



Benefits and Actuarial Committee (B&A) Meeting

VRS, 1111 E. Main Street
3rd Floor Board Room

Tuesday, 4/15/2025
1:00 - 2:30 PM ET

I. Welcome and Introductions

II. Approve Minutes

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III. Experience Study

RBA Experience Study - Page 6

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IV. Other Business

Minutes

A regular meeting of the Benefits and Actuarial Committee was held on February 6, 2025, in Richmond, Virginia with the following members participating:

John M. Bennett, Chair
Lindsey K. Pantele, Vice Chair
Jessica L. Hood

Board members participating:
Lawrence A. Bernert, III

VRS Staff:

Patricia Bishop, Andrew Junkin, Jennifer Schreck, Rory Badura, Judy Bolt, Jeanne Chenault, Michael Cooper, Sara Denson, Antonio Fisher, Krystal Groff, Sandy Jack, Angela Payne, Andrew Ringle, Amethyst Sloane and Leslie Weldon.

Guests:

Kimberly Sarte and Alexandria Jansson, Joint Legislative Audit and Review Commission.

The meeting convened at 11:01 a.m.

Opening Remarks

Mr. Bennett called the meeting to order and welcomed everyone to the February 6, 2025, meeting of the Benefits and Actuarial Committee. Mr. Bennett took attendance with the following roll call:

Ms. Hood: Present.
Ms. Pantele: Present.
Mr. Bernert: Present.
Mr. Bennett: Present.

Approval of Minutes

Upon a motion by Ms. Pantele, with a second by Ms. Hood, the Committee approved the minutes of its November 14, 2024, meeting.

Overview of Cost-of-Living Increases

Virginia Sickness and Disability Program

Rory Badura, Senior Staff Actuary, presented the recommendations of Gabriel, Roeder, Smith & Company (GRS), the plan actuary, regarding statutory annual adjustments to Virginia Sickness and Disability Program (VSDP) creditable compensation for members on long-term disability. For VSDP, Mr. Badura advised that the plan actuary recommends an increase in the creditable compensation for VRS pension benefit purposes of 4.00%, effective July 1, 2025. Mr. Badura noted a cost-of-living adjustment (COLA) in the amount of 2.95% shall be applied to long-term disability (LTD) benefit payments for Plan 1 members vested prior to January 1, 2013. A COLA of 2.48% shall be applied for Plan 1 members not vested prior to January 1, 2013, and all Plan 2 and Hybrid Retirement Plan members who have been

recipients of LTD benefits for at least one year. The calculations were reviewed by VRS staff and Internal Audit.

Following a motion by Ms. Pantele, with a second by Ms. Hood, the Committee recommended approval of the following action to the full Board of Trustees:

RBA: Approval of July 1, 2025 increase relating to VSDP creditable compensation and VSDP COLA.

Request for Board Action: Effective July 1, 2025, the following increases shall apply:

- *The creditable compensation used in calculating the member's average final compensation at retirement shall be increased in the amount of 4.00% for a Plan 1, Plan 2 or Hybrid member who has been the recipient of long-term disability (LTD) benefits for at least one calendar year under the Virginia Sickness and Disability Program (VSDP); and*
- *A cost-of-living adjustment shall be applied to the net LTD benefit payment of 2.95% for Plan 1 members vested prior to January 1, 2013, or 2.48% for Plan 1 members not vested by January 1, 2013, and all Plan 2 and Hybrid members.*

Virginia Local Disability Program

Next, Mr. Badura reviewed the increases in creditable compensation related to the Virginia Local Disability Program (VLDP). Mr. Badura advised that for VLDP, the plan actuary recommends an increase in the creditable compensation used at retirement of 4.00%, effective July 1, 2025. The VLDP plan does not provide for a COLA on LTD benefits being received. Mr. Badura noted the calculations for the increase in creditable compensation were reviewed by VRS staff and Internal Audit.

Upon a motion by Ms. Pantele, with a second by Ms. Hood, the Committee recommended approval of the following action to the full Board of Trustees:

RBA: Approval of July 1, 2025 increase relating to VLDP creditable compensation.

Request for Board Action: Effective July 1, 2025, each recipient of LTD benefits under the Virginia Local Disability Program (VLDP) who has been receiving LTD benefits for at least one calendar year, and who ultimately retires directly from LTD, will have their creditable compensation at date of disability increased by an amount set by the Board to be used in determining the member's average final compensation for disability retirement. The recommendation applicable to July 1, 2025, is an increase of 4.00% to be applied to a recipient's creditable compensation.

Information Items

2025 COLAs Called for Under Statute Not Requiring Board Approval

Mr. Badura provided an overview of the 2025 COLAs called for under statute that do not require approval by the Board of Trustees. By statute, VRS cost-of-living increases are based on the consumer price index for all items, all urban consumers, as published by the Bureau of Labor Statistics of the U.S. Department of Labor. Mr. Badura advised that the COLA increase effective July 1, 2025, of 2.95% is applicable to eligible Plan 1 members vested prior to January 1, 2013. A COLA increase of 2.48% is applicable to Plan 1 members not vested prior to January 1, 2013, and all Plan 2 and Hybrid Plan

members effective July 1, 2025. Mr. Badura noted this figure was calculated by GRS, the VRS plan actuary, and verified by VRS staff and Internal Audit. The COLA does not require action by the Committee.

Next, Mr. Badura advised the Hazardous Duty supplement is required to be reviewed biennially, at which time it is to be increased by any applicable cost-of-living adjustments published by the Social Security Administration since the last applicable increase. The annual supplement will increase from \$16,884 to \$17,856 for fiscal year 2025.

The Group Life Insurance Program minimum benefit for members retired with at least 30 years of service is to be increased by the same COLA applicable to VRS Plan 2 members, or 2.48%, effective July 1, 2025. The new minimum life insurance payout, effective July 1, 2025, will be \$9,768. The Group Life Insurance Program minimum does not require action by the Committee. The calculations were reviewed by VRS staff and Internal Audit.

Mr. Bennett thanked Mr. Badura for his presentation.

Pension Dashboard Update

Next, Mr. Badura provided an overview and status update on the development of the VRS Pension Dashboard that will consolidate historical measures, display trend information of key indicators and provide monthly updates of economic cash flow measures that indicate expectations for upcoming valuation results. The dashboard allows access to various pension and OPEB plan measures associated with plan liabilities, employer costs, plan cash flows and demographic information. The dashboard also includes historical information, some year-to-date measures for monthly monitoring, and forecasts.

Mr. Badura advised next steps include converting to Power BI for internal access and exploring options to provide access to VRS Board members.

Experience Study Update

Next, Mr. Badura provided an update on the quadrennial experience study being performed by GRS which will be presented to the committee in April.

Mr. Bennett thanked Mr. Badura for the updates.

Legislative Update

Trish Bishop, VRS Director, provided a brief overview of VRS-related legislation as a more detailed presentation would be provided to the full Board of Trustees following the conclusion of the B&A Committee meeting.

Other Business

Lastly, Mr. Bennett noted the full Board of Trustees will meet at 1:00 following the conclusion of the B&A meeting.

Adjournment

Upon a motion by Ms. Pantele, with a second by Ms. Hood, the Committee agreed to adjourn the meeting.

There being no further business, the meeting concluded at 11:51 a.m.

Date

John M. Bennett, Chair
Benefits and Actuarial Committee



Approval of Actuarial Assumptions based on July 1, 2020, to June 30, 2024, Experience Study.

Requested Action

The VRS Board of Trustees approves its plan actuary's recommendations as presented in the Experience Study (7/1/2020 to 6/30/2024) to change various assumptions, including: certain demographic assumptions regarding mortality rates, retirement rates, withdrawal rates, disability rates, salary increases and total payroll growth; method changes regarding the determination of normal cost; and various other post-employment benefits (OPEB) specific assumptions related to the Line of Duty Plan, Health Insurance Credit program, and the VSDP and VLDP disability programs.

Description/Background

The *Code of Virginia* requires the Board to cause an actuarial investigation to be made of the actual experience under the Retirement System at least once in each four-year period. The Board is also required to cause actuarial gain/loss analyses to be made in conjunction with each actuarial valuation of the System. Finally, pursuant to such investigations and analyses, the Board is required to periodically revise the actuarial assumptions used in the computation of employer contribution rates.

Accordingly, following its review of the findings of the Experience Study for the period of July 1, 2020, to June 30, 2024, the Board approves the assumption changes for various retirement and OPEB programs administered by VRS recommended by Gabriel, Roeder, Smith & Company, the VRS plan actuary.

The experience study for the period of July 1, 2020, to June 30, 2024, was conducted as required by the provisions of *Code of Virginia* § 51.1-124.22(A)(4). A copy of the Experience Study Summary is attached.

Rationale for Requested Action

The *Code of Virginia* requires the Board to obtain an actuarial experience study every four years. The VRS plan actuary, Gabriel, Roeder, Smith & Company, conducted the study and recommended assumption changes based on the findings of the July 1, 2020, to June 30, 2024, Experience Study.

Authority for Requested Action

The Board's authority for this action is contained in *Code of Virginia* § 51.1-124.22(A)(4).

The above action is approved.

A. Scott Andrews, Chair
VRS Board of Trustees

Date



July 1, 2020 – June 30, 2024 Experience Study Results

**Presented by: Becky Stouffer, ASA, MAAA, FCA; Jennifer Cagasan, EA, MAAA
Jim Anderson, FSA, EA, MAAA, FCA**

April 15, 2025



Agenda

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Executive Summary

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Economic Assumptions

3

Demographic Assumptions

4

OPEB- and LODA-Specific Assumptions

5

Actuarial Methods and Funding Policy

6

Effect on Valuation Results

EXECUTIVE SUMMARY



EXPERIENCE STUDY PROCESS



Experience Study Overview

- Industry best practice
- Part of VRS' fiduciary duty and GRS' actuarial duty
- Reviews actual experience to actuarial assumptions
- VRS Statute (§ 51.1-124.22.A.4) requires preparation of an experience study at least once every four years
 - Current study covers the period 7/1/2020 – 6/30/2024

Experience Study Overview (Concluded)

- As part of the study, VRS and GRS review:
 - Economic assumptions, such as the investment rate of return, price inflation and wage inflation
 - Demographic assumptions, such as mortality, rate of retirement, disability, etc.
 - Plan specific assumptions relating to GLI, HIC, LODA, VSDP and VLDP
 - VRS Funding and Amortization Policies

Experience Study Process

Analysis

- Based upon experience during 2020-2024
- Compared trends with prior studies
- Some assumptions were set using “liability weighting” – instead of counting people to set assumptions, we counted liabilities

Philosophy

Do not overreact to results from any single experience period

- It is better to make a series of small changes in the right direction, rather than a single large change that could turn out, in hindsight, to be in the wrong direction

Assumptions

- Demographic assumptions typically recommended by actuary and adopted by Board
- Economic assumptions – actuary recommends range of reasonable economic alternatives and Board adopts based on input from VRS Investment team, actuary and advisors

Actuarial Assumptions

Primary Assumptions	
Demographic	Economic
Normal Retirement	Price Inflation
Early Retirement	Wage Inflation
Death-in-Service	Investment Return
Disability	
Other Separations	
Pre- and Post-Retirement Mortality	
Merit and Longevity Pay Increases	

Monitoring Assumptions

Outdated assumptions can lead to:

Understated costs resulting in:

- Sharp increases in required contributions at some point in the future leading to a large burden on future members, employers and taxpayers
- In extreme cases, an inability to pay benefits when due

Overstated costs resulting in:

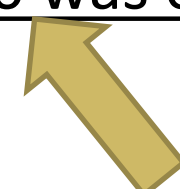
- Benefit levels kept below the level that could be supported by employer and member contribution rates
- An unnecessarily large burden on the current generation of members, employers and taxpayers

Setting Assumptions in Light of COVID

- All analysis is based on data through June 30, 2024
 - (COVID impacts nearly all study years)
- Generally two schools of thought:
 - COVID is a one-time shock and things will return to ‘normal’
 - Future long-term trends and assumptions will align with prior trends
 - COVID will have a long-lasting impact for many years to come
 - Will need several years of data to collect relevant information
 - Could have an impact on all actuarial assumptions (not just mortality), but trends will emerge over time

Setting Mortality Assumptions in Light of COVID

- General recommendation – do not overreact, wait until we have better information
- Too early to tell long-term mortality impacts
 - Some arguments for shorter lifespans
 - Some arguments for longer lifespans
 - Wait for additional data to discern COVID impact
- January 2025: Society of Actuaries releases Pub-2016 tables
 - In light of COVID, data contributed for calendar year 2020 was excluded from the study (used only 2013-2019)
 - PUB-2016 tables are not finalized or published yet



Setting Demographic Assumptions in Light of COVID

- Other demographic assumptions
- COVID impacted every aspect of life
 - Dramatic change to the workplace
 - The “Great Resignation” impacted retirements, terminations and disabilities
 - Remote work arrangements
 - Other
- In general, due to COVID influence, GRS moved about 25% (vs. usual 50%) of the way to the observed experience for most assumptions

Magnitude of Plan Cost Impact

- This experience study investigates countless assumptions for VRS Plans
 - Pension: State, Teachers, VaLORS, SPORS, JRS, Political Subdivisions
 - HIC: State, Teachers, Pol. Subs, Constit. Officers, Social Services, Registrars
 - VSDP: State, SPORS, VaLORS
 - VLDP: Teachers, Political Subdivisions
 - LODA: State, VaLORS, SPORS, Political Subdivisions
- Major assumptions driving plan costs: Investment and Mortality
 - No change to investment return recommended
 - Minor changes to mortality projection scale
- As a results: The cost impact – normal cost, accrued liabilities, contribution – is very minor compared to prior experience studies

ECONOMIC ASSUMPTIONS



Current Economic Assumptions

Price Inflation	2.50%
Wage Inflation	3.50%
Investment Return	6.75%
Retiree Cost of Living Adjustment	
Plan 1	2.50%
Plan 2/Hybrid	2.25%

