policy objectives.

Funding Policy Amortization Method

Virginia Retirement System

- The unfunded liability is paid off according to an amortization method that makes adjustments to contributions over time that balance intergenerational equity against the goal of keeping contributions level as a percentage of payroll over time.

- Should reflect (a) investment and demographic gains and losses experienced by plan, (b) changes in assumptions and methods, and (c) benefit or plan changes.

- Components of an amortization method include:
  - Level dollar versus level percent of pay
  - Closed versus open amortization
  - Length of amortization periods

Funding Policy
Amortization Method

- Level dollar is similar to a mortgage payment
  - More conservative since it funds the unfunded accrued liability faster in the early years.

- Majority of public pension systems use level percent of pay amortization
  - Consistent with pay-related structure of benefits.
  - Also consistent with normal cost, which is determined as level percent of pay.

VRS Amortization Method

- Gains, losses, plan changes, and assumption changes are amortized over closed, 20-year periods.
- The legacy unfunded liability as of 7/1/2013 was amortized over a closed 30-year period with 21 years remaining as of 7/1/2022.

Funding Policy Assumptions

Virginia Retirement System

Actuarial assumptions are used to model future experience when determining the plan liabilities. Assumptions are set in conjunction with quadrennial experience studies. The next study will be completed in spring 2025.

The assumptions used include, but are not limited to the following:

- Demographic
  - Retirement
  - Termination before retirement
  - Disability
  - Death
- Economic
  - Investment return – 6.75%
  - Salary increase – 3.50% to 5.35% based on service
  - Inflation – 2.50%
  - Total payroll growth – 3.00%

Funding Policy Additional Considerations Political Subdivision Plans

Where the Funding Policy Statement as applied to a political subdivision would, in the Plan Actuary's opinion, not be expected to maintain the plan's solvency, the Board authorizes the VRS staff, working with the Plan Actuary, to determine alternative funding requirements that would maintain the plan's solvency while also meeting the other objectives as stated in the Board's funding policy.

Funding Policy Additional Considerations Additional Funding Charge

- Additional Funding Charge
  - The Additional Funding Charge is the contribution rate needed, if necessary, to allow the local system to use the plan's assumed Investment Return Rate as its Single Equivalent Interest Rate (SEIR) under GASB Statement No. 67.
  - Follows "Cross-Over Calculation" which looks for any future years in which assets would be less than required to cover benefit payments.
    - The plan's current funded status,
    - Expected investment return, which depends on the fund's investment mix,
    - Projected future contributions and benefit payments to and from the fund

Funding Policy Additional Considerations Surcharge

- Surcharge for “At Risk” Plans
  - Political subdivision plans identified as potentially “at-risk” due to low funded levels may require an additional surcharge or shortened amortization periods to bring the funding level of the plan to a sustainable level as determined by the Plan Actuary.
  - Historically has been handled by maintaining higher prior rates following years of positive plan experience.

Funding Policy Additional Considerations Limitation on Benefit Enhancements

- Limitation on Benefit Enhancements
  - Requires pension plans to be at least 75% funded following a plan amendment to enhance benefits.
    - Would require lump sum contribution in the amount necessary to bring funding level to 75% in addition to any increase in annual funding due to plan enhancements.
    - Any accrued liability generated by the plan amendment that is not covered by the lump sum contribution will be amortized over no more than 10 years.
  - Funding level requirement of 75% also pertains to new employers joining VRS.
  - This provision serves to protect the employer as well as members and beneficiaries.

Funding Policy
Proposed Modifications

Virginia Retirement System

Proposed modifications to the Funding Policy:

- Explicitly set out amortization period for unfunded liabilities generated by elected plan amendments to be 10 years rather than 20 years in amortization period section of funding policy.

- Health Insurance Credit Elections
    - Any employer (new and existing VRS employers) that elects the HIC benefit is required to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least 25 percent funded for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years.

Funding Policy Proposed modifications HIC (New or Existing Employers)

Virginia Retirement System

- HIC election generally covers existing retirees who have not been funded but will receive immediate benefits.

- Using current pension threshold of 75% would not be equitable to new employers since current employers are well below that threshold.
  - Funded Status of OPEB plans is generally less than pensions due to later pre-funding than pensions.

- Required to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least 25 percent funded for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years.

VRS Funding Policy Statement[1]

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1. Introduction

A plan funding policy determines how much should be contributed each year by employers and participants to provide for the secure funding of benefits in a systematic fashion.

The principal goal of a funding policy is to ensure that future contributions along with current plan assets are sufficient to provide for all benefits expected to be paid to members and their beneficiaries when due. The funding policy should seek to manage and control future contribution volatility to the extent reasonably possible, consistent with other policy goals. The actuarially determined contribution should be calculated in a manner that fully funds the long-term costs of promised benefits, while balancing the goals of 1) keeping contributions relatively stable and 2) equitably allocating the costs over the employees' period of active service.

The current funding policy used by the VRS Board sets contribution rates using the Entry Age Normal cost method, an investment return assumption of 6.75%, an inflation assumption of 2.5%, and a closed 20-year amortization period for unfunded liabilities (Legacy unfunded liabilities as of 6/30/13 are amortized over a closed 30-year amortization period.)

Article X, § 11 of the *Constitution of Virginia* provides that the Virginia Retirement System benefits shall be funded using methods which are consistent with generally accepted actuarial principles. Until 2012, the Annual Required Contribution (ARC) as described in the Governmental Accounting Standards Board's (GASB's) Statements No. 25 and No. 27 was a de facto funding policy for many public- sector retirement systems, including the Virginia Retirement System.

The Board sets contribution rates for all local employers under this policy. However, with respect to the plans for state employees and the teacher plan, while the rates developed under the Board's policy are the certified contribution rates, the Governor and the General Assembly determine the funding that they will provide through the state budget process toward the Board certified contribution rates for the State and Teachers and other statewide OPEB plans. Beginning in FY 2013, § 51.1-145.K1 of the Code of Virginia set out guidelines for the General Assembly to follow for the funding of the contribution rates certified by the VRS Board, phasing in from approximately 67% of Board-certified rate to 100% of the Board-certified rate over the next four biennia. These statutory guidelines do not apply to funding levels for Other Postemployment Benefits (OPEBs) administered by VRS.

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[1] Adopted October 17, 2013; amended November 14, 2013, June 7, 2016, November 15, 2017, November 20, 2019, and October 18, 2022.

In June 2012, GASB revised public pension accounting standards and has communicated an important message in the process: accounting standards are no longer funding standards. However, GASB did not address how employers should calculate the annual required contribution (ARC). To assist state and local government employers, several national groups developed policy guidelines for funding standards. This document is the result of an extensive review of the current funding policy, industry standards and best practices, and the development and approval of funding policy assumptions effective with the June 30, 2013 valuation. A copy of Request for Board Action 2013-07-18 adopting the funding policy assumptions is attached. This Funding Policy is intended to provide guidance to future Boards on how to set employer contribution rates and support the plan's primary goals of contribution and budgetary predictability, accumulation of required assets over time to provide for all benefits earned and achievement of intergenerational equity.

In June 2015, GASB adopted two new statements regarding OPEBs. GASB statement 74, *Financial Reporting for Postemployment Benefits Other than Pension Plans*, and GASB statement 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*. These statements replace GASB 43 and GASB 45. As was the case with GASB 67 and 68, these new statements represent a significant change to the methods used to account for postemployment benefits and provide for a clear separation between accounting for and funding of OPEBs. The new standards require the adoption of a new funding policy for OPEB plans. The current VRS funding policy has been modified to accommodate funding requirements for the VRS OPEB plans.