Comments on Economic Assumption Selection

- To review the reasonability of the assumptions, we review the following items:
 - Historical trends
 - Forward expectations of Investment Consultants
 - Comparison to other Systems
- Typically, a Board decision with input from Investment Experts and Actuary
- But Actuary must comply with Actuarial Standards of Practice and certify the assumption as reasonable

Economic Assumptions

ASOP No. 27

Actuary must select reasonable assumptions

- Appropriate for purposes of measurement
- Reflects actuary's professional judgment
- Takes into account historical and current data
- Has no significant bias except when provision for adverse deviation
- Reflects actuary's estimate of future experience

Forward-Looking Price Inflation at 12/31/24

- Despite inflation cresting in 2022 – forward-looking price inflation forecasts remained low
 - CBO, Banks, etc.: from 2.23% to 2.45%
 - CMAM investment consulting firms: from 2.13% to 2.70%
- Current assumption is consistent with U.S. averages (2.0% to 2.5%)
- **Recommend no change to current 2.50% assumption**

Forward-Looking Price Inflation Forecasts	
Congressional Budget Office	
5-Year Annual Average	2.44%
10-Year Annual Average	2.32%
Federal Reserve Bank of Philadelphia	
5-Year Annual Average	2.40%
10-Year Annual Average	2.23%
Federal Reserve Bank of Cleveland	
10-Year Expectation	2.32%
20-Year Expectation	2.38%
30-Year Expectation	2.44%
Federal Reserve Bank of St. Louis	
10-Year Breakeven Inflation	2.30%
20-Year Breakeven Inflation	2.42%
30-Year Breakeven Inflation	2.27%
U.S. Department of the Treasury	
10-Year Breakeven Inflation	2.27%
20-Year Breakeven Inflation	2.45%
30-Year Breakeven Inflation	2.30%
50-Year Breakeven Inflation	2.37%
100-Year Breakeven Inflation	2.42%
Social Security Trustees	
Ultimate Intermediate Assumption	2.40%



Price & Wage Inflation – U.S. History Through 12/31/24

Year	Prices (CPI-U)	Wages (NAE)	Difference
1965 - 1974	5.2%	5.8%	0.6%
1975 - 1984	7.3%	7.2%	-0.1%
1985 - 1994	3.6%	3.9%	0.3%
1995 - 2004	2.4%	4.1%	1.7%
2005 - 2014	2.1%	2.7%	0.6%
2015 - 2024	3.0%	4.0%	1.0%
3 - Year Average	4.2%	4.3%	0.1%
5 - Year Average	4.2%	4.9%	0.7%
10 - Year Average	3.0%	4.0%	1.0%
20 - Year Average	2.6%	3.3%	0.7%
30 - Year Average	2.5%	3.6%	1.1%
50 - Year Average	3.7%	4.4%	0.7%

CPI-U: Consumer Price Index for All Urban Consumers

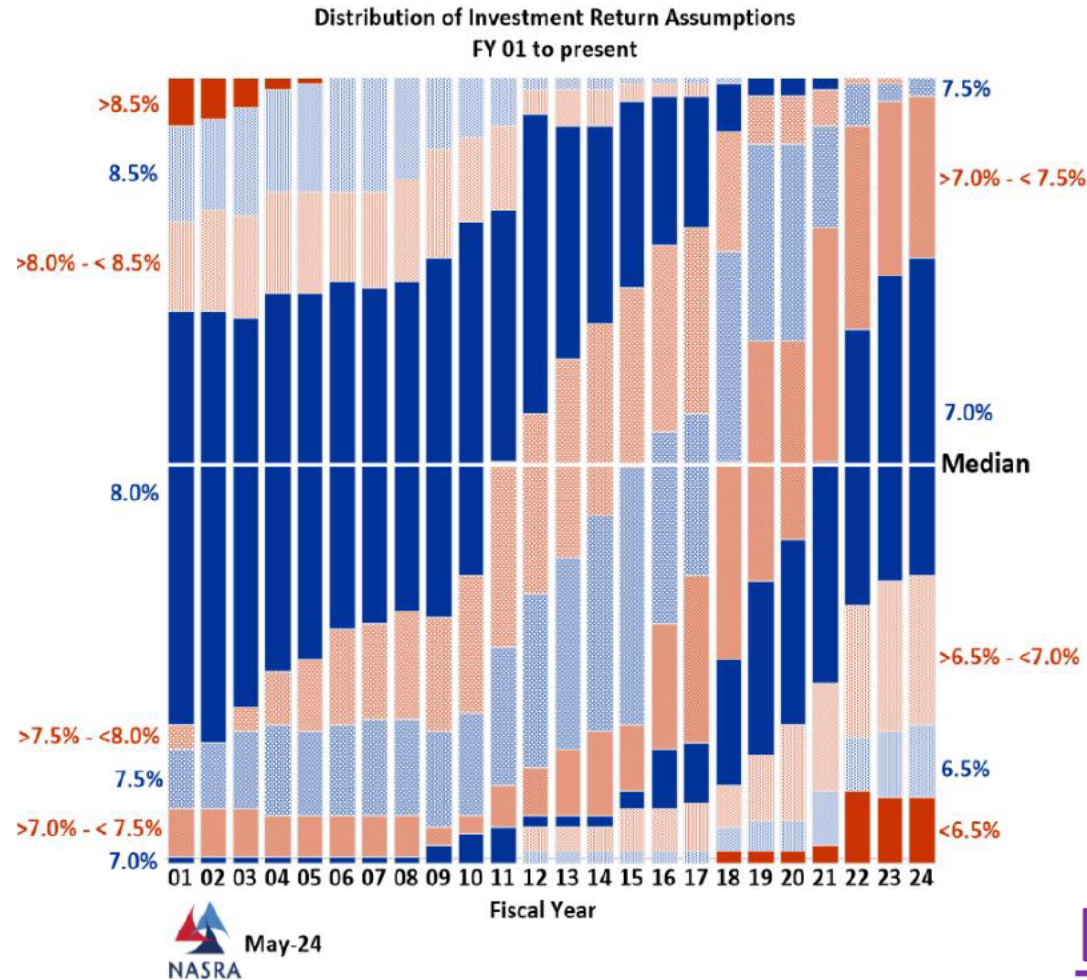
NAE: National Average Earnings



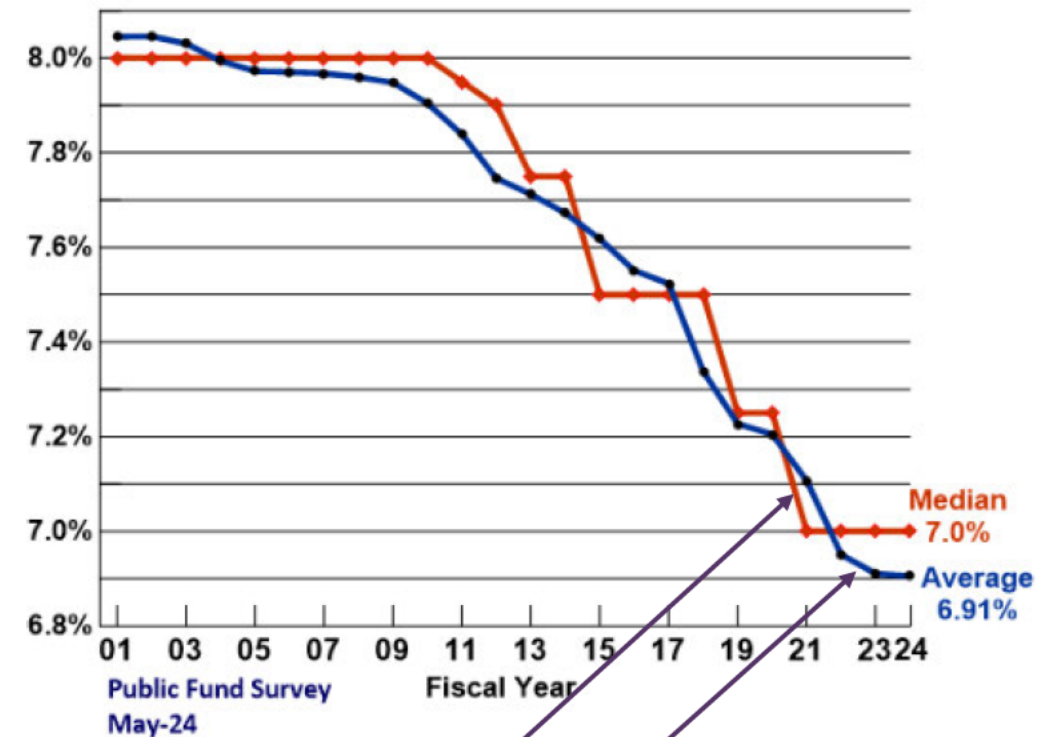
Comments on Wage Inflation

- Current spread over price inflation is 100 basis points
- Typical spread anywhere between 25 and 100 basis points
- Merit and Longevity portion of pay increases reviewed separately with demographic assumptions
- **Recommend no change to current 3.50% assumption**

Investment Return Assumption Universe



Change to Average and Median
Investment Return Assumption, FY 01 to present



Key point: Decrease has stopped

Investment Return

Capital Markets

- GRS does not provide investment advice
- GRS maintains a database of capital market assumptions from 12 different investment firms
- GRS uses the capital market assumptions to estimate the return that each firm would expect the client's portfolio to produce using CMAM (Capital Market Assumption Modeler)
 - The intention is to avoid giving undue weight to the expectation of any particular consulting firm

Investment Firms/Institutions* Surveyed

- Aon Hewitt
- Bank of New York Mellon
- Blackrock
- Callan
- Cambridge
- JP Morgan
- Meketa
- Mercer
- NEPC
- RVK
- Verus
- Wilshire

*In Alphabetical Order

VRS Asset Allocation – 2024

Asset Class	2024 Allocation
Public Equity	33%
Private Equity	16%
Real Assets	14%
Credit Strategies	14%
Diversifying Strategies	4%
Private Investment Partnerships	2%
Fixed Income	16%
Cash	2%
Leverage	-1%



Investment Return (Geometric Expectation)

GRS 2024 CMAM				
Capital Market Assumption Set (CMA)	Distribution of 20-Year Average Geometric Net Nominal Return			Probability of exceeding
	40th	50th	60th	6.75%
(1)	(2)	(3)	(4)	(5)
1	5.49%	6.21%	6.94%	42.58%
2	5.73%	6.45%	7.17%	45.73%
3	6.24%	6.94%	7.65%	52.72%
4	6.43%	7.10%	7.78%	55.26%
5	6.53%	7.16%	7.80%	56.58%
6	6.52%	7.21%	7.91%	56.75%
7	6.63%	7.29%	7.96%	58.16%
8	6.82%	7.43%	8.05%	61.17%
9	6.76%	7.48%	8.20%	60.09%
10	6.97%	7.64%	8.31%	63.14%
11	7.05%	7.75%	8.46%	64.14%
12	7.24%	7.86%	8.48%	67.56%
Average	6.53%	7.21%	7.89%	56.99%
Average from last 3 CMAMs over 10-year horizon		6.70%		
Current CMAM average over 20- to 30-year horizon		7.42%		

* Wide-ranging expectations of 12 investment firms in GRS survey

* Current 3-year averages heavily impacted by 2022 results (lowest forward-looking expectations ever)

* Conversely, 2023 results saw the largest one time swing (~150 basis point increase)

* Historically, 10-year expectations decrease following favorable markets (reversion to the mean)



Comments on Investment Return Assumption

- A subset of firms provided 20-30 year forecasts, average 7.42%
- **VRS Investment staff has 20-year forecast of 7.10%**
- There is no universal agreement regarding time horizon for this assumption, but generally between 10 and 20 years
- Since 2023 and 2024 have been favorable, we expect forward-looking expectations to trend back down
- Our analysis finds the current 6.75% assumption reasonable and we recommend **no change to this assumption**

Economic Return Assumption – Summary

No changes to price inflation, wage inflation or investment return recommended in this study

Price Inflation	2.50%
Wage Inflation	3.50%
Investment Return	6.75%
Cost Of Living Adjustment	
Plan 1	2.50%
Plan 2/Hybrid	2.25%

Total Payroll Growth (\$ Millions)

VaLORS active population contracted over last 12 years

Growth in Active Population										
Year	State	% Change	Teachers	% Change	VaLORS	% Change	State Police	% Change	Judicial	% Change
2012	76,274		147,216		9,383		1,881		380	
2013	75,812	-0.6%	146,730	-0.3%	9,372	-0.1%	2,002	6.4%	381	0.3%
2014	75,730	-0.1%	146,977	0.2%	9,429	0.6%	2,011	0.4%	385	1.0%
2015	75,256	-0.6%	147,645	0.5%	8,820	-6.5%	1,994	-0.8%	401	4.2%
2016	74,968	-0.4%	149,018	0.9%	9,106	3.2%	1,940	-2.7%	416	3.7%
2017	74,807	-0.2%	150,416	0.9%	8,718	-4.3%	1,882	-3.0%	421	1.2%
2018	74,582	-0.3%	151,585	0.8%	8,718	0.0%	1,885	0.2%	416	-1.2%
2019	74,799	0.3%	149,396	-1.4%	8,692	-0.3%	1,914	1.5%	462	11.1%
2020	75,069	0.4%	150,681	0.9%	8,554	-1.6%	1,924	0.5%	449	-2.8%
2021	73,685	-1.8%	149,793	-0.6%	7,823	-8.5%	1,947	1.2%	453	0.9%
2022	74,048	0.5%	153,356	2.4%	7,289	-6.8%	1,885	-3.2%	461	1.8%
2023	76,876	3.8%	153,107	-0.2%	7,478	2.6%	1,882	-0.2%	458	-0.7%
2024	80,017	4.1%	156,504	2.2%	7,307	-2.3%	1,890	0.4%	471	2.8%
12-Years		0.4%		0.5%		-2.1%		0.0%		1.8%

Total Payroll Growth (\$ Millions)

VaLORS had lower average payroll growth over last 12 years

Growth in Total Payroll (\$ Millions)										
Year	State	% Change	Teachers	% Change	VaLORS	% Change	State Police	% Change	Judicial	% Change
2012	\$3,713.12		\$7,004.58		\$344.62		\$104.19		\$56.96	
2013	\$3,716.55	0.1%	\$7,211.54	3.0%	\$342.15	-0.7%	\$109.01	4.6%	\$57.11	0.3%
2014	\$3,854.78	3.7%	\$7,362.79	2.1%	\$352.71	3.1%	\$112.30	3.0%	\$59.37	4.0%
2015	\$3,872.72	0.5%	\$7,488.51	1.7%	\$330.40	-6.3%	\$110.54	-1.6%	\$61.88	4.2%
2016	\$4,002.48	3.4%	\$7,666.82	2.4%	\$352.68	6.7%	\$114.88	3.9%	\$65.52	5.9%
2017	\$4,037.07	0.9%	\$7,919.45	3.3%	\$339.15	-3.8%	\$110.27	-4.0%	\$66.29	1.2%
2018	\$4,161.92	3.1%	\$8,086.93	2.1%	\$346.11	2.1%	\$126.52	14.7%	\$67.42	1.7%
2019	\$4,375.06	5.1%	\$8,210.13	1.5%	\$369.78	6.8%	\$132.23	4.5%	\$76.85	14.0%
2020	\$4,428.50	1.2%	\$8,498.52	3.5%	\$363.90	-1.6%	\$131.25	-0.7%	\$74.73	-2.8%
2021	\$4,594.35	3.7%	\$8,557.00	0.7%	\$351.09	-3.5%	\$142.80	8.8%	\$79.13	5.9%
2022	\$4,946.31	7.7%	\$9,263.31	8.3%	\$372.49	6.1%	\$159.21	11.5%	\$80.75	2.0%
2023	\$5,448.99	10.2%	\$9,666.67	4.4%	\$398.11	6.9%	\$168.61	5.9%	\$88.39	9.5%
2024	\$5,979.31	9.7%	\$10,500.72	8.6%	\$407.76	2.4%	\$176.48	4.7%	\$95.36	7.9%
12-Years		4.1%			3.4%	1.4%			4.5%	4.4%

- Given this, **propose**: Payroll growth of 2.5% for VaLORS pension, 3.0% confirmed for all others and OPEB

DEMOGRAPHIC ASSUMPTIONS



Liability-Weighting Approach to Assumption Setting

- We developed crude rates of decrement on a liability-weighted basis (vs. a number-count basis) for certain decrements
- Liability-weighted rates found to be more highly correlated with retirement and termination decrements
 - Intuitively, retirement and termination decisions often are based on how much the members have to gain or lose if they retire or change jobs
 - Death and disability typically are not a decision at all, rather an event that happens

Liability Weighting

- In setting actuarial assumptions for pension plans
 - Liability weighting considers the impact of events based on the total amount of liabilities affected, while
 - Headcount weighting considers the impact based on the number of people affected
- Liability weighting assumptions exist in both public and private sector pension plans
 - More prevalent in public sector plans

Simplifying Assumptions

- Reviewed Format of Assumptions → Is “Additional Precision” necessary to maintain reasonable results?

Attained Age	State Termination Rates - Male										
	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
20	0.27455	0.24436	0.21876	0.19618	0.17376	0.15141	0.13019	0.11442	0.10594	0.11166	0.13006
25	0.23974	0.21579	0.19409	0.17424	0.15524	0.13693	0.11975	0.10595	0.09746	0.09732	0.10701
30	0.19848	0.17836	0.15985	0.14343	0.12952	0.11720	0.10578	0.09487	0.08505	0.07808	0.07539
35	0.17716	0.15218	0.13247	0.11805	0.10829	0.10087	0.09383	0.08541	0.07535	0.06447	0.05388
40	0.16592	0.13267	0.10974	0.09619	0.08963	0.08644	0.08292	0.07677	0.06737	0.05473	0.03929
45											
50											
55											
60											
65											
70											

Attained Age	State Termination Rates - Female										
	Years of Service										
	0	1	2	3	4	5	6	7	8	9	10+
20	0.31051	0.30337	0.28078	0.24487	0.20381	0.16715	0.14191	0.11957	0.10836	0.11872	0.15981
25	0.27376	0.26249	0.24118	0.21199	0.18029	0.15160	0.13004	0.11112	0.09997	0.10375	0.12876
30	0.23050	0.21033	0.18887	0.16746	0.14755	0.12956	0.11392	0.10015	0.08933	0.08403	0.08671
35	0.20766	0.17777	0.15365	0.13514	0.12123	0.10996	0.09994	0.09070	0.08104	0.07066	0.05980
40	0.19406	0.15556	0.12786	0.10975	0.09881	0.09213	0.08715	0.08194	0.07420	0.06178	0.04364
45	0.18340	0.13974	0.10951	0.09110	0.08142	0.07776	0.07634	0.07404	0.06888	0.05803	0.04010
50	0.17198	0.12790	0.09781	0.08001	0.07116	0.06882	0.06860	0.06763	0.06550	0.06030	0.05125
55	0.16001	0.12044	0.09383	0.07856	0.07120	0.06731	0.06491	0.06383	0.06463	0.06942	0.07765
60	0.14937	0.11902	0.09937	0.08896	0.08486	0.08000	0.08000	0.08000	0.08000	0.08000	0.08000
65	0.14142	0.12453	0.11513	0.11187	0.11326	0.08000	0.08000	0.08000	0.08000	0.08000	0.08000
70	0.13651	0.14019	0.14662	0.15441	0.16495	0.08000	0.08000	0.08000	0.08000	0.08000	0.08000

State Termination Rates		
Years of Service	Male	Female
0	0.186	0.212
1	0.151	0.174
2	0.124	0.145
3	0.104	0.120
4	0.097	0.107
5	0.087	0.096
6	0.078	0.087
7	0.071	0.080
8	0.064	0.072
9	0.055	0.064
10	0.046	0.059
11	0.046	0.056
12	0.041	0.055
13	0.039	0.050
14	0.039	0.048
15	0.038	0.046
16	0.035	0.040
17	0.034	0.040
18	0.031	0.038
19	0.031	0.038
20+	0.031	0.038

Overview

Assumption	2025 Action
Mortality Rates	<ul style="list-style-type: none">• In light of COVID, maintain current rates and weights based on Pub-2010 mortality rates published by the Society of Actuaries
Mortality Improvement	<ul style="list-style-type: none">• Change to the most recently available mortality improvement scales on a fully generational basis, MP-2021, maintain 75% weighting
Retirement Rates	<ul style="list-style-type: none">• Minor changes to rates
Termination Rates	<ul style="list-style-type: none">• Simplify from age/service tables to service-only tables• Extend tables to 20 years• Minor changes to rates
Disability Rates	<ul style="list-style-type: none">• Minor changes to rates, maintain margin
Merit and Seniority Pay Increase	<ul style="list-style-type: none">• Increase Merit & Longevity rates (below 20 years) by 50 basis points for all groups except JRS

MORTALITY RATES AND IMPROVEMENT

Mortality Experience – Summary 2020-2024

- Liability-weighted results

System	Exposures	Actual	Expected	A/E
State Employees	5,525,052,512	172,249,449	160,629,673	1.072
Teachers	9,980,397,958	226,988,190	206,834,362	1.097
Judicial	161,599,997	5,502,850	5,146,906	1.069
SPORS	204,048,579	4,965,910	5,787,109	0.858
VaLORS	385,864,141	6,984,664	6,248,391	1.118
Locals	4,064,629,154	94,865,000	86,699,976	1.094

Mortality Improvement



Retirement Plans Experience Committee (RPEC) typically issues an updated scale each fall



RPEC continues to review the improvement scale each year...but COVID has impacted release of updated improvement scales



Most recent scale issued is MP-2021
(incorporates data through 2019)



It may be several more years before the RPEC issues an updated improvement scale

Mortality – Recommendations

Base Tables*

Current Mortality Rates

- No Change – Continue use of Pub-2010 Tables (as adjusted for different Systems)

Projection Scale Table

Future Mortality Rates

- Move to the MP-2021 projection scale (most recent available), maintain generational approach and 75% multiplier

**Given the uncertainty regarding the long-term impact of COVID on mortality and that much of the experience during the study period is still impacted by COVID, no change to base tables.*

Overview: Update Political Subdivision Top-10 Assumptions

- Employer groups historically based on 10 cities and counties located in four specific Virginia regions – the “Top 10”
- **Current** Top-10 assumption based on
 - Six cities: Alexandria, Chesapeake, Hampton, Lynchburg, Portsmouth, and VA Beach
 - Four counties: Chesterfield, Henrico, Loudoun, and Prince William
- Non-Top-10 consists of all other Virginia municipalities

Overview: Update Political Subdivision Top-10 Assumptions

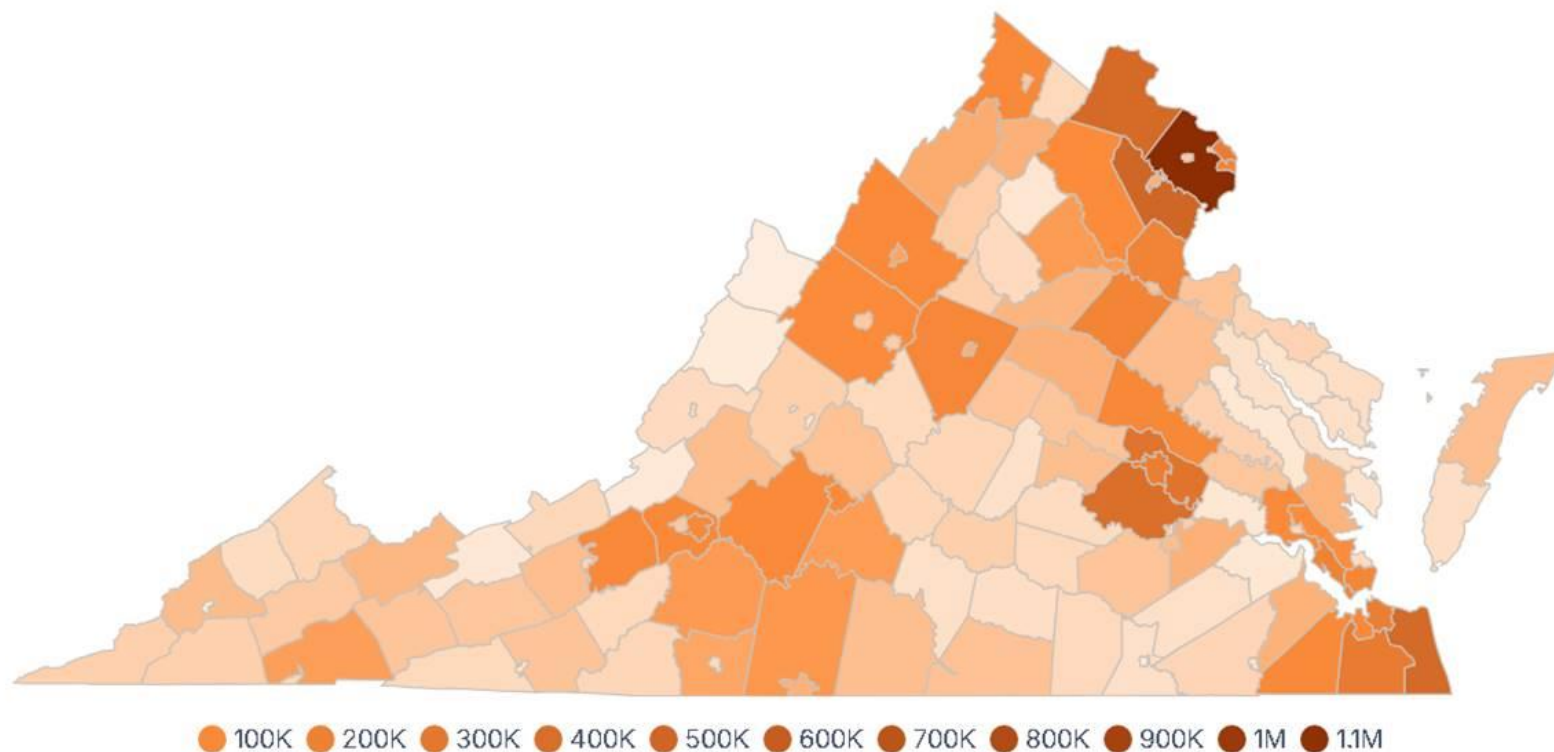
- Grouping Originally Selected on Market Value
 - This can change over time
 - Goal is to limit movement between groups
- Expand the Grouping to Include More Surrounding Entities
- Multiple reasonable measures exist
- Proposed Rates are a blend of Actual Experience on New Groupings and “Current Rates” - Current Rates are a blend of present assumptions
 - Intent is to dampen the result impact of movement between prior and new grouping

Employer #	Name	Rank on Active Pop.	Rank on Total Pop.	Rank on MVA
55120	Chesterfield County	5	4	4
55143	Henrico County	2	2	2
55153	Loudoun County	4	6	5
55176	Prince William County	3	3	3
55200	City of Alexandria	11	10	7
55207	City of Hampton	12	7	8
55210	City of Lynchburg	17	16	12
55214	City of Portsmouth	15	9	9
55233	City of Chesapeake	6	5	6
55234	City of Virginia Beach	1	1	1
55142	Hanover County	18	18	11
55212	City of Norfolk	7	14	27 <--- Expect growth in population as it emerges from prior plan
55216	City of Richmond	14	20	30 <--- Expect growth in population as it emerges from prior plan
55220	City of Suffolk	16	15	10
55258	City of Newport News	8	13	36
55534	VA Beach City School Board	10	8	18
55553	Loudoun County School Board	9	11	22