The VRS OPEB plans include the Health Insurance Credit Program, Group Life Insurance Program, the Virginia Sickness and Disability Program (VSDP), the Virginia Local Disability Program (VLDP) and the Long Term Care benefits associated with the VSDP and VLDP. The Line of Duty Act Fund is also a defined benefit OPEB plan, although it is not a benefit exclusively for VRS members.[2]

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[2] As of April 2016 all VRS OPEBs already incorporate the actuarial methods outlined in the Funding Policy, with the following exceptions:

- Health Insurance Credit Program for Political Subdivisions will incorporate a five-year asset smoothing method for funding valuations effective with the June 30, 2016 actuarial valuation.
- The Long Term Care valuation will incorporate the Entry-Age Normal cost method and five-year smoothing method for funding valuations effective with the June 30, 2016 actuarial valuation.
- Line of Duty Act Program (LODA) is currently not prefunded and as set forth in the *Code* shall be funded on a current disbursement basis or in other words is considered a "pay-as-you-go" plan. As such, the plan has no unfunded liabilities and uses market value of assets for valuation purposes. In the event that the General Assembly takes action to begin prefunding this program, the Board of Trustees would move to adopt the various funding provisions contained in this document including moving the program to a five-year asset smoothing method for funding valuations effective with any decision to prefund the LODA program.

These changes were approved by the Board of Trustees at its June 7, 2016 meeting, and were incorporated into this amended Funding Policy. Where a particular actuarial method was already in use, the Funding Policy notes that the Board confirms the actuarial methods for OPEBs.

The Funding Policy addresses the following general policy objectives:

- □ Ensure funding of plans is based on actuarially determined contributions;
- □ Build funding discipline into the policy to ensure promised benefits can be paid;
- □ Maintain intergenerational equity so the cost of employee benefits is paid by the generation of individuals who receive services;
- □ Make employer costs a consistent percentage of payroll; and
- □ Require clear reporting to show how and when plans will be adequately funded.

This document serves as the Funding Policy for VRS. It has been prepared by VRS in collaboration with the Board and the VRS Plan Actuary and is effective as of the June 30, 2013 valuation, and modified to accommodate the OPEB plans effective as of the June 30, 2016 valuation.

2. Authority

The Virginia Retirement System is administered in accordance with Title 51.1, chapters 1, 2, 2.1, 3 and 4 of the *Code of Virginia*. The contribution to be paid by members of VRS is fixed at a level that covers only part of the cost of accruing benefits. The balance of the cost is paid by employers within the Trust Fund (the "Fund").

The OPEB plans are administered in accordance with Title 51.1, chapters 5, 11, 11.1, and 14 of the *Code of Virginia.* The cost associated with OPEBs is generally borne by the employer and benefits are paid from the various trust funds. An exception to this practice is the Group Life Insurance Program. The Board determines the amount each insured shall contribute for the cost of insurance and by statute this amount is capped at $0.70 per month for each $1,000 of annual salary. Each employer determines whether this cost will be paid by the member or funded by the employer. The balance of the cost is paid by employers within the Fund. The Group Life Insurance plan, however, is a cost-sharing plan so all employers are charged the same rate.

The Funding Policy focuses on the pace at which these liabilities are funded and, in so far as is practical, the measures to ensure that employers pay for their own liabilities.

The Funding Policy is authorized by a framework that includes:

- Article X, § 11 of the *Constitution of Virginia*
- Title 51.1 of the *Code of Virginia*

This is the framework within which the VRS Plan Actuary carries out valuations to set employer contribution rates and provide recommendations to the Board when other funding decisions are required. The Funding Policy applies to all employers participating in the Fund.

The methods and assumptions used in the VRS funding policy are periodically reviewed as part of the quadrennial experience study as required under § 51.1-124.22(A)(4). As such, the content of this document may be updated to reflect changes approved by the VRS Board of Trustees.

3. Contributions

The Funding Policy provides for periodic employer contributions set at actuarially determined rates in accordance with recognized actuarial principles (§51.1-145(A)). Originally based on parameters set out in GASB 25/27 and GASB 43/45, the contribution should include the employer's normal cost and provisions for amortizing any unfunded actuarial accrued liability (UAAL) in accordance with the requirements originally defined in GASB 25/27 and GASB 43/45.

Member and employer contributions for retirement are required by §§ 51.1-144 and -145 of the *Code of Virginia*. Chapters 5, 11, 11.1, and 14 of Title 51.1 of the *Code of Virginia* and the applicable provisions in each year's Appropriation Act relate to contribution requirements for OPEB plans administered by VRS.

Employer contributions are normally made up of two main elements[3]:

a) the estimated cost of future benefits being accrued, referred to as the "normal cost"; and

b) an adjustment for the funding position of accrued benefits relative to the Fund's actuarially adjusted assets, or the "amortization payment UAAL." If there is a surplus there may be a contribution reduction; if there is a deficit, there will be a contribution addition, with the amount of surplus or deficit being spread over a number of years.

Items a) and b) above are then combined and expressed as a percentage of covered payroll. Employer contribution rates are set each biennium and are in effect for the entire biennium. Valuations in the "off" years are for informational purposes only. Generally, employers with well-funded pension plans consistently pay their annual required contribution in full.

Where this process as applied to a political subdivision would, in the Plan Actuary's opinion, not be expected to maintain the plan's solvency, the VRS staff, working with the Plan Actuary, may determine alternative funding requirements that would maintain the political subdivision's solvency while also meeting the other objectives of this Funding Policy Statement.

With respect to statewide plans, if unfunded liabilities exist in a plan, the Board may recommend alternative contribution rates in excess of the actuarially determined rates if opportunities exist to accelerate paydown of unfunded liabilities. Examples of alternative rates could potentially include approaches such as maintaining rates from the prior year if rates drop in subsequent rate setting or maintaining a higher level contribution rate until a certain funded status is achieved.

[3] Contributions also include administrative expenses.

4. Funding Target

VRS operates the same target funding level for all ongoing employers of 100% of its accrued liabilities valued on an ongoing basis. This means that contribution rates are set with the intent of funding 100% of a member's benefits during a member's working lifetime. The Line of Duty Act Fund is an exception, as employer contributions are currently determined by the Board on a current disbursement basis per statute. As such, the target funding level for all ongoing employers for LODA is at or near 0% of its accrued liabilities.

Funded Status is defined as the ratio of the actuarial value of assets to the value placed on the benefits, or plan's liabilities, by the VRS Plan Actuary. The VRS Plan Actuary reports on the funded status of each plan in the system in each annual valuation.

5. Actuarial Cost Method

The actuarial cost method is the means by which the total present value of all future benefits for current active and retired participants is allocated to each year of service (i.e., the "normal cost" for each year) including past years (i.e., the "actuarial accrued liability"). There are several available actuarial cost methods, but most governmental plans use the entry age normal (EAN) cost method while a significant minority use the projected unit credit (PUC) method. In the past, VRS has used the EAN method for most of the plans it administers.

Although the EAN and PUC cost methods are both considered reasonable under actuarial standards of practice and GASB 25 and GASB 43 in most circumstances, it is important for plan stakeholders to understand the implications of either method. EAN tends to recognize actuarial liabilities sooner than PUC, and it also tends to result in a more stable normal cost pattern over time for pay-related benefits, even in the face of demographic shifts. The more stable normal cost pattern over time should help in reducing the risk of higher levels of future contributions.

Under the PUC method, the plan's normal cost is the present value of the benefits "earned" during the year, but based on projected pay levels at retirement. For an individual participant, the PUC normal costs increase each year because the present value increases as the participant gets a year closer to retirement. In contrast, under the EAN method, the normal cost is specifically determined to remain a level percentage of pay over each participant's career.

Because EAN normal cost rates are level for each participant, the normal cost pattern for the entire plan under EAN is more stable for pay-related benefits in the face of demographic shifts in the workforce. It is this normal cost stability that makes the EAN method the preferred funding method for pay-related benefits of public plans.