Overview: Update Political Subdivision Top-10 Assumptions

Virginia Counties by Population (2025)



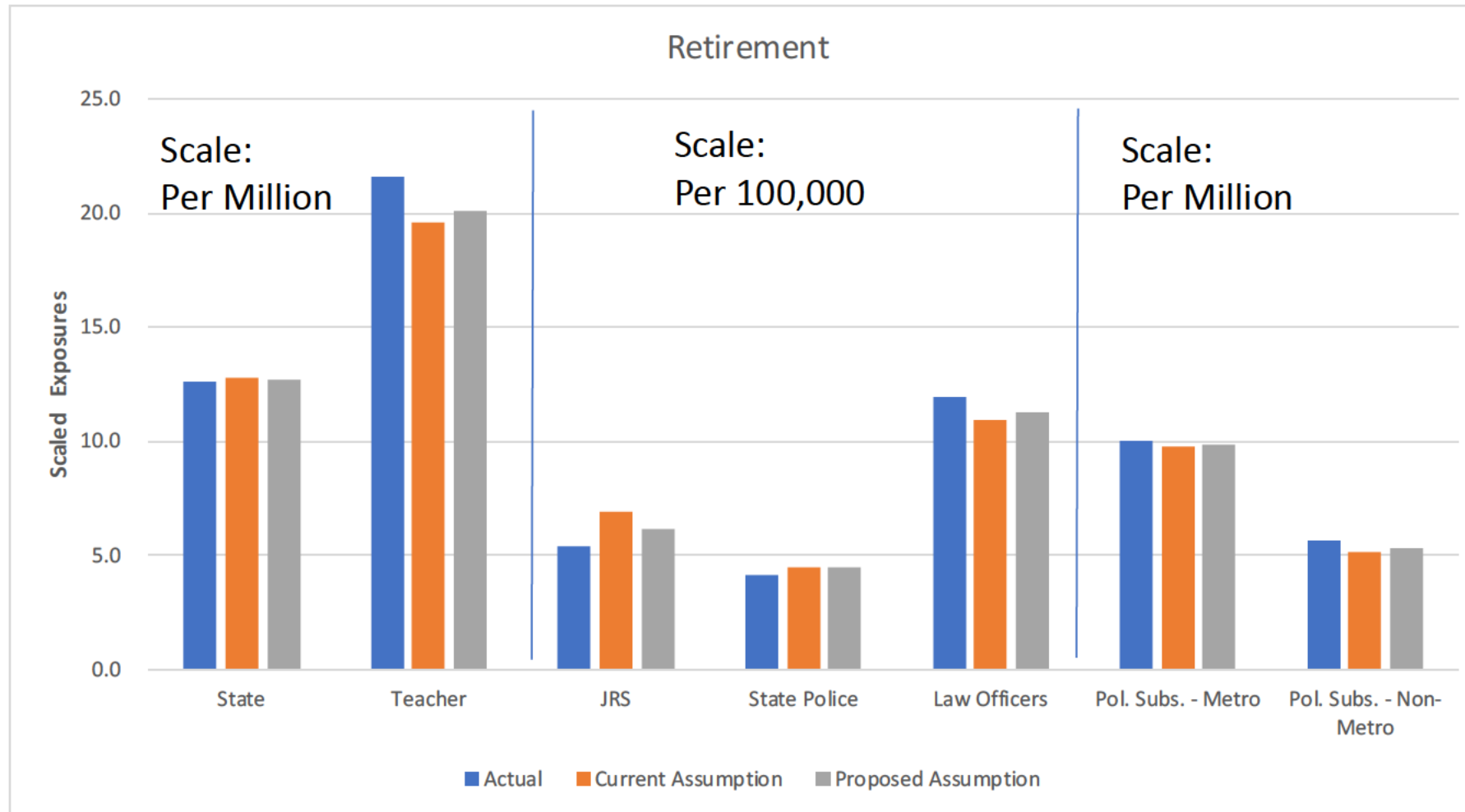
<https://worldpopulationreview.com/us-counties/virginia>

Overview: Update Political Subdivision Top-10 Assumptions

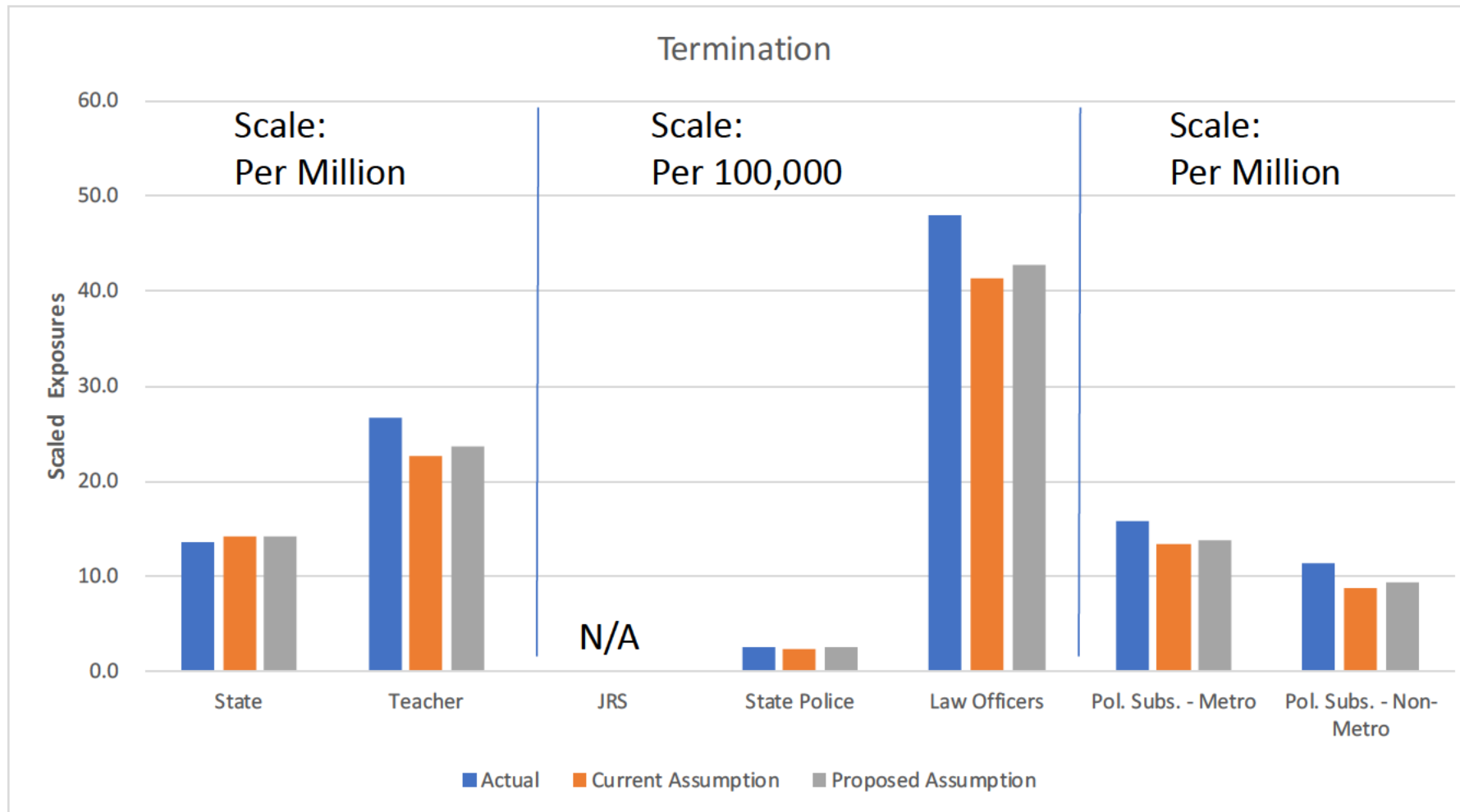
- **Recommend** expanding to a new Metro grouping that includes communities surrounding the Top 10
- The non-Metro group consists of all other Virginia municipalities

	Top-10	Non Top-10	Metro	Non-Metro	Total
# of Plans	10	608	190	428	618
# Actives	33,998	85,463	72,936	46,525	119,461
\$ Pension Liability	\$13,564,969,960	\$18,775,648,448	\$21,754,463,818	\$10,586,154,590	\$32,340,618,408

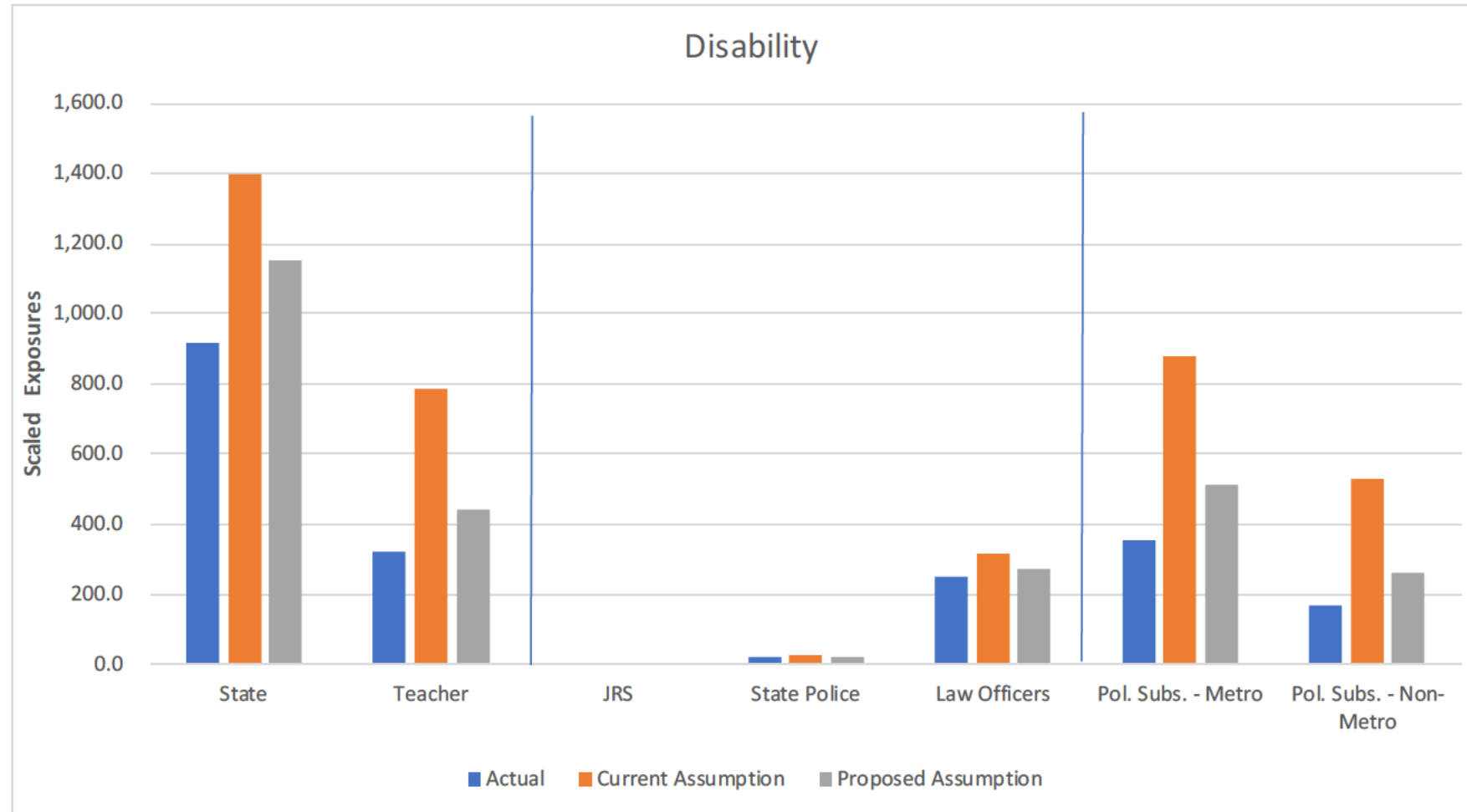
VRS Retirement Experience: Liability-Weighted



VRS Termination Experience: Liability-Weighted



VRS Disability Experience: Headcount-Weighted, Scaling 1:1



Pay Increases Due to Merit/Longevity

- VRS largely experienced higher actual pays than expected in 2021-2024 valuations
 - Generally leading to liability losses shown below

(Gain)/Loss Due to Salary in \$Millions						
Val Year	State	Teachers	SPORS	VaLORS	JRS	Pol Subs
2021	\$205	\$(345)	\$31	\$23	\$1	\$45
2022	\$344	\$896	\$58	\$60	\$(7)	\$447
2023	\$369	\$454	\$21	\$21	\$12	\$340
2024	\$328	\$981	\$16	\$15	\$5	\$280

Pay Increases Due to Merit/Longevity

- Uniformly higher pay increases relative to expectations during experience period
- JRS pay increased, considerations:
 - JLARC audit report recommended the next experience study review whether to decrease JRS
 - Published rate increase of 3% for JRS next year
- Recommend: increase merit and longevity portion of salary assumption 50 basis points for all groups
 - Except JRS for which we recommend no change

OPEB- AND LODA-SPECIFIC ASSUMPTIONS

OPEB and LODA Assumptions, Generally

- OPEB valuations use demographic and economic assumptions covered earlier
 - Similar, if not identical, populations covered
 - Similar, if not identical, asset investment
- Differing plan provisions require OPEB-specific assumptions
- This section investigates assumptions that are particular to GLI, HIC, VSDP/VLDP, and LODA

Health Insurance Credit (HIC) Summary

- Benefit Participation (Ref. Slides 85-86)
 - Upon retirement, not all eligible retirees and disabled members elect to receive the HIC benefit (free health insurance elsewhere, etc)
 - Generally small adjustments overall, but
 - SPORS/VaLORS: Larger adjustment for eligible future Disabled Members from Active status
- Benefit Utilization (Ref. Slides 87-89)
 - Upon benefit commencement not all are eligible to receive their maximum HIC benefit
 - Generally no/small adjustments, but
 - **Recommendation**: Eliminate the annual increase in benefit assumption for members not receiving the maximum