GASB has reaffirmed its decision to require governmental pension plans to base their financial statement reporting on the EAN method. For comparability, GASB has also decided to require governmental OPEB plans, which may not provide pay-related benefits, to base their financial statement reporting on the EAN method.

Effective with the June 30, 2013 valuation, the Board has adopted the Entry-Age Normal cost method in deriving plan liabilities. This is a continuation of the Board's existing cost method. Effective with the June 30, 2016 valuation, the Board has adopted the Entry-Age Normal cost method for all OPEB plans.

6. Asset Valuation Method

Because investment markets are volatile and because pension plans typically have long investment horizons, asset-smoothing techniques can be an effective tool to manage contribution volatility and provide a more consistent measure of plan funding over time. Asset-smoothing methods reduce the effect of short-term market volatility on contributions, while still tracking the overall movement of the market value of plan assets, by recognizing the effects of investment gains and losses over a period of years. This is also in keeping with § 51.1-145(A), which requires that contribution rates be determined in a manner so as to remain relatively level from year to year.

Determining the ideal asset-smoothing policy involves balancing the two goals of ensuring fairness across generations and controlling contribution volatility for plan sponsors. A very long smoothing period will greatly reduce contribution volatility, but this may mean the impact of recent investment experience is deferred to future generations. However, a very short smoothing period (or none at all) may result in contribution requirements that fluctuate dramatically from year to year.

Such volatility may also result from an asset-smoothing method that constrains how far the smoothed value differs from the market value by imposing a market value "corridor." A corridor is typically expressed as a ratio of the smoothed value of assets to the market value of assets. Actuarial standards of practice and related actuarial studies seek to identify asset-smoothing methods that achieve a reasonable balance between how long it takes to recognize investment experience (the smoothing period) and how much smoothing is allowed in the meantime (the corridor). The resulting smoothing periods are in the range of three to 10 years (with five the most common) and a corridor wide enough to allow the smoothing method to function except in the most extreme conditions.

While the smoothing period for governmental plans is not limited by federal laws or regulations, the Actuarial Standards Board has set out principles for asset smoothing in ASOP No. 44. Under these principles, when a smoothed asset valuation method is used, the actuary should select a method so that the smoothed asset values fall within a reasonable range of the corresponding market values and any differences between the actuarial value and market value of assets should be recognized within a reasonable period.

Effective with the June 30, 2013 valuation, the Board has adopted a five-year asset smoothing period, which also includes a corridor that will restrict the smoothed value from falling below 80% of the true market value or exceeding 120% of the true market value. This is a continuation of the Board's existing asset valuation method. Effective with the June 30, 2016 valuation, the Board has adopted the same asset smoothing period and corridors for the OPEB plans, with the exception of the LODA program, which, by statute, does not prefund benefits. In the event a change to the statutory contribution requirements

of the LODA program necessitate an asset valuation method, the same asset smoothing period and corridors should be applied to the LODA program at that time.

7. Amortization Method

Amortization of unfunded liabilities is a major component of the annual contribution. Amortization policies involve a balance between controlling contribution volatility and ensuring a fair allocation of costs among generations. The Plan Actuary uses the specific amortization periods adopted by the Board for all employers when developing a method over which to pay down any unfunded liabilities that may exist. The amortization period should allow adjustments to contributions to be made over periods that appropriately balance intergenerational equity against the goal of keeping contributions level as a percentage of payroll over time as required by § 51.1-145.

Amortization of the unfunded actuarial accrued liability (UAAL) determines how current and future UAAL will be paid off or "amortized," and so includes how changes in benefits or actuarial assumptions that affect the actuarial accrued liability should be funded over time. Even more than with asset smoothing methods, amortization policies involve a balance between controlling contribution volatility and ensuring a fair allocation of costs among generations. Longer amortization periods help keep contributions stable, but excessively long periods may inappropriately shift costs to future generations. In seeking to achieve an appropriate balance between these two important policy goals, a comprehensive amortization policy will involve the following distinct elements:

- □ Payment basis
- □ Payment structure
- □ Amortization period

A. Payment Basis: Level Dollar vs. Level Percent of Pay

One of the first considerations is whether amortization payments will be set at a level dollar amount (similar to a home mortgage) or as a level percent of pay. The great majority of public pension plans use level-percent-of-pay amortization where the payments toward the UAAL increase each year at the same rate as is assumed for payroll growth. Compared with the level-dollar approach, payments start at a lower dollar amount under the level percent approach, but then increase in proportion to payroll. The level-dollar method is more conservative in that it funds the UAAL faster in the early years. However, the level-percent-of-pay approach is consistent with the pay-related structure of benefits under most public plans. Moreover, because the normal cost is also determined as a level percent of pay, level percent amortization provides a total cost that remains level as a percentage of pay. In contrast, level- dollar amortization of UAAL will produce a total cost that decreases as a percentage of pay over the amortization period. A plan should balance these considerations in choosing between level-percent and level dollar amortization. Section 51.1-145(A) of the *Code of Virginia* provides in part that "[t]he total annual employer contribution for each employer, expressed as a percentage of the annual membership payroll, shall be determined in a manner so as to remain relatively level from year to year...."

Effective with the June 30, 2013 valuation the Board has elected to use the level percent of pay payment basis. This is consistent with historical VRS practice. Effective with the June 30, 2016 valuation the Board confirms the continued use of the level percent of pay payment basis put in effect June 30, 2013 for the OPEB plans when an actuarially determined contribution is calculated.

B. Payment Structure

Amortization policy must also consider how amortization payments should be structured. For example, a determination needs to be made as to whether the entire UAAL should be aggregated and amortized as a single amount, or whether the plan should track individual bases for each source of UAAL or surplus each year, and amortize these separately. Amortization periods can be fixed, open or "rolling" (with the amortization period restarted each year).

Although use of a single amortization base provides simplicity, use of separate amortization bases for each source of UAAL has the advantage of tracking separately each new portion of UAAL and providing another mechanism to stabilize contribution rates. Under this approach, over time there will be a series of bases, one for each year's gain or loss as well as for any other changes in UAAL. This provides useful information to stakeholders, as they can view the history of the sources of a plan's UAAL in any year. The use of separate amortization bases should help balance the annual ups and downs in the UAAL. In practice, the number of bases will be limited by the length of the amortization period as eventually bases will be fully amortized, and so will no longer be part of the UAAL.

Fixed amortization periods identify a date certain by which each portion of the UAAL will be funded. This can be contrasted with open or rolling amortization, whereby the plan "resets" its amortization period every year. This is analogous to a homeowner who refinances his mortgage each year. Although both methods are common in current practice, fixed amortization periods have the advantage of providing stakeholders with a clearer understanding of the ultimate funding target (full funding) and the path to get there. It is the structure required for private sector pensions, and is increasingly common for public pension plans.

Effective with the June 30, 2013 valuation the Board has elected to use individual bases for each source of UAAL or surplus each year and to use fixed amortization periods rather than open or rolling periods. This is a change from past VRS practice but is consistent with industry best practices. Effective with the June 30, 2016 valuation the Board confirms the continued use of individual bases for each source of UAAL or surplus each year and the use of fixed amortization periods rather than open or rolling periods put in effect June 30, 2013 for all OPEB plans, with the exception of the LODA program, which, by statute, is currently not prefunded. For the purposes of accounting disclosures under GASB 43 and 45, the LODA program will continue to use an open period. In the event a change to the statutory contribution requirements of the LODA program necessitate a payment structure, individual bases for each source of UAAL or surplus each year and fixed amortization periods, rather than open or rolling periods, will be used by the LODA program at that time.