Group Life Insurance – Life Only Assumption

- **“Life Insurance Only” Retirees**

- Select groups do not provide retiree census data
- Valuation results include estimated retiree liability for these groups
- Continue estimating liability based on actual benefit payments

Group Life Insurance Amount Paid During 2020-2024	
Life Only	\$34,970,123
All Group Life (Excluding Life Only)	\$1,133,042,492
Ratio	3.0%

- **Recommendation:** Actual experience = 3.0% vs current assumption of 1.618%, we recognized only a portion of the experience and recommend 2.0% since life insurance claims during this period were higher than normal due to COVID

VSDP/VLDP Summary

- Benefit offsets for active members (Ref. Slides 91-92)
 - For income from Social Security and/or Workers Compensation
 - Benefit adjustment factors adjusted by -2% to +4%
- Benefit offsets for disabled members (Ref. Slide 93)
 - Assumed to apply to each member's benefit until the benefit expires
 - Average Percentage of Full Benefit Paid adjusted by -1% to +1%
- Recovery Rates (Ref. Slides 94-95)
 - Adjusted recovery rates by duration, impacting rates of termination of benefits due to death or recovery
- Long Term Care (LTC) (Ref. Slide 98) -- due to the nuances of the LTC benefit and efforts to simplify the approach, recommendations will be forthcoming

LODA: Weightings

- Employers contribute on the basis of full-time equivalent active members (“employees”)
- Data during the experience study period shows no claims for National Guard nor for Volunteer members
 - **Recommendation:** Change weighting percentages as follows:

Group	Current Weighting	Proposed Weighting
National Guard		
• Full-Time	100%	75%
• Weekenders	10%	5%
Part-Time Volunteer		



SPORS VALORS and all-other full-time remain 100%

LODA: Percentage of Disabilities/Deaths Qualifying for Benefits

Service-Related Disabilities

- Active disabilities assumed to be service-related and result in coverage under the Fund based on the following:

<u>CURRENT RATES</u>	Qualifying Disability %	<u>PROPOSED RATES</u>	Qualifying Disability %
Group		Group	
State	25%	State	25%
SPORS	85%	SPORS	85%
VaLORS	35%	VaLORS	25%
Non-Top 10 LEOS	65%	Non-Metro LEOS	100%
Top 10 LEOS	70%	Metro LEOS	100%

- Qualifying death rates unchanged

LODA: Missing Service

- Missing Data Assumption
 - Missing Service
 - SPORS and VaLORS active member data used as proxy to study groups with missing data (mainly National Guard)
 - In cases where service amounts are not provided, the assumed amount of service will be determined using the proposed table

<u>Current</u> Age Less Than	Assumed Service	<u>PROPOSED</u> Age Less Than	Assumed Service
16	0.00	20	0.7
24	0.90	22	1.1
26	1.75	24	1.6
28	2.74	26	2.3
30	3.70	28	3.2
31	4.85	30	4.2
34	6.07	32	5.1
35	7.81	34	6.1
38	8.90	36	7.4
40	10.59	38	8.0
42	11.77	40	9.5
44	13.07	42	11.7
45	14.67	44	13.2
47	14.95	46	14.5
48	16.15	48	15.6
50	17.12	50	17.0
55	18.21	52	17.2
60	18.48	52+	18.0
65	21.42		
65+	23.32		



Other assumptions reference slides 99-101

ACTUARIAL METHODS AND FUNDING POLICY



Actuarial Methods

- VRS uses the most prevalent approaches for plan funding
- Entry Age Normal **Cost method** – no change recommended
- 5-year **Asset Smoothing** for nearly every VRS System/Plan
 - Market Value Assets for following HIC plans: Political Subdivisions, Constitutional Officers, Social Services and Registrars
 - Since the funded ratio for these HIC plans have increased 200%-300% in the last 5 years, **Recommend 5-year asset smoothing for all VRS Pension & OPEB**
- Level % of pay, layered 20-year **Amortization method**, updated for 2023 valuations to collapse bases – no change

Funding Policy

- Recommended changes
 - Statewide Plans contribute normal cost between 100% and <120% funded on actuarial value of assets (AVA) basis
 - UAL credit is recognized when over 120% funded on AVA
 - Amortize such overfunding, over 100% funded, using a 20-year rolling period
 - Add a floor of 0.01% for plan administration expense for all OPEB plans

Funding Policy

- Other considerations
 - 10-year financing of benefit changes for all Statewide Plans
 - Conduct separate study for potential funding policy changes for Political Subdivision related to surplus funding

EFFECT ON VALUATION RESULTS



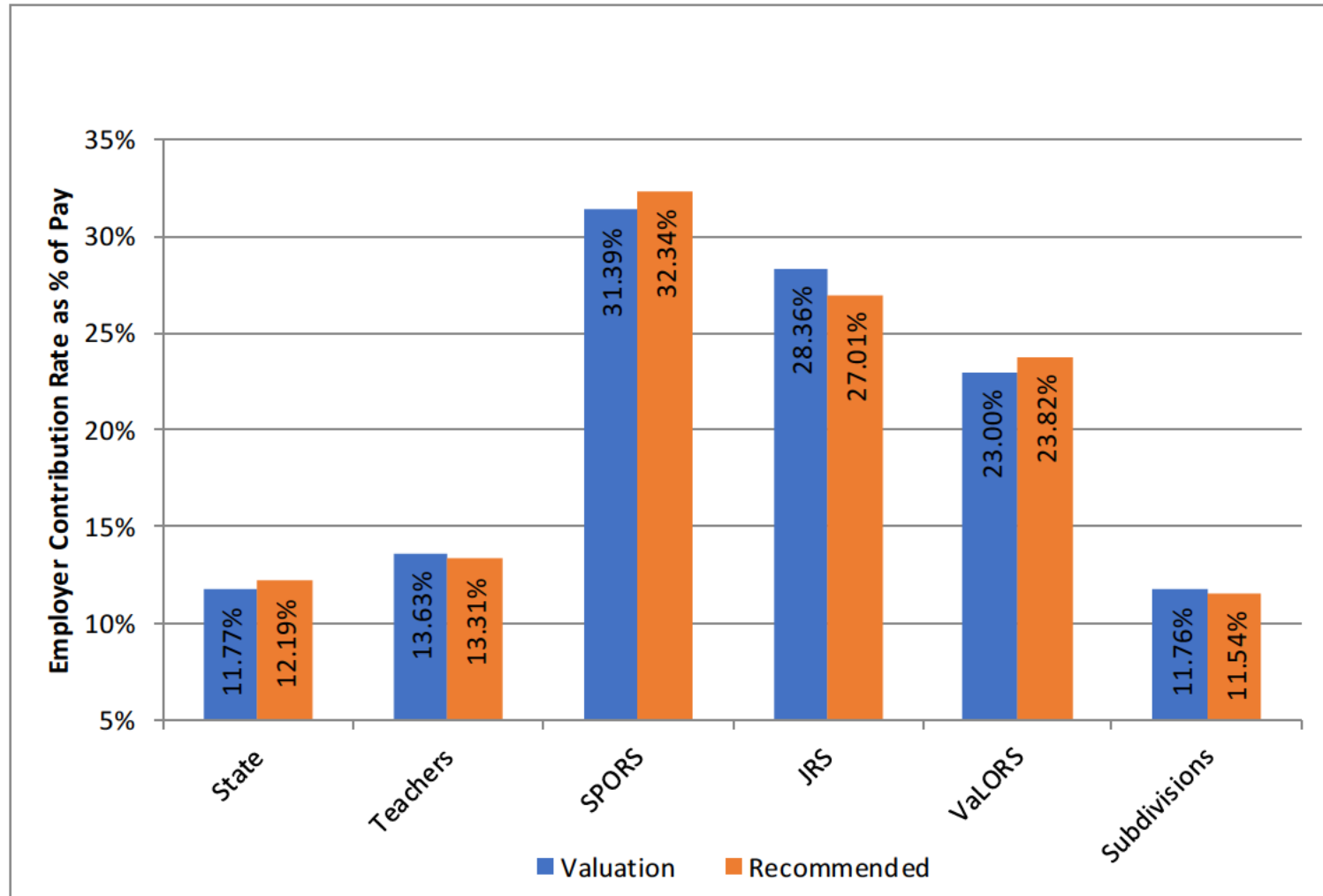
Recap and Cost Impact

- Generally minor changes to demographic assumptions
 - Biggest changes: Update to Mortality and Merit Pay
- Other plan specific assumptions for GLI, HIC, LODA, VSDP/VLDP
- Economic assumptions
 - No change recommended to 6.75% investment return
 - No change to 3.5% wage inflation
 - Payroll growth: 2.5% for VaLORS pension, 3.0% confirmed for all others

Recap and Cost Impact, Continued

- Study results
 - Update Normal Cost calculation
 - Removal of historical pays in calculation of Normal Cost, and
 - Adjust 2 year pay projection for closed groups (Plan 1 and Plan 2)
 - 5-year asset smoothing for all OPEB

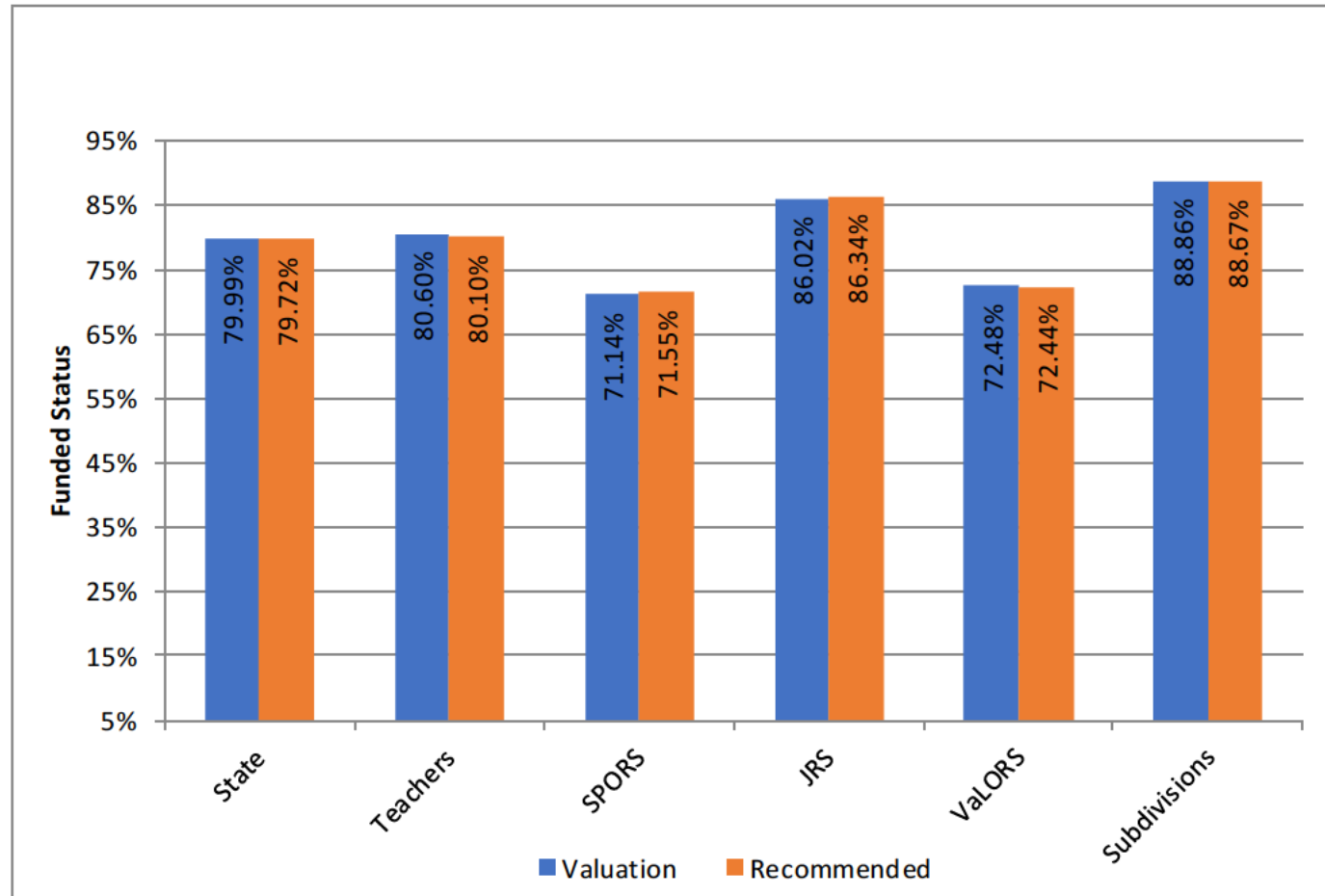
Actuarially Determined Employer Contribution Rates – Pension Plans