C. Amortization period

Amortization period is a determination of the appropriate period of time over which amortization should occur. The answer can depend on the source of the UAAL being amortized, as discussed below:

UAAL Due to Actuarial Gains/ Losses

Actuarial gains and losses arise when there is a difference between the actuary's estimates (assumptions) and the actual experience of the plan. They can result from demographic experience (e.g., the number of new retirees is higher or lower than expected), investment experience (e.g., returns that are higher or lower than expected), or other economic experience (e.g., payroll growth that is higher or lower than expected). In determining the appropriate period for amortizing gains and losses, plan sponsors should strike a balance between reducing contribution volatility (which would lead to longer amortization periods) and maintaining a closer relationship between contributions and routine changes in the UAAL (which would lead to shorter amortization periods). For many plans, amortization periods in the range of 15 to 20 years for gains and losses would assist plans in achieving a balance between these objectives.

UAAL Due to Changes in Actuarial Assumptions

Assumption changes will result in an increase or decrease in the UAAL. Unlike gains and losses, which reflect actual past experience, assumptions are modified when future expectations about plan experience change. This amounts to taking the effect of future expected gains or losses and building it into the cost today. For that reason, and because of the long-term nature of assumption changes, a plan could be justified in using a longer amortization period than that used for actuarial gains or losses, perhaps in the range of 15 to 25 years.

Amortization of UAAL Due to Plan Amendments

Because plan amendments are under the control of the plan sponsor, managing contribution volatility is generally not a consideration for plan amendments. This means that the primary rationale in selecting the period is to support intergenerational equity by matching the amortization period to the demographics of the participants receiving the benefit. This leads to shorter, demographically based amortization periods. For active participants, this could be the average future working lifetime of the active participants receiving the benefit improvement, while for retirees, this could be the average life expectancy of the retired participants receiving the benefit improvement. This approach would usually result in no longer than a 15-year amortization period for benefit improvements.

An equitable amortization policy should ensure that the UAAL will be paid off in a reasonable period of time. Long amortization periods can make paying down the UAAL appear more affordable, but, because interest charges accrue and compound on the unpaid UAAL, it is prudent to set amortization periods that are not excessively long. This is especially important where level percent of pay amortization is used.

In an effort to balance the need to pay down the current unfunded liability while managing already increasing contribution rates, the Board elected to manage the paydown of any unfunded liabilities created prior to June 30, 2013 over a 30-year closed period. In an effort to better manage intergenerational equity and to build funding discipline into the VRS policy, the Board also decided that future unfunded liabilities would be best amortized over 20-year closed periods.

With long amortization periods, the UAAL may increase during the early years of amortization period, even though contributions are being made to amortize the UAAL. This phenomenon, known as "negative amortization", occurs only with level percent of pay amortization. This happens because, under level percent of pay amortization, the lower early payments can actually be less than interest on the outstanding balance, so that the outstanding balance increases instead of decreases. For typical public plans, this happens whenever the average amortization period is longer than approximately 20 years.

While there is nothing inherently wrong with negative amortization in the context of a public plan, stakeholders should be aware of its consequences, especially for amortization periods substantially longer than 20 years. Negative amortization is a particular concern for plans using open, or rolling, amortization periods. As described above, plans that use open/rolling amortization methods "reset" to a new amortization period every year. By contrast, a plan using a closed amortization commits to paying down the UAAL over a fixed period.

Effective with the June 30, 2013 valuation the Board has elected to amortize the legacy unfunded liability as of June 30, 2013, over a closed 30-year period. New sources of unfunded liability will be explicitly amortized over closed 20-year periods. The amortization period for the deferred contributions from the 2010-2012 biennium will remain a 10-year closed period. These amortization periods reflect a shift to closed amortization periods and tiered successive 20-year closed periods for new sources of unfunded liability. This is a change from past VRS practice of using a 20-year rolling method. Effective with the June 30, 2016 valuation the Board confirms the continuation of the amortizations put in effect June 30, 2013 for all OPEB plans, with the exception of the LODA program, which, by statute, is currently not prefunded. For the purposes of accounting disclosures under GASB 43 and 45, the LODA program will continue to use an open 30- year period. In the event a change to the statutory contribution requirements of the LODA program necessitate an amortization period, the LODA program will, at that time, explicitly amortize new sources of unfunded liability over closed 20-year periods.

Effective November 20, 2019, the Board amends this policy to clarify that amortization periods of explicit bases may be shortened in an effort to pay off unfunded liabilities of either pensions or OPEBs earlier than originally scheduled.

Effective October 18, 2022, the Board amends this policy to set the amortization period for unfunded liabilities generated by elected plan amendments to be 10 years rather than 20 years.

8. Actuarial Assumptions

Setting actuarial assumptions is critical to the funding of a plan. Forward-looking assumptions about plan demographics, wages, inflation, investment returns and more drive the measurement of liabilities and costs, and therefore affect funding. Unlike the selection of funding methods, which involves a fair degree of policy discretion, the selection of assumptions should be based solely on best estimates of actual future experience. While it may be tempting to set assumptions based on how they might affect current contribution requirements, such "results-based assumption setting" should be avoided. ***It is the plan's actual experience that ultimately determines the cost of the benefits, so the assumptions should try to anticipate actual experience.*** Periodic reexamination of plan assumptions is an essential part of any plan's actuarial processes. As a general rule, many plans conduct an experience study every three to five years, an interval that should help ensure that assumptions remain appropriate in the face of evolving conditions and experience. VRS reviews assumptions every four years as required under § 51.1-124.22(A)(4).

All assumptions should be consistent with Actuarial Standards of Practice and reflect professional judgment regarding future outcomes.

VRS plans to continue experience studies once every four years as required by § 51.1-124.22(A)(4) to determine whether changes in the actuarial assumptions are appropriate.

Appendix A contains a chart summarizing some of the current assumptions used for the various benefit plans managed by the VRS.

Appendix B is RBA 2013-07-18, which documents the approval of VRS funding policy assumptions.

Appendix C is RBA 2013-11-26, which documents the approval of revisions to the VRS funding policy assumptions for political subdivisions.

Appendix D is RBA 2016-06-15, which documents the approval of VRS funding policy methods and assumptions with regard to the OPEB plans.

Appendix E is RBA 2016-06-16, which documents the Board's approval of changes to actuarial methods for certain OPEB plans.

Appendix F is RBA 2017-04-9, which documents the approval of VRS funding policy assumptions.

Appendix G is RBA 2019-10-13, which documents approval of a discount rate of 6.75% for actuarial valuations effective with the June 30, 2019 valuations.

Appendix H is RBA 2019 -11 -, which documents the approval of the use of shortened amortization periods for unfunded liabilities and maintaining prior contribution rates to assist in paying unfunded liabilities.

9. Additional Considerations

Where the Funding Policy Statement as applied to a political subdivision would, in the Plan Actuary's opinion, not be expected to maintain the plan's solvency, the Board authorizes the VRS staff, working with the Plan Actuary, to determine alternative funding requirements that would maintain the plan's solvency while also meeting the other objectives as stated in the Board's funding policy.

1. **Additional Funding Contribution** - The Additional Funding Charge is the contribution rate needed, if necessary, to allow the local system to use the plan's assumed Investment Return Rate as its Single Equivalent Interest Rate (SEIR) under GASB Statement No. 67. The additional funding contribution rate, if needed, allows for the use of the 6.75% investment return as the single equivalent investment return assumption for purposes of the GASB 67/68 statements. To determine the SEIR, the Fiduciary Net Position (FNP) must be projected into the future for as long as there are anticipated benefits payable under the plan's provisions applicable to the members and beneficiaries of the system on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR. If the FNP is projected to be depleted, an Additional Funding Charge is developed to avoid depletion.