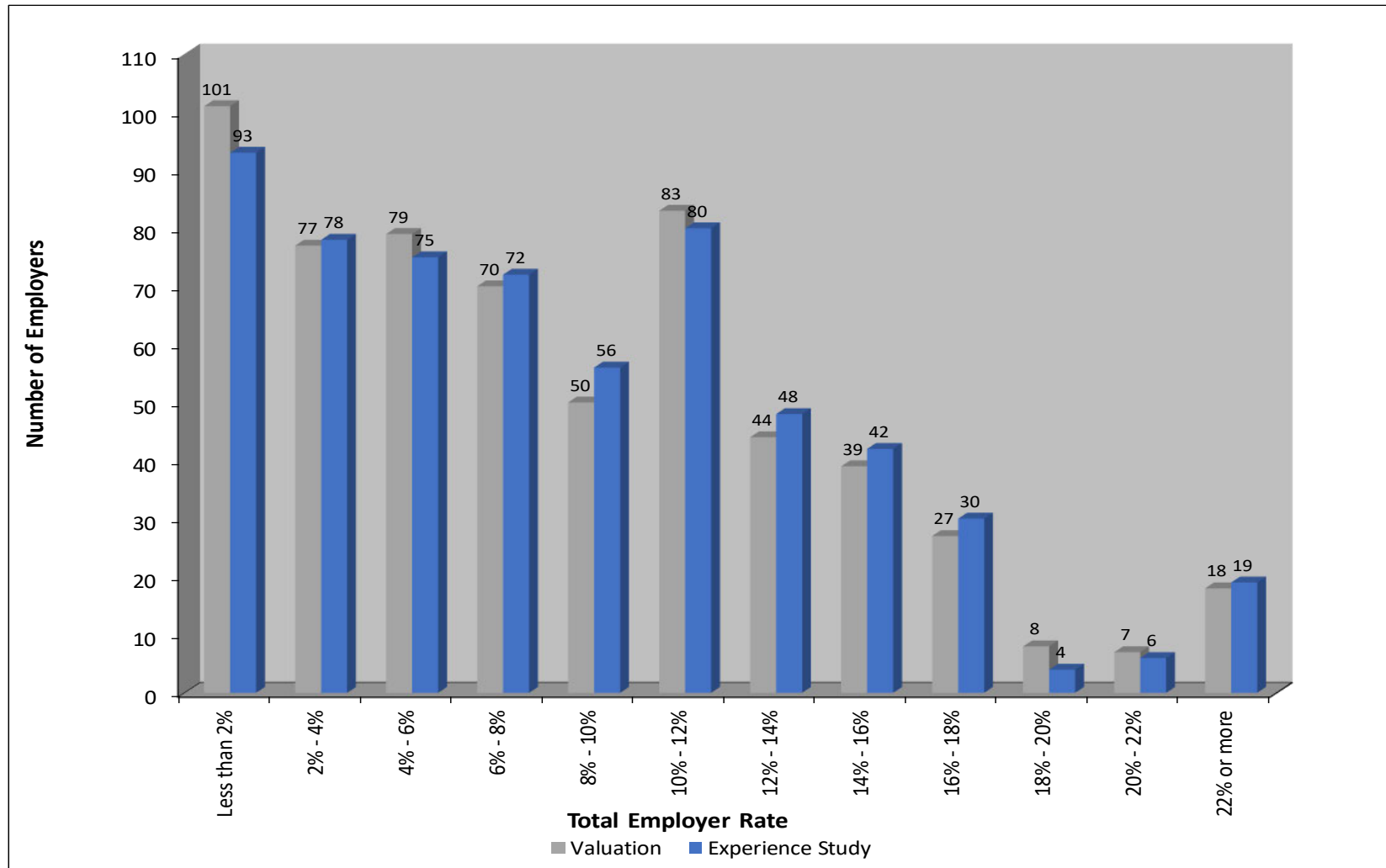
Recommended Experience Study ADEC Rates are illustrative.



Funded Status – Pension Plans

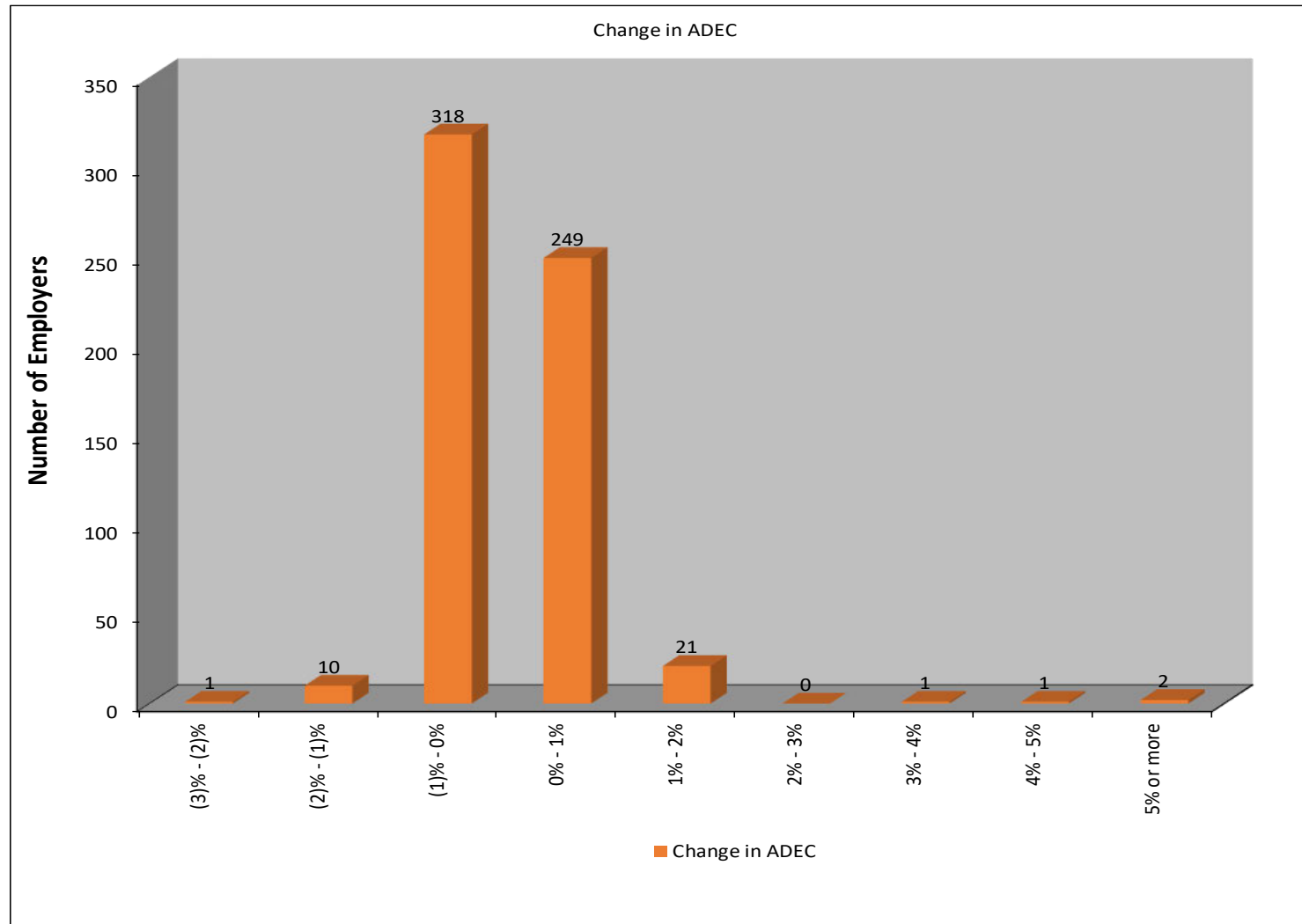


Actuarially Determined Employer Contribution Rates – Political Subdivision Pension Plans



The chart above shows 603 employers; employers with 0 actives are excluded. Experience Study ADEC Rates are illustrative.

Actuarially Determined Employer Contribution Rates – Political Subdivision Pension Plans: Changes in Rates



Change in contribution rates due to experience study largely fall in -1% to 1% range

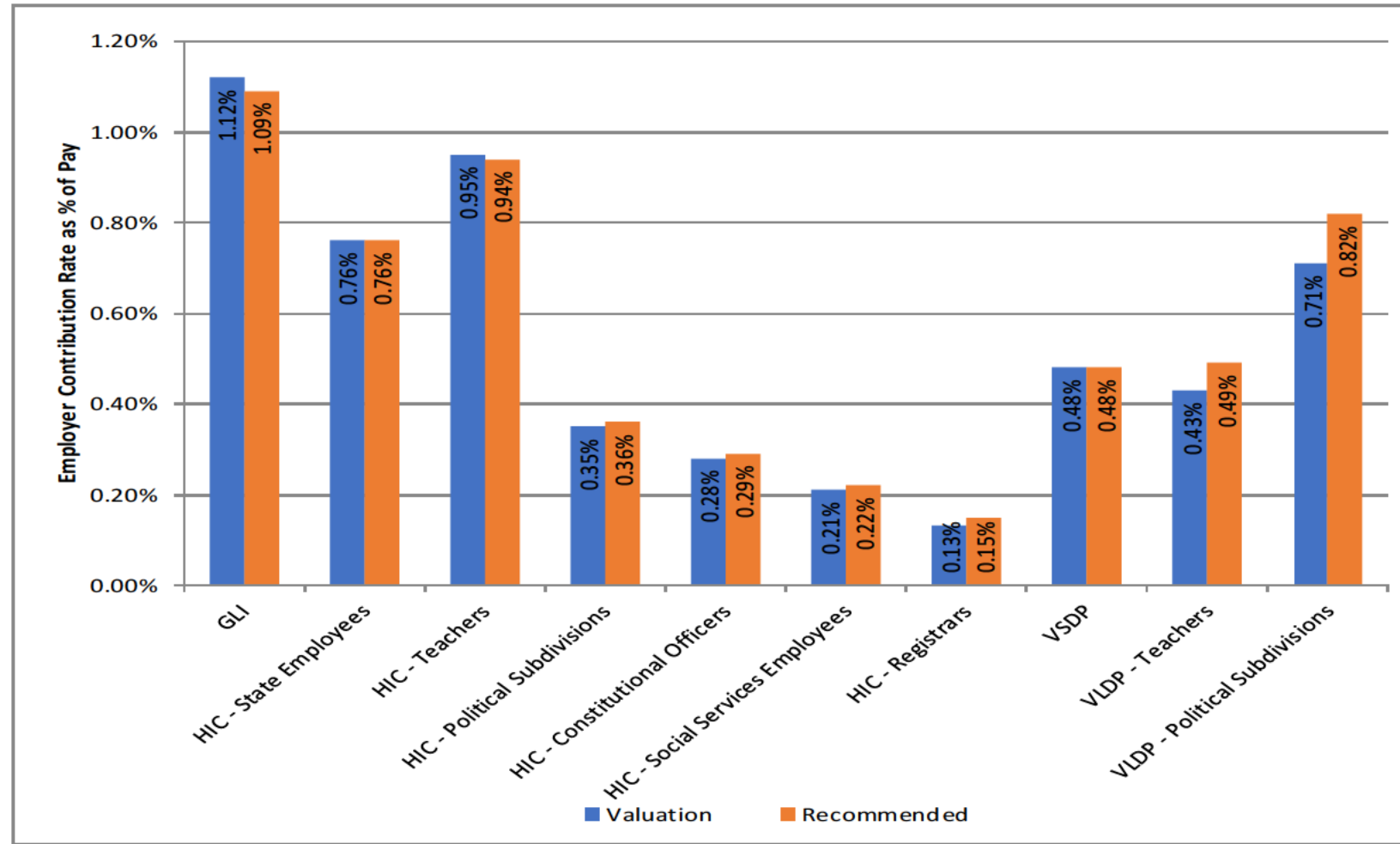
How Updates Impacted Pension Contribution Rates

	State	Teachers	SPORS	VaLORS	JRS
2024 Valuation Contribution Rate	11.77%	13.63%	31.39%	23.00%	28.36%
Mortality	0.11%	0.08%	0.10%	0.09%	0.16%
Retirement	-0.02%	-0.04%	-0.15%	-0.02%	N/A
Termination	0.28%	-0.12%	0.05%	-0.34%	N/A
Disability	-0.04%	-0.13%	-0.02%	-0.24%	N/A
Salary	0.31%	0.36%	0.50%	0.53%	N/A
Normal Cost Method	0.11%	-0.16%	0.47%	0.27%	-0.78%
Projected Pay Change Plan 1/2 Normal Cost	-0.31%	-0.31%	N/A	N/A	-0.73%
Payroll Growth Change for UAL	N/A	N/A	N/A	0.53%	N/A
Final Experience Study Contribution Rate*	12.19%	13.31%	32.34%	23.82%	27.01%

*Illustrative, new assumptions will first impact the 2025 valuations



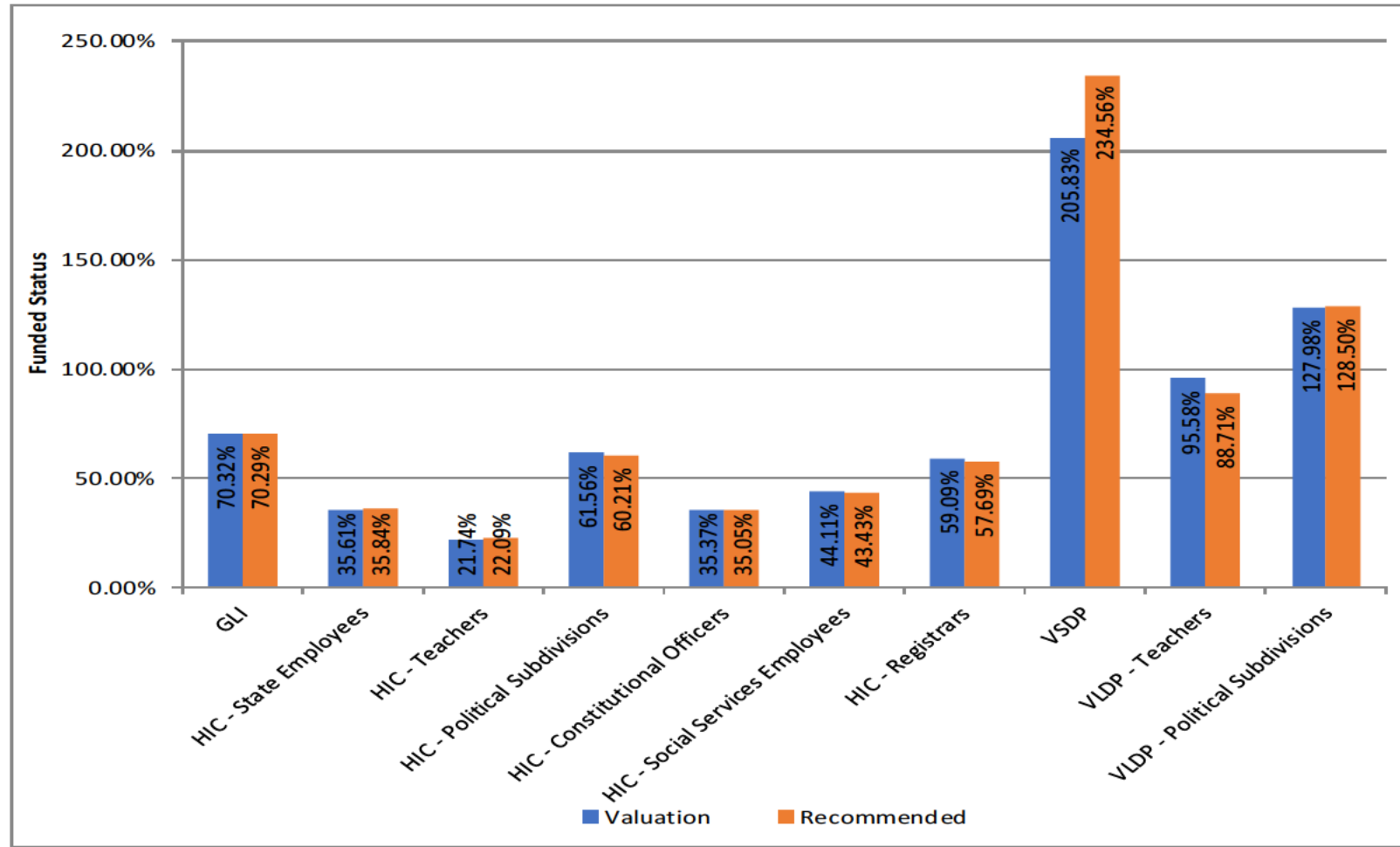
Actuarially Determined Employer Contribution Rates – OPEB Plans