2. **Surcharge for "At Risk" Plans** – Political subdivision plans identified as potentially "at-risk" due to low funded levels may require an additional surcharge or shortened amortization periods to bring the funding level of the plan to a sustainable level as determined by the Plan Actuary.

3. **Limitation on Benefit Enhancements Increasing Liability** - Benefit enhancements to a political subdivision pension plan that would have the effect of increasing the plan's liabilities by reason of increases in benefits, establishment of new benefits, changing the rate of benefit accrual, or changing the rate at which benefits become non-forfeitable may take effect during any plan year if the political subdivision's current funded ratio for such plan year would be at least 75 percent after taking into account such amendment.

   In order to increase benefits in circumstances where the funded ratio would be less than 75 percent after taking into account the amendment, the political subdivision would be required to make a lump sum contribution in the amount necessary to bring the funding level to 75 percent as of the effective date of the change, in addition to any increase in annual funding due to plan enhancements.

   Any accrued liability generated by the plan amendment that is not covered by the lump sum contribution will be amortized over no more than 10 years.

4. **Pension Plans for New Employers –**
   Any new employer must have a funded status of at least 75 percent for pension benefits.
   Any past service that is granted by the employer or purchased at the time the employer joins VRS must be at least 75 percent funded at the join date with the remaining amount amortized over no more than 10 years.

5. **Health Insurance Credit (HIC) Elections –**

Any employer (new and existing VRS employers) that elects the HIC benefit is required to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least 25 percent funded for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years.

10. Conclusion

In funding defined benefit pension plans and OPEBs, governments must satisfy a range of objectives. In addition to the fundamental objective of funding the long-term costs of promised benefits to plan participants, governments also work to:

1. Keep employer's contributions relatively stable from year to year
2. Allocate pension costs on an equitable basis
3. Manage pension risks
4. Pay off unfunded liabilities over reasonable time periods

This Funding Policy was developed to help decision-makers understand the tradeoffs involved in reaching these goals and to document the reasoning that underlies the Board's decisions.

Adopted October 17, 2013
Amended November 14, 2013, June 7, 2016, November 15, 2017, November 20, 2019, and October 18, 2022

VRS Funding Policy Statement[1]

1. Introduction

A plan funding policy determines how much should be contributed each year by employers and participants to provide for the secure funding of benefits in a systematic fashion.

The principal goal of a funding policy is to ensure that future contributions along with current plan assets are sufficient to provide for all benefits expected to be paid to members and their beneficiaries when due. The funding policy should seek to manage and control future contribution volatility to the extent reasonably possible, consistent with other policy goals. The actuarially determined contribution should be calculated in a manner that fully funds the long-term costs of promised benefits, while balancing the goals of 1) keeping contributions relatively stable and 2) equitably allocating the costs over the employees' period of active service.

The current funding policy used by the VRS Board sets contribution rates using the Entry Age Normal cost method, an investment return assumption of 6.75%, an inflation assumption of 2.5%, and a closed 20-year amortization period for unfunded liabilities (Legacy unfunded liabilities as of 6/30/13 are amortized over a closed 30-year amortization period.)

Article X, § 11 of the *Constitution of Virginia* provides that the Virginia Retirement System benefits shall be funded using methods which are consistent with generally accepted actuarial principles. Until 2012, the Annual Required Contribution (ARC) as described in the Governmental Accounting Standards Board's (GASB's) Statements No. 25 and No. 27 was a de facto funding policy for many public- sector retirement systems, including the Virginia Retirement System.

The Board sets contribution rates for all local employers under this policy. However, with respect to the plans for state employees and the teacher plan, while the rates developed under the Board's policy are the certified contribution rates, the Governor and the General Assembly determine the funding that they will provide through the state budget process toward the Board certified contribution rates for the State and Teachers and other statewide OPEB plans. Beginning in FY 2013, § 51.1-145.K1 of the Code of Virginia set out guidelines for the General Assembly to follow for the funding of the contribution rates certified by the VRS Board, phasing in from approximately 67% of Board-certified rate to 100% of the Board-certified rate over the next four biennia. These statutory guidelines do not apply to funding levels for Other Postemployment Benefits (OPEBs) administered by VRS.

[1] Adopted October 17, 2013; amended November 14, 2013, June 7, 2016, November 15, 2017, November 20, 2019, and October 18, 2022.

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In June 2012, GASB revised public pension accounting standards and has communicated an important message in the process: accounting standards are no longer funding standards. However, GASB did not address how employers should calculate the annual required contribution (ARC). To assist state and local government employers, several national groups developed policy guidelines for funding standards. This document is the result of an extensive review of the current funding policy, industry standards and best practices, and the development and approval of funding policy assumptions effective with the June 30, 2013 valuation. A copy of Request for Board Action 2013-07-18 adopting the funding policy assumptions is attached. This Funding Policy is intended to provide guidance to future Boards on how to set employer contribution rates and support the plan's primary goals of contribution and budgetary predictability, accumulation of required assets over time to provide for all benefits earned and achievement of intergenerational equity.

In June 2015, GASB adopted two new statements regarding OPEBs. GASB statement 74, *Financial Reporting for Postemployment Benefits Other than Pension Plans*, and GASB statement 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*. These statements replace GASB 43 and GASB 45. As was the case with GASB 67 and 68, these new statements represent a significant change to the methods used to account for postemployment benefits and provide for a clear separation between accounting for and funding of OPEBs. The new standards require the adoption of a new funding policy for OPEB plans. The current VRS funding policy has been modified to accommodate funding requirements for the VRS OPEB plans.

The VRS OPEB plans include the Health Insurance Credit Program, Group Life Insurance Program, the Virginia Sickness and Disability Program (VSDP), the Virginia Local Disability Program (VLDP) and the Long Term Care benefits associated with the VSDP and VLDP. The Line of Duty Act Fund is also a defined benefit OPEB plan, although it is not a benefit exclusively for VRS members.[2]

[2] As of April 2016 all VRS OPEBs already incorporate the actuarial methods outlined in the Funding Policy, with the following exceptions:

- Health Insurance Credit Program for Political Subdivisions will incorporate a five-year asset smoothing method for funding valuations effective with the June 30, 2016 actuarial valuation.
- The Long Term Care valuation will incorporate the Entry-Age Normal cost method and five-year smoothing method for funding valuations effective with the June 30, 2016 actuarial valuation.
- Line of Duty Act Program (LODA) is currently not prefunded and as set forth in the *Code* shall be funded on a current disbursement basis or in other words is considered a "pay-as-you-go" plan. As such, the plan has no unfunded liabilities and uses market value of assets for valuation purposes. In the event that the General Assembly takes action to begin prefunding this program, the Board of Trustees would move to adopt the various funding provisions contained in this document including moving the program to a five-year asset smoothing method for funding valuations effective with any decision to prefund the LODA program.

These changes were approved by the Board of Trustees at its June 7, 2016 meeting, and were incorporated into this amended Funding Policy. Where a particular actuarial method was already in use, the Funding Policy notes that the Board confirms the actuarial methods for OPEBs.

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The Funding Policy addresses the following general policy objectives:

- □ Ensure funding of plans is based on actuarially determined contributions;
- □ Build funding discipline into the policy to ensure promised benefits can be paid;
- □ Maintain intergenerational equity so the cost of employee benefits is paid by the generation of individuals who receive services;
- □ Make employer costs a consistent percentage of payroll; and
- □ Require clear reporting to show how and when plans will be adequately funded.

This document serves as the Funding Policy for VRS. It has been prepared by VRS in collaboration with the Board and the VRS Plan Actuary and is effective as of the June 30, 2013 valuation, and modified to accommodate the OPEB plans effective as of the June 30, 2016 valuation.

2. Authority

The Virginia Retirement System is administered in accordance with Title 51.1, chapters 1, 2, 2.1, 3 and 4 of the *Code of Virginia*. The contribution to be paid by members of VRS is fixed at a level that covers only part of the cost of accruing benefits. The balance of the cost is paid by employers within the Trust Fund (the "Fund").

The OPEB plans are administered in accordance with Title 51.1, chapters 5, 11, 11.1, and 14 of the *Code of Virginia.* The cost associated with OPEBs is generally borne by the employer and benefits are paid from the various trust funds. An exception to this practice is the Group Life Insurance Program. The Board determines the amount each insured shall contribute for the cost of insurance and by statute this amount is capped at $0.70 per month for each $1,000 of annual salary. Each employer determines whether this cost will be paid by the member or funded by the employer. The balance of the cost is paid by employers within the Fund. The Group Life Insurance plan, however, is a cost-sharing plan so all employers are charged the same rate.

The Funding Policy focuses on the pace at which these liabilities are funded and, in so far as is practical, the measures to ensure that employers pay for their own liabilities.

The Funding Policy is authorized by a framework that includes:

- Article X, § 11 of the *Constitution of Virginia*
- Title 51.1 of the *Code of Virginia*

This is the framework within which the VRS Plan Actuary carries out valuations to set employer contribution rates and provide recommendations to the Board when other funding decisions are required. The Funding Policy applies to all employers participating in the Fund.

The methods and assumptions used in the VRS funding policy are periodically reviewed as part of the quadrennial experience study as required under § 51.1-124.22(A)(4). As such, the content of this document may be updated to reflect changes approved by the VRS Board of Trustees.

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3. Contributions

The Funding Policy provides for periodic employer contributions set at actuarially determined rates in accordance with recognized actuarial principles (§51.1-145(A)). Originally based on parameters set out in GASB 25/27 and GASB 43/45, the contribution should include the employer's normal cost and provisions for amortizing any unfunded actuarial accrued liability (UAAL) in accordance with the requirements originally defined in GASB 25/27 and GASB 43/45.

Member and employer contributions for retirement are required by §§ 51.1-144 and -145 of the *Code of Virginia*. Chapters 5, 11, 11.1, and 14 of Title 51.1 of the *Code of Virginia* and the applicable provisions in each year's Appropriation Act relate to contribution requirements for OPEB plans administered by VRS.

Employer contributions are normally made up of two main elements[3]:

a) the estimated cost of future benefits being accrued, referred to as the "normal cost"; and

b) an adjustment for the funding position of accrued benefits relative to the Fund's actuarially adjusted assets, or the "amortization payment UAAL." If there is a surplus there may be a contribution reduction; if there is a deficit, there will be a contribution addition, with the amount of surplus or deficit being spread over a number of years.

Items a) and b) above are then combined and expressed as a percentage of covered payroll. Employer contribution rates are set each biennium and are in effect for the entire biennium. Valuations in the "off" years are for informational purposes only. Generally, employers with well-funded pension plans consistently pay their annual required contribution in full.

Where this process as applied to a political subdivision would, in the Plan Actuary's opinion, not be expected to maintain the plan's solvency, the VRS staff, working with the Plan Actuary, may determine alternative funding requirements that would maintain the political subdivision's solvency while also meeting the other objectives of this Funding Policy Statement.

With respect to statewide plans, if unfunded liabilities exist in a plan, the Board may recommend alternative contribution rates in excess of the actuarially determined rates if opportunities exist to accelerate paydown of unfunded liabilities. Examples of alternative rates could potentially include approaches such as maintaining rates from the prior year if rates drop in subsequent rate setting or maintaining a higher level contribution rate until a certain funded status is achieved.

[3] Contributions also include administrative expenses.

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4. Funding Target

VRS operates the same target funding level for all ongoing employers of 100% of its accrued liabilities valued on an ongoing basis. This means that contribution rates are set with the intent of funding 100% of a member's benefits during a member's working lifetime. The Line of Duty Act Fund is an exception, as employer contributions are currently determined by the Board on a current disbursement basis per statute. As such, the target funding level for all ongoing employers for LODA is at or near 0% of its accrued liabilities.

Funded Status is defined as the ratio of the actuarial value of assets to the value placed on the benefits, or plan's liabilities, by the VRS Plan Actuary. The VRS Plan Actuary reports on the funded status of each plan in the system in each annual valuation.

5. Actuarial Cost Method

The actuarial cost method is the means by which the total present value of all future benefits for current active and retired participants is allocated to each year of service (i.e., the "normal cost" for each year) including past years (i.e., the "actuarial accrued liability"). There are several available actuarial cost methods, but most governmental plans use the entry age normal (EAN) cost method while a significant minority use the projected unit credit (PUC) method. In the past, VRS has used the EAN method for most of the plans it administers.

Although the EAN and PUC cost methods are both considered reasonable under actuarial standards of practice and GASB 25 and GASB 43 in most circumstances, it is important for plan stakeholders to understand the implications of either method. EAN tends to recognize actuarial liabilities sooner than PUC, and it also tends to result in a more stable normal cost pattern over time for pay-related benefits, even in the face of demographic shifts. The more stable normal cost pattern over time should help in reducing the risk of higher levels of future contributions.

Under the PUC method, the plan's normal cost is the present value of the benefits "earned" during the year, but based on projected pay levels at retirement. For an individual participant, the PUC normal costs increase each year because the present value increases as the participant gets a year closer to retirement. In contrast, under the EAN method, the normal cost is specifically determined to remain a level percentage of pay over each participant's career.

Because EAN normal cost rates are level for each participant, the normal cost pattern for the entire plan under EAN is more stable for pay-related benefits in the face of demographic shifts in the workforce. It is this normal cost stability that makes the EAN method the preferred funding method for pay-related benefits of public plans.

GASB has reaffirmed its decision to require governmental pension plans to base their financial statement reporting on the EAN method. For comparability, GASB has also decided to require governmental OPEB plans, which may not provide pay-related benefits, to base their financial statement reporting on the EAN method.

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Effective with the June 30, 2013 valuation, the Board has adopted the Entry-Age Normal cost method in deriving plan liabilities. This is a continuation of the Board's existing cost method. Effective with the June 30, 2016 valuation, the Board has adopted the Entry-Age Normal cost method for all OPEB plans.

6. Asset Valuation Method

Because investment markets are volatile and because pension plans typically have long investment horizons, asset-smoothing techniques can be an effective tool to manage contribution volatility and provide a more consistent measure of plan funding over time. Asset-smoothing methods reduce the effect of short-term market volatility on contributions, while still tracking the overall movement of the market value of plan assets, by recognizing the effects of investment gains and losses over a period of years. This is also in keeping with § 51.1-145(A), which requires that contribution rates be determined in a manner so as to remain relatively level from year to year.

Determining the ideal asset-smoothing policy involves balancing the two goals of ensuring fairness across generations and controlling contribution volatility for plan sponsors. A very long smoothing period will greatly reduce contribution volatility, but this may mean the impact of recent investment experience is deferred to future generations. However, a very short smoothing period (or none at all) may result in contribution requirements that fluctuate dramatically from year to year.

Such volatility may also result from an asset-smoothing method that constrains how far the smoothed value differs from the market value by imposing a market value "corridor." A corridor is typically expressed as a ratio of the smoothed value of assets to the market value of assets. Actuarial standards of practice and related actuarial studies seek to identify asset-smoothing methods that achieve a reasonable balance between how long it takes to recognize investment experience (the smoothing period) and how much smoothing is allowed in the meantime (the corridor). The resulting smoothing periods are in the range of three to 10 years (with five the most common) and a corridor wide enough to allow the smoothing method to function except in the most extreme conditions.

While the smoothing period for governmental plans is not limited by federal laws or regulations, the Actuarial Standards Board has set out principles for asset smoothing in ASOP No. 44. Under these principles, when a smoothed asset valuation method is used, the actuary should select a method so that the smoothed asset values fall within a reasonable range of the corresponding market values and any differences between the actuarial value and market value of assets should be recognized within a reasonable period.