Generally small changes
- especially GLI and HIC

VLDP increase due to
demographic update
(disability increase, pay
increase) and lower
assumed recovery rates

Funded Status – OPEB Plans



LODA: Full-Time Equivalent (FTE) Weightings

- The impact of updating the FTE weightings on FY 2024 active member counts is shown below:

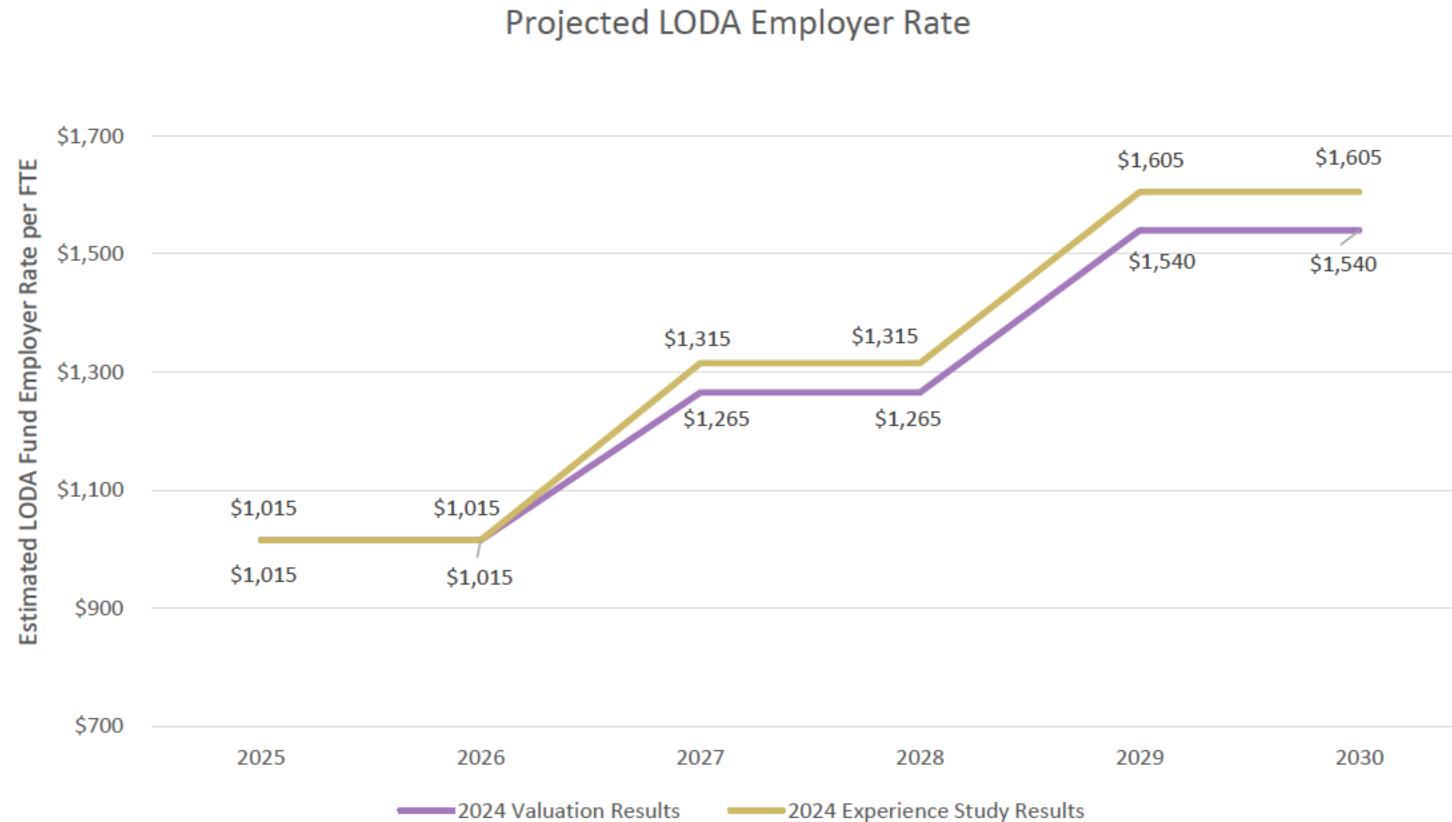
Employer Group	Current Weighting		Proposed Weighting	
	Weight	FY 2024 Counts	Weight	FY 2024 Counts
State/VaLORS/SPORS Full-Time	100%	8,731	100%	8,316
State/VaLORS/SPORS Part-Time	n/a	n/a	50%	208
National Guard				
Full-Time	100%	961	75%	721
Part-Time	10%	711	5%	355
Total State & National Guard		10,403		9,600
Participating Political Subdivisions				
Full-Time	100%	7,119	100%	6,694
Part-Time	100%	n/a	50%	213
Volunteers	25%	484	20%	387
Total Pol. Sub. Employees		7,603		7,293
Aggregated Total		18,005		16,893

Decrease from weighting update = 1,112



LODA: Projected Employer Rate

- Impact of the proposed changes shown below include the update of FTE weighting
- Note that, without the reduction in the count of FTE Employees, the overall impact of the proposed changes would have reduced the Projected Employer Rates



APPENDIX



Recommended Assumptions: Pension

Payroll growth:
confirmed 3.0%

System	Assumption	Description
State Employees	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
Teachers	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
State Police	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
Judicial	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	No Change
	4. Disability Rates	No Change
	5. Salary Increases	No Change
Virginia Law Officers	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to maintain margin
	5. Salary Increases	Increase Merit & Longevity 50 basis points

Payroll growth:
update to 2.5% for
VaLORS pension



Recommended Assumptions: Pension

System	Assumption	Description
Political Subdivisions Top 10+ (Non-Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by 75%
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
Political Subdivisions Top 10+ (Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by 75%
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
Political Subdivisions Non-Top 10+ (Non-Hazardous)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by 75%
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points
Political Subdivisions Non-Top 10+ (Hazardous Duty)	1. Mortality Rates (Pre-retirement, post-retirement healthy and disabled)	Maintain PUB-2010 tables with adjustments, update to MP-2021 projection scale multiplied by 75%
	2. Retirement Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	3. Termination Rates	Moved ~25% of the way to the observed experience, on a liability-weighted basis
	4. Disability Rates	Moved ~50% of the way to the observed experience, on a headcount-weighted basis, to
	5. Salary Increases	Increase Merit & Longevity 50 basis points



Recommended Assumptions: GLI and HIC

System	Assumption	Description
GLI	1. Pension economic and demographic assumptions	Adjust in the same manner as the pension plan
	2. Retiree liability estimation for Life Only	Change from 1.618% to 2.0%
HIC	1. Pension economic and demographic assumptions	Adjust in the same manner as the pension plan
	2. Benefit participation (future service retirees)	Reduced Statewide Plan participation to 94% and increased Policital Subdivisions and Special Coverage Groups to 87%
	3. Benefit participation (future disability)	Reduced participation to 92% State/JRS, 84% Teachers, 63% SPORS/ValORS, and increased participation to 54% Political Subdivisions and Special Coverage Groups
	4. Benefit participation (from terminated vested)	Reduced participation to 94% for State and Teachers and increased participation to 87% for Political Subdivisions and Special Coverage Groups
	5. Benefit utilization (not receiving the max)	No change for State/JRS and reduction to 13% for Teachers, 9% for SPORS/ValORS, and 4% for Political Subdivisions and Special Coverage Groups
	6. Benefit utilization (not receiving the max - amount of max received)	No change for all groups
	7. Benefit Utilization (benefit increase for those not at the max)	Removed
	7. Percentage of deferred vested members electing to withdraw from VRS	Reduced for all groups
	8. Terminated vested member commencement age	Adjusted slightly

Recommended Assumptions: VSDP/VLDP

System	Assumption	Description
VSDP / VLDP LTD	1. Pension economic and demographic assumptions (excluding disability)	Adjust in the same manner as the pension plan
	2. Rates of disability claim incidence	VSDP: Same disability incidence as pension VLDP: Pension assumption scaled up to reflect increased Hybrid incidence
	3. Rates of disability claim termination*	Lower termination in early years, higher in later years
	4. Benefit offsets*	Adjusted slightly
	5. Catastrophic claims	No Change
	6. Percentage eligible for additional 1%	No Change
	* VLDP shows similar experience and trends which did not warrant separate assumptions for the current experience study.	

Recommended Assumptions: LODA

System	Assumption	Description
LODA	1. Pension wage, inflation and demographic assumptions	Adjust in the same manner as the pension plan
	2. Discount rate for funding	No Change
	3. Percentage of disabilities qualifying for benefits	Decreased VaLORS from 35% to 25%, increased Non-Top 10+ LEOS from 65% to 100%, increased Top 10+ LEOS from 70% to 100%
	4. Percentage of deaths qualifying for benefits	No Change
	5. Percentage of qualifying deaths that are a direct result of the performance of duty	No Change
	6. Spouse/dependent participation rate	No Change
	7. Percent assumed to be eligible for Medicare due to age	Increase from 75% to 85%
	8. Percent assumed to become eligible for Medicare earlier than age 65	Decrease from 25% to 15%
	9. Health Care trend rates	No Change
	10. Missing Data Assumptions	Unknown gender: No Change; Unknown Date of Birth: No Change; Missing Service: adjusted slightly
	11. Weightings	National Guard Full-Time: from 100% to 75%; National Guard Part-Time: from 10% to 5%; Pol Subs Part-Time: new assumption 50%; Volunteers: from 25% to 20%

Recommended Methods

- Updated Normal Cost calculation
 - Removal of historical pays in calculation of Normal Cost, and
 - Adjusted 2 year pay projection for closed groups (Plan 1 and Plan 2)
- 5-year asset smoothing for all OPEB

Pension Plans – Change in UAL, Funded Status, ADC

(\$ In Thousands)				
System		Before Assumption/Method Change	After Assumption/Method Change	Change
State Employees	Unfunded Accrued Liability	\$ 6,051,719	\$ 6,155,616	\$ 103,897
	Funded Status	79.99%	79.72%	(0.27)%
	DB Employer Contribution Rate	11.77%	12.19%	0.42%
Teachers	Unfunded Accrued Liability	\$ 12,022,101	\$ 12,410,719	\$ 388,618
	Funded Status	80.60%	80.10%	(0.50)%
	DB Employer Contribution Rate	13.63%	13.31%	(0.32)%
State Police	Unfunded Accrued Liability	\$ 458,924	\$ 449,750	\$ (9,174)
	Funded Status	71.14%	71.55%	0.41%
	DB Employer Contribution Rate	31.39%	32.34%	0.95%
Judicial	Unfunded Accrued Liability	\$ 113,497	\$ 110,514	\$ (2,983)
	Funded Status	86.02%	86.34%	0.32%
	DB Employer Contribution Rate	28.36%	27.01%	(1.35)%
Virginia Law Officers	Unfunded Accrued Liability	\$ 768,647	\$ 770,166	\$ 1,519
	Funded Status	72.48%	72.44%	(0.04)%
	DB Employer Contribution Rate	23.00%	23.82%	0.82%
Political Subdivisions	Unfunded Accrued Liability	\$ 3,601,170	\$ 3,671,811	\$ 70,641
	Funded Status	88.86%	88.67%	(0.19)%
	DB Employer Contribution Rate	11.76%	11.54%	(0.22)%

OPEB Plans – Change in UAL, Funded Status, ADC

(\$ In Thousands)