Effective with the June 30, 2013 valuation, the Board has adopted a five-year asset smoothing period, which also includes a corridor that will restrict the smoothed value from falling below 80% of the true market value or exceeding 120% of the true market value. This is a continuation of the Board's existing asset valuation method. Effective with the June 30, 2016 valuation, the Board has adopted the same asset smoothing period and corridors for the OPEB plans, with the exception of the LODA program, which, by statute, does not prefund benefits. In the event a change to the statutory contribution requirements

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of the LODA program necessitate an asset valuation method, the same asset smoothing period and corridors should be applied to the LODA program at that time.

7. Amortization Method

Amortization of unfunded liabilities is a major component of the annual contribution. Amortization policies involve a balance between controlling contribution volatility and ensuring a fair allocation of costs among generations. The Plan Actuary uses the specific amortization periods adopted by the Board for all employers when developing a method over which to pay down any unfunded liabilities that may exist. The amortization period should allow adjustments to contributions to be made over periods that appropriately balance intergenerational equity against the goal of keeping contributions level as a percentage of payroll over time as required by § 51.1-145.

Amortization of the unfunded actuarial accrued liability (UAAL) determines how current and future UAAL will be paid off or "amortized," and so includes how changes in benefits or actuarial assumptions that affect the actuarial accrued liability should be funded over time. Even more than with asset smoothing methods, amortization policies involve a balance between controlling contribution volatility and ensuring a fair allocation of costs among generations. Longer amortization periods help keep contributions stable, but excessively long periods may inappropriately shift costs to future generations. In seeking to achieve an appropriate balance between these two important policy goals, a comprehensive amortization policy will involve the following distinct elements:

- Payment basis
- Payment structure
- Amortization period

A. Payment Basis: Level Dollar vs. Level Percent of Pay

One of the first considerations is whether amortization payments will be set at a level dollar amount (similar to a home mortgage) or as a level percent of pay. The great majority of public pension plans use level-percent-of-pay amortization where the payments toward the UAAL increase each year at the same rate as is assumed for payroll growth. Compared with the level-dollar approach, payments start at a lower dollar amount under the level percent approach, but then increase in proportion to payroll. The level-dollar method is more conservative in that it funds the UAAL faster in the early years. However, the level-percent-of-pay approach is consistent with the pay-related structure of benefits under most public plans. Moreover, because the normal cost is also determined as a level percent of pay, level percent amortization provides a total cost that remains level as a percentage of pay. In contrast, level- dollar amortization of UAAL will produce a total cost that decreases as a percentage of pay over the amortization period. A plan should balance these considerations in choosing between level-percent and level dollar amortization. Section 51.1-145(A) of the *Code of Virginia* provides in part that "[t]he total annual employer contribution for each employer, expressed as a percentage of the annual membership payroll, shall be determined in a manner so as to remain relatively level from year to year...."

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Effective with the June 30, 2013 valuation the Board has elected to use the level percent of pay payment basis. This is consistent with historical VRS practice. Effective with the June 30, 2016 valuation the Board confirms the continued use of the level percent of pay payment basis put in effect June 30, 2013 for the OPEB plans when an actuarially determined contribution is calculated.

B. Payment Structure

Amortization policy must also consider how amortization payments should be structured. For example, a determination needs to be made as to whether the entire UAAL should be aggregated and amortized as a single amount, or whether the plan should track individual bases for each source of UAAL or surplus each year, and amortize these separately. Amortization periods can be fixed, open or "rolling" (with the amortization period restarted each year).

Although use of a single amortization base provides simplicity, use of separate amortization bases for each source of UAAL has the advantage of tracking separately each new portion of UAAL and providing another mechanism to stabilize contribution rates. Under this approach, over time there will be a series of bases, one for each year's gain or loss as well as for any other changes in UAAL. This provides useful information to stakeholders, as they can view the history of the sources of a plan's UAAL in any year. The use of separate amortization bases should help balance the annual ups and downs in the UAAL. In practice, the number of bases will be limited by the length of the amortization period as eventually bases will be fully amortized, and so will no longer be part of the UAAL.

Fixed amortization periods identify a date certain by which each portion of the UAAL will be funded. This can be contrasted with open or rolling amortization, whereby the plan "resets" its amortization period every year. This is analogous to a homeowner who refinances his mortgage each year. Although both methods are common in current practice, fixed amortization periods have the advantage of providing stakeholders with a clearer understanding of the ultimate funding target (full funding) and the path to get there. It is the structure required for private sector pensions, and is increasingly common for public pension plans.

Effective with the June 30, 2013 valuation the Board has elected to use individual bases for each source of UAAL or surplus each year and to use fixed amortization periods rather than open or rolling periods. This is a change from past VRS practice but is consistent with industry best practices. Effective with the June 30, 2016 valuation the Board confirms the continued use of individual bases for each source of UAAL or surplus each year and the use of fixed amortization periods rather than open or rolling periods put in effect June 30, 2013 for all OPEB plans, with the exception of the LODA program, which, by statute, is currently not prefunded. For the purposes of accounting disclosures under GASB 43 and 45, the LODA program will continue to use an open period. In the event a change to the statutory contribution requirements of the LODA program necessitate a payment structure, individual bases for each source of UAAL or surplus each year and fixed amortization periods, rather than open or rolling periods, will be used by the LODA program at that time.

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C. Amortization period

Amortization period is a determination of the appropriate period of time over which amortization should occur. The answer can depend on the source of the UAAL being amortized, as discussed below:

UAAL Due to Actuarial Gains/ Losses

Actuarial gains and losses arise when there is a difference between the actuary's estimates (assumptions) and the actual experience of the plan. They can result from demographic experience (e.g., the number of new retirees is higher or lower than expected), investment experience (e.g., returns that are higher or lower than expected), or other economic experience (e.g., payroll growth that is higher or lower than expected). In determining the appropriate period for amortizing gains and losses, plan sponsors should strike a balance between reducing contribution volatility (which would lead to longer amortization periods) and maintaining a closer relationship between contributions and routine changes in the UAAL (which would lead to shorter amortization periods). For many plans, amortization periods in the range of 15 to 20 years for gains and losses would assist plans in achieving a balance between these objectives.

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UAAL Due to Changes in Actuarial Assumptions

Assumption changes will result in an increase or decrease in the UAAL. Unlike gains and losses, which reflect actual past experience, assumptions are modified when future expectations about plan experience change. This amounts to taking the effect of future expected gains or losses and building it into the cost today. For that reason, and because of the long-term nature of assumption changes, a plan could be justified in using a longer amortization period than that used for actuarial gains or losses, perhaps in the range of 15 to 25 years.

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Amortization of UAAL Due to Plan Amendments

Because plan amendments are under the control of the plan sponsor, managing contribution volatility is generally not a consideration for plan amendments. This means that the primary rationale in selecting the period is to support intergenerational equity by matching the amortization period to the demographics of the participants receiving the benefit. This leads to shorter, demographically based amortization periods. For active participants, this could be the average future working lifetime of the active participants receiving the benefit improvement, while for retirees, this could be the average life expectancy of the retired participants receiving the benefit improvement. This approach would usually result in no longer than a 15-year amortization period for benefit improvements.

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An equitable amortization policy should ensure that the UAAL will be paid off in a reasonable period of time. Long amortization periods can make paying down the UAAL appear more affordable, but, because interest charges accrue and compound on the unpaid UAAL, it is prudent to set amortization periods that are not excessively long. This is especially important where level

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percent of pay amortization is used.

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In an effort to balance the need to pay down the current unfunded liability while managing already increasing contribution rates, the Board elected to manage the paydown of any unfunded liabilities created prior to June 30, 2013 over a 30-year closed period. In an effort to better manage intergenerational equity and to build funding discipline into the VRS policy, the Board also decided that future unfunded liabilities would be best amortized over 20-year closed periods.

With long amortization periods, the UAAL may increase during the early years of amortization period, even though contributions are being made to amortize the UAAL. This phenomenon, known as "negative amortization", occurs only with level percent of pay amortization. This happens because, under level percent of pay amortization, the lower early payments can actually be less than interest on the outstanding balance, so that the outstanding balance increases instead of decreases. For typical public plans, this happens whenever the average amortization period is longer than approximately 20 years.

While there is nothing inherently wrong with negative amortization in the context of a public plan, stakeholders should be aware of its consequences, especially for amortization periods substantially longer than 20 years. Negative amortization is a particular concern for plans using open, or rolling, amortization periods. As described above, plans that use open/rolling amortization methods "reset" to a new amortization period every year. By contrast, a plan using a closed amortization commits to paying down the UAAL over a fixed period.

Effective with the June 30, 2013 valuation the Board has elected to amortize the legacy unfunded liability as of June 30, 2013, over a closed 30-year period. New sources of unfunded liability will be explicitly amortized over closed 20-year periods. The amortization period for the deferred contributions from the 2010-2012 biennium will remain a 10-year closed period. These amortization periods reflect a shift to closed amortization periods and tiered successive 20-year closed periods for new sources of unfunded liability. This is a change from past VRS practice of using a 20-year rolling method. Effective with the June 30, 2016 valuation the Board confirms the continuation of the amortizations put in effect June 30, 2013 for all OPEB plans, with the exception of the LODA program, which, by statute, is currently not prefunded. For the purposes of accounting disclosures under GASB 43 and 45, the LODA program will continue to use an open 30- year period. In the event a change to the statutory contribution requirements of the LODA program necessitate an amortization period, the LODA program will, at that time, explicitly amortize new sources of unfunded liability over closed 20-year periods.

Effective November 20, 2019, the Board amends this policy to clarify that amortization periods of explicit bases may be shortened in an effort to pay off unfunded liabilities of either pensions or OPEBs earlier than originally scheduled.

Effective October 18, 2022, the Board amends this policy to set the amortization period for unfunded liabilities generated by elected plan amendments to be 10 years rather than 20 years.

8. Actuarial Assumptions

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Setting actuarial assumptions is critical to the funding of a plan. Forward-looking assumptions about plan demographics, wages, inflation, investment returns and more drive the measurement of liabilities and costs, and therefore affect funding. Unlike the selection of funding methods, which involves a fair degree of policy discretion, the selection of assumptions should be based solely on best estimates of actual future experience. While it may be tempting to set assumptions based on how they might affect current contribution requirements, such "results-based assumption setting" should be avoided. ***It is the plan's actual experience that ultimately determines the cost of the benefits, so the assumptions should try to anticipate actual experience.*** Periodic reexamination of plan assumptions is an essential part of any plan's actuarial processes. As a general rule, many plans conduct an experience study every three to five years, an interval that should help ensure that assumptions remain appropriate in the face of evolving conditions and experience. VRS reviews assumptions every four years as required under § 51.1-124.22(A)(4).

All assumptions should be consistent with Actuarial Standards of Practice and reflect professional judgment regarding future outcomes.

VRS plans to continue experience studies once every four years as required by § 51.1-124.22(A)(4) to determine whether changes in the actuarial assumptions are appropriate.

Appendix A contains a chart summarizing some of the current assumptions used for the various benefit plans managed by the VRS.

Appendix B is RBA 2013-07-18, which documents the approval of VRS funding policy assumptions.

Appendix C is RBA 2013-11-26, which documents the approval of revisions to the VRS funding policy assumptions for political subdivisions.

Appendix D is RBA 2016-06-15, which documents the approval of VRS funding policy methods and assumptions with regard to the OPEB plans.

Appendix E is RBA 2016-06-16, which documents the Board's approval of changes to actuarial methods for certain OPEB plans.

Appendix F is RBA 2017-04-9, which documents the approval of VRS funding policy assumptions.

Appendix G is RBA 2019-10-13, which documents approval of a discount rate of 6.75% for actuarial valuations effective with the June 30, 2019 valuations.

Appendix H is RBA 2019 -11 -, which documents the approval of the use of shortened amortization periods for unfunded liabilities and maintaining prior contribution rates to assist in paying unfunded liabilities.

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9. Additional Considerations

Where the Funding Policy Statement as applied to a political subdivision would, in the Plan Actuary's opinion, not be expected to maintain the plan's solvency, the Board authorizes the VRS staff, working with the Plan Actuary, to determine alternative funding requirements that would maintain the plan's solvency while also meeting the other objectives as stated in the Board's funding policy.

1. **Additional Funding Contribution** - The Additional Funding Charge is the contribution rate needed, if necessary, to allow the local system to use the plan's assumed Investment Return Rate as its Single Equivalent Interest Rate (SEIR) under GASB Statement No. 67. The additional funding contribution rate, if needed, allows for the use of the 6.75% investment return as the single equivalent investment return assumption for purposes of the GASB 67/68 statements. To determine the SEIR, the Fiduciary Net Position (FNP) must be projected into the future for as long as there are anticipated benefits payable under the plan's provisions applicable to the members and beneficiaries of the system on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR. If the FNP is projected to be depleted, an Additional Funding Charge is developed to avoid depletion.

2. **Surcharge for "At Risk" Plans** – Political subdivision plans identified as potentially "at-risk" due to low funded levels may require an additional surcharge or shortened amortization periods to bring the funding level of the plan to a sustainable level as determined by the Plan Actuary.

3. **Limitation on Benefit Enhancements Increasing Liability** - Benefit enhancements to a political subdivision pension plan that would have the effect of increasing the plan's liabilities by reason of increases in benefits, establishment of new benefits, changing the rate of benefit accrual, or changing the rate at which benefits become non-forfeitable may take effect during any plan year if the political subdivision's current funded ratio for such plan year would be at least 75 percent after taking into account such amendment.

   In order to increase benefits in circumstances where the funded ratio would be less than 75 percent after taking into account the amendment, the political subdivision would be required to make a lump sum contribution in the amount necessary to bring the funding level to 75 percent as of the effective date of the change, in addition to any increase in annual funding due to plan enhancements.

   Any accrued liability generated by the plan amendment that is not covered by the lump sum contribution will be amortized over no more than 10 years.

4. **Pension Plans for New Employers –**
   Any new employer must have a funded status of at least 75 percent for pension benefits.
   Any past service that is granted by the employer or purchased at the time the employer joins VRS must be at least 75 percent funded at the join date with the remaining amount amortized over no more than 10 years.

5. **Health Insurance Credit (HIC) Elections –**

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Any employer (new and existing VRS employers) that elects the HIC benefit is required to pay an initial contribution equal to the greater of two years of expected benefit payments or the amount required to reach at least 25 percent funded for its HIC plan, with the remainder of the unfunded liability amortized over no more than 10 years.

10. Conclusion

In funding defined benefit pension plans and OPEBs, governments must satisfy a range of objectives. In addition to the fundamental objective of funding the long-term costs of promised benefits to plan participants, governments also work to:

1. Keep employer's contributions relatively stable from year to year
2. Allocate pension costs on an equitable basis
3. Manage pension risks
4. Pay off unfunded liabilities over reasonable time periods

This Funding Policy was developed to help decision-makers understand the tradeoffs involved in reaching these goals and to document the reasoning that underlies the Board's decisions.

Adopted October 17, 2013
Amended November 14, 2013, June 7, 2016, November 15, 2017, November 20, 2019, and October 18, 2022

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