System		Before Assumption/Method Change	After Assumption/Method Change	Change
GLI	Unfunded Accrued Liability	\$ 1,260,597	\$ 1,262,201	\$ 1,604
	Funded Status	70.32%	70.29%	(0.03)%
	DB Employer Contribution Rate	1.12%	1.09%	(0.03)%
HIC - State Employees	Unfunded Accrued Liability	\$ 691,541	\$ 684,686	\$ (6,855)
	Funded Status	35.61%	35.84%	0.23%
	DB Employer Contribution Rate	0.76%	0.76%	0.00%
HIC - Teachers	Unfunded Accrued Liability	\$ 1,145,675	\$ 1,122,542	\$ (23,133)
	Funded Status	21.74%	22.09%	0.35%
	DB Employer Contribution Rate	0.95%	0.94%	(0.01)%
HIC - Political Subdivions	Unfunded Accrued Liability	\$ 29,409	\$ 31,129	\$ 1,720
	Funded Status	61.56%	60.21%	(1.35)%
	DB Employer Contribution Rate	0.35%	0.36%	0.01%
HIC - Constitutional Officers	Unfunded Accrued Liability	\$ 25,888	\$ 26,259	\$ 371
	Funded Status	35.37%	35.05%	(0.32)%
	DB Employer Contribution Rate	0.28%	0.29%	0.01%
HIC - Social Servcies Employees	Unfunded Accrued Liability	\$ 8,264	\$ 8,496	\$ 232
	Funded Status	44.11%	43.43%	(0.68)%
	DB Employer Contribution Rate	0.21%	0.22%	0.01%
HIC - Registrars	Unfunded Accrued Liability	\$ 226	\$ 240	\$ 14
	Funded Status	59.09%	57.69%	(1.40)%
	DB Employer Contribution Rate	0.13%	0.15%	0.02%
VSDP	Unfunded Accrued Liability	\$ (347,574)	\$ (387,794)	\$ (40,220)
	Funded Status	205.83%	234.56%	28.72%
	DB Employer Contribution Rate	0.48%	0.48%	0.00%
VLDP - Teachers	Unfunded Accrued Liability	\$ 623	\$ 1,717	\$ 1,094
	Funded Status	95.58%	88.71%	(6.88)%
	DB Employer Contribution Rate	0.43%	0.49%	0.06%
VLDP - Political Subdivisions	Unfunded Accrued Liability	\$ (3,391)	\$ (3,441)	\$ (50)
	Funded Status	127.98%	128.50%	0.53%
	DB Employer Contribution Rate	0.71%	0.82%	0.11%

Retirement Experience During 2020-2024

Active - Retirement Experience				
Plan	Exposures	Actual	Expected	A/E
State (millions)	117.6	12.6	12.8	98%
Teacher (millions)	175.9	21.6	19.6	110%
JRS (hundred thousands)	48.4	5.4	6.9	78%
State Police (hundred thousands)	35.3	4.2	4.5	93%
Law Officers (hundred thousands)	67.6	12.0	11.0	109%
Pol. Subs. - Metro (millions)	80.4	10.0	9.8	102%
Pol. Subs. - Non-Metro (millions)	42.0	5.7	5.2	110%
Total (millions)	431.1	52.1	49.7	105%

Termination Experience During 2020-2024

Active - Termination Experience				
Plan	Exposures	Actual	Expected	A/E
State (millions)	156.1	13.7	14.3	96%
Teacher (millions)	347.6	26.6	22.7	117%
JRS (hundred thousands)	N/A	N/A	N/A	N/A
State Police (hundred thousands)	78.0	2.6	2.4	108%
Law Officers (hundred thousands)	227.0	47.9	41.3	116%
Pol. Subs. - Metro (millions)	150.8	15.9	13.4	119%
Pol. Subs. - Non-Metro (millions)	83.1	11.4	8.8	130%
Total (millions)	768.0	72.7	63.5	114%

Disability Experience During 2020-2024

Active - Disability Experience				
Plan	Exposures	Actual	Expected	A/E
State	299,679.0	915.0	1,401.2	65%
Teacher	606,937.0	319.0	786.6	41%
JRS	N/A	N/A	N/A	N/A
State Police	7,638.0	17.0	26.3	65%
Law Officers	31,144.0	250.0	314.4	80%
Pol. Subs. - Metro	268,189.0	353.0	881.5	40%
Pol. Subs. - Non-Metro	175,463.0	170.0	525.9	32%
Total	1,389,050.0	2,024.0	3,935.8	51%

Salary Experience During 2020-2024

System	Actual Salaries	Expected Salaries	Actual Increase	Expected Increase	A/E
State Employees and Non-Hazardous Duty Locals	34,918,045	33,668,709	1.080	1.042	1.037
Teachers	34,646,280	33,986,885	1.068	1.048	1.019
Judicial	325,410,204	321,371,127	1.053	1.040	1.013
Hazardous Duty	8,167,576	7,789,441	1.092	1.041	1.049

Health Insurance Credit (HIC): Benefit Participation

- Upon retirement, not all eligible retirees and disabled members elect to receive the HIC benefit
 - Perhaps due to free health insurance elsewhere or other reasons
- Experience and proposed assumptions for eligible future **Service Retirees** from **Active*** status

System	Current Assumption	Actual Participation	Proposed Assumption
Statewide Plans (Incl. Teachers)	95%	92%	94%
Political Subdivision & Special Coverage Groups	85%	90%	87%

Change

Statewide -1%

PS & Spec. Cov. +2%

**Continue practice of mirroring Terminated Vested assumptions to Active assumptions*

Health Insurance Credit (HIC): Benefit Participation

- Experience and proposed assumptions for eligible future
Disabled Members from **Active** status

System	Current Assumption	Actual Participation	Proposed Assumption
State/JRS	95%	89%	92%
Teachers	90%	77%	84%
SPORS/VaLORS	80%	45%	63%
Political Subdivision & Special Coverage Groups	50%	58%	54%

Change

State/JRS -3%

Teachers -6%

SPORS/VaLORS -17%

PS & Spec. Cov. +4%

Health Insurance Credit (HIC): Benefit Utilization

- Upon benefit commencement not all are eligible to receive their maximum HIC benefit
- Currently, the HIC utilization assumption has four components
 - Percentage receiving the maximum benefit
 - Percentage not receiving the maximum benefit
 - Percentage of benefit utilized for those not receiving the maximum
 - Increase in benefit for those not receiving the maximum

Health Insurance Credit (HIC): Benefit Utilization

Experience and proposed assumptions

— Percentage not receiving the maximum benefit

System	Current Assumption	Actual Percentage Not Utilizing Maximum Benefit	Proposed Assumption	Implied Proposed Percentage Utilizing Maximum Benefit
State/JRS	5%	6%	5%	95%
Teachers	15%	11%	13%	87%
SPORS/VaLORS	10%	9%	9%	91%
Political Subdivision & Special Coverage Groups	5%	4%	4%	96%

Change

State/JRS 0%

Teachers -2%

SPORS/VaLORS -1%

PS & Spec Cov -1%

— Percentage of benefit utilized for those not receiving the maximum

Current Assumption	Actual Portion of Maximum Benefit Received	Proposed Assumption
70%	70%	70%
70%	69%	70%

No Change

Statewide

PS & Special Coverage

Health Insurance Credit (HIC): Benefit Utilization

Experience and proposed assumptions

- Increase in benefit for those not receiving the maximum

Duration Since Retirement	Current Assumption
1 Year	4.50%
2 - 3 Years	4.25%
4 or More Years	3.00%

- Experience over the study period shows, on average, 70% benefit utilization of those not receiving the maximum *regardless of date of retirement*
- **Recommendation**: Eliminate the annual increase in benefit assumption for members not receiving the maximum

Group Life Insurance – ORP Estimation Methodology

- **“Optional Retirement Plan (ORP)” Retirees**
 - Select groups do not provide retiree census data
 - Valuation results include estimated retiree liability for these groups
- **Recommendation:** Given the lack of data, maintain current estimation methodology
 - 10% of the active ORP liability multiplied by
(average retiree AAL/ average active AAL – of non ORP members)
 - Revisit in next experience study

VSDP/VLDP: Offsets

Benefit Offsets for Active Members

- Compared the aggregate experience of benefit offsets to the gross benefit and compared the experience from 2021 – 2024 to the current factors
 - Separately for VSDP and VLDP members.
- Emerging experience show actual to expected values between 89% and 122%
 - For experience within 10% of the assumption, give 25% weight to experience
 - For experience <90% or >110% of assumption, give 50% weight to experience

VSDP/VLDP: Offsets

Benefit Offsets for Active Members

For income from Social Security and/or Workers Compensation

Benefit adjustments are assumed for expected future monthly benefits

Years of LTD	Benefit Adjustment Factor	VSDP Experience	VLDP Experience	VSDP A/E	VLDP A/E	Adjusted VSDP Factors	Adjusted VLDP Factors
1	71%	76%	76%	106%	108%	72%	72%
2	57%	66%	66%	115%	117%	61%	62%
3	52%	51%	51%	98%	99%	52%	52%
4	49%	51%	51%	104%	103%	49%	49%
5	42%	46%	46%	109%	108%	43%	43%
6	36%	42%	42%	117%	116%	39%	39%
7	36%	43%	43%	119%	120%	39%	40%
8	36%	44%	44%	122%	122%	40%	40%
9	36%	37%	37%	102%	102%	36%	36%
10	43%	45%	45%	104%	104%	43%	43%
11	43%	38%	38%	89%	89%	41%	41%
12	43%	49%	49%	114%	114%	46%	46%
13	43%	44%	44%	102%	102%	43%	43%
14	45%	41%	41%	92%	92%	44%	44%
15+	51%	48%	48%	94%	94%	50%	50%

Recommendation: The right-hand two columns have almost identical values, use the factors developed for VSDP for both groups



VSDP/VLDP: Offsets

Offsets for Disabled Members: Assumed to apply to each member's benefit until the benefit expires

- Reviewed plan experience, recommended assumptions partially reflect emerging experience
- For members with no current offsets, benefit amounts are adjusted to reflect future offsets as follows

Proposed = Current
No Change

Year of Long-Term Disability	Percentage Receiving Offsets in the Next Year if Currently Not in Receipt	Average Percentage of Full Benefit Paid if in Receipt of Offsets
1	36%	26%
2	27%	25%
3	23%	25%
4	16%	26%
5	14%	27%
6	9%	26%
7	4%	25%
8+	0%	29%

Proposed = **Current**
+/- 1%



VSDP/VLDP: Recovery Rates

- **Net** of those ceasing LTD coverage due to retirement or maximum benefit age, found lighter recovery experience in early years and heavier recovery experience in longer durations
- The yearly analysis (left table) was collapsed into the preferred 4 splits of adjustment ranges (right table) and applied to the VRS adjustment factors already in place

		Duration											
		0	1	2	3	4	5	6	7	8	9	10	
VSDP	Males	84%	74%	85%	124%	107%	90%	117%	100%	100%	100%	150%	
	Females	82%	69%	82%	126%	107%	80%	86%	104%	110%	129%	150%	

		Duration	Under 24 months	25 - 60 months	61 - 120 months	Over 10 years
VSDP	Males		79%	105%	110%	138%
	Females		76%	105%	110%	140%

VSDP/VLDP: Recovery Rates

Rates of Termination of Benefits Due to Death or Recovery

- Current

Month of Disability	Male	Female
4 - 24	0.852	0.803
25 - 60	0.811	0.821
61 - 120	1.164	1.184
121 and over	1.073	1.126

- Proposed

Month of Disability	Male	Female
4 - 24	0.673	0.610
25 - 60	0.852	0.862
61 - 120	1.280	1.302
121 and over	1.481	1.576

VSDP/VLDP: Confirmed Assumptions

- **Income Replacement for Future Disabled Members:** 62% of member's pre-disability income
- 139 of 2,331 active LTD records as of 6/30/2024 are catastrophic (80% replacement instead of 60%), equating to roughly 61.2% weighted average
 - Maintaining 62% assumption provides margin for adverse deviation (similar to the prior experience study)

VSDP/VLDP: Confirmed Assumptions

- **Members with 1% Employer Contribution:** 65% of Hybrid Plan members assumed to meet Social Security (SS) Disability definition
- Analysis shows that the % of records with a SS offset trends reasonably to ~65% as SS offsets are granted in subsequent years' experience
- Recommend 65% as a reasonable approximation

All Open Records	All	On LTD 1+ yr	On LTD 2+ yr
<u>VSDP</u>			
Records with SS Offset	1,315	1,282	1,201
Total Records	2,159	1,892	1,689
	61%	68%	71%
<u>VSDP (Hybrid)</u>			
Records with SS Offset	143	134	107
Total Records	321	223	169
	45%	60%	63%
<u>VLDP</u>			
Records with SS Offset	74	62	47
Total Records	172	109	77
	43%	57%	61%

VSDP/VLDP: Assumptions Requiring Continued Study

Long-Term Care

- GRS will continue investigating nuances related to morbidity, porting premiums, etc.
 - Looking to simplify approach
- Minor cost and liability component with long tail of expected claims – experience slowly emerging
- Due to the nuances of the LTC benefit and efforts to simplify the approach, recommendations will be forthcoming

LODA

- LODA uses demographic assumptions specific to the group of the participant
 - State, VaLORS, SPORS, Metro, and non-Metro (including National Guard)
- LODA-Specific assumptions
 - Weighting: Part-time members (National Guard) and volunteer positions are weighted 10% and 25%, respectively, of a full-time position -- these members are proportionately less likely to incur duty death or disability benefits
 - Percentage of Disabilities and Deaths qualifying for Benefits

LODA: Other Assumptions

- Spouse/dependent participation
 - 80% of males and 80% of females were assumed to be married for purposes of spouse coverage under the Fund
 - **Recommendation:** No change to assumption
- Medicare due to disability vs age
 - 75% of members who become disabled prior to their 65th birthday are assumed to be eligible for Medicare due to age (age 65) and 25% are assumed to become eligible for Medicare earlier than age 65
 - **Recommendation:** Increase percent assumed to be eligible for Medicare due to age to 85% and decrease percent assumed to become eligible earlier than age 65 to 15%

LODA: Other Assumptions

- Health Care Cost Trend Rates
 - The trend assumption is used to project health care costs to future years
 - Separate trend assumptions are used for pre-65, post-65, and Medicare Part B
 - **Recommendation:** No change to the health care cost trend rates due to this study; however, all three trend rate assumptions are reviewed – and potentially updated – at each valuation
- Missing Data Assumption
 - Members with unknown gender were assumed to be male
 - **Recommendation:** No change
 - Members with unknown date of birth were assumed to be age 30 for National Guard and age 40 for all others
 - **Recommendation:** No change