

State Actuary's Recommendation on Long-Term Economic Assumptions

*Presentation to
LEOFF Plan 2 Retirement Board*

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September 24, 2025



Today's Presentation

- Informational only, no board action required today
- Report on Financial Condition
 - LEOFF 2 measurements
 - Other DRS plans
- Economic Experience Study
 - Background
 - Key takeaways
 - State actuary's recommendation
 - Full report available [here](#)
- Impacts of adopting recommendation
- Next steps



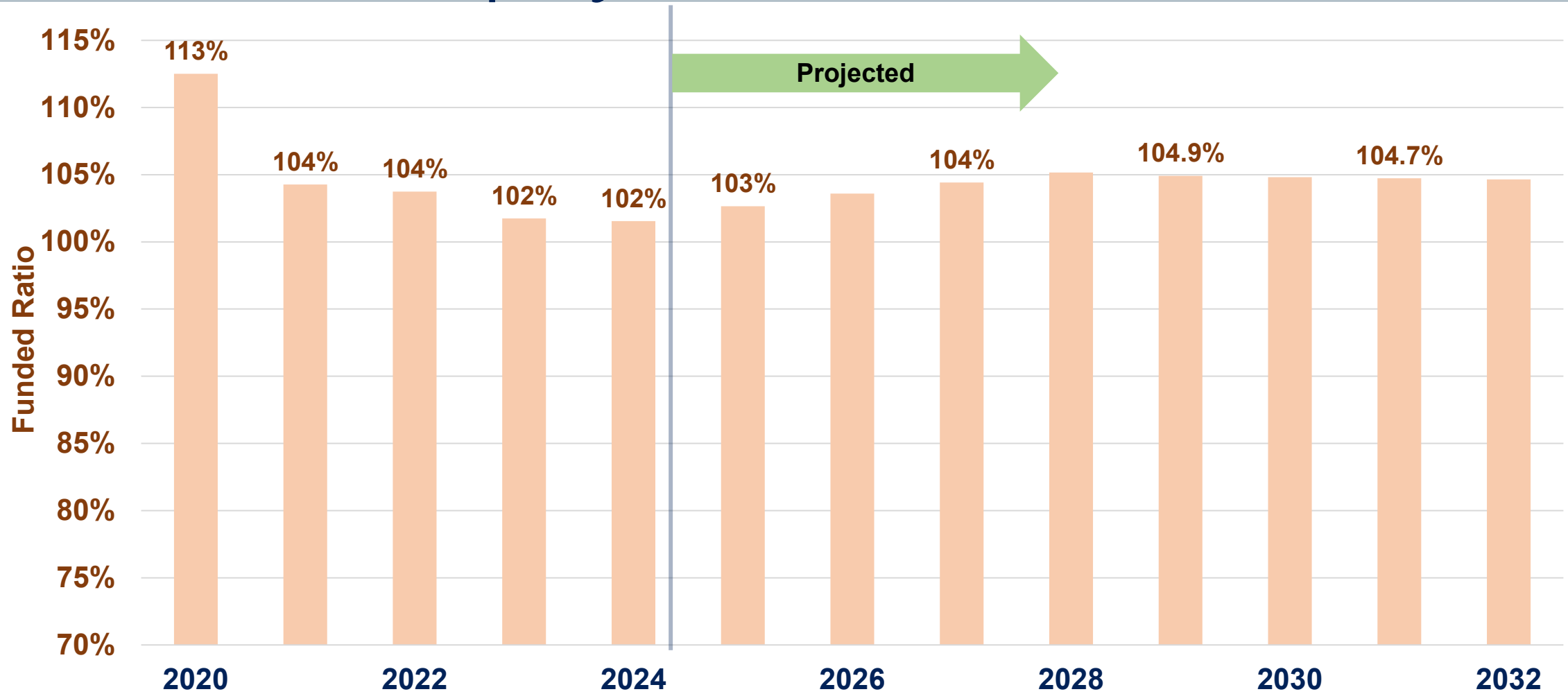
Report on Financial Condition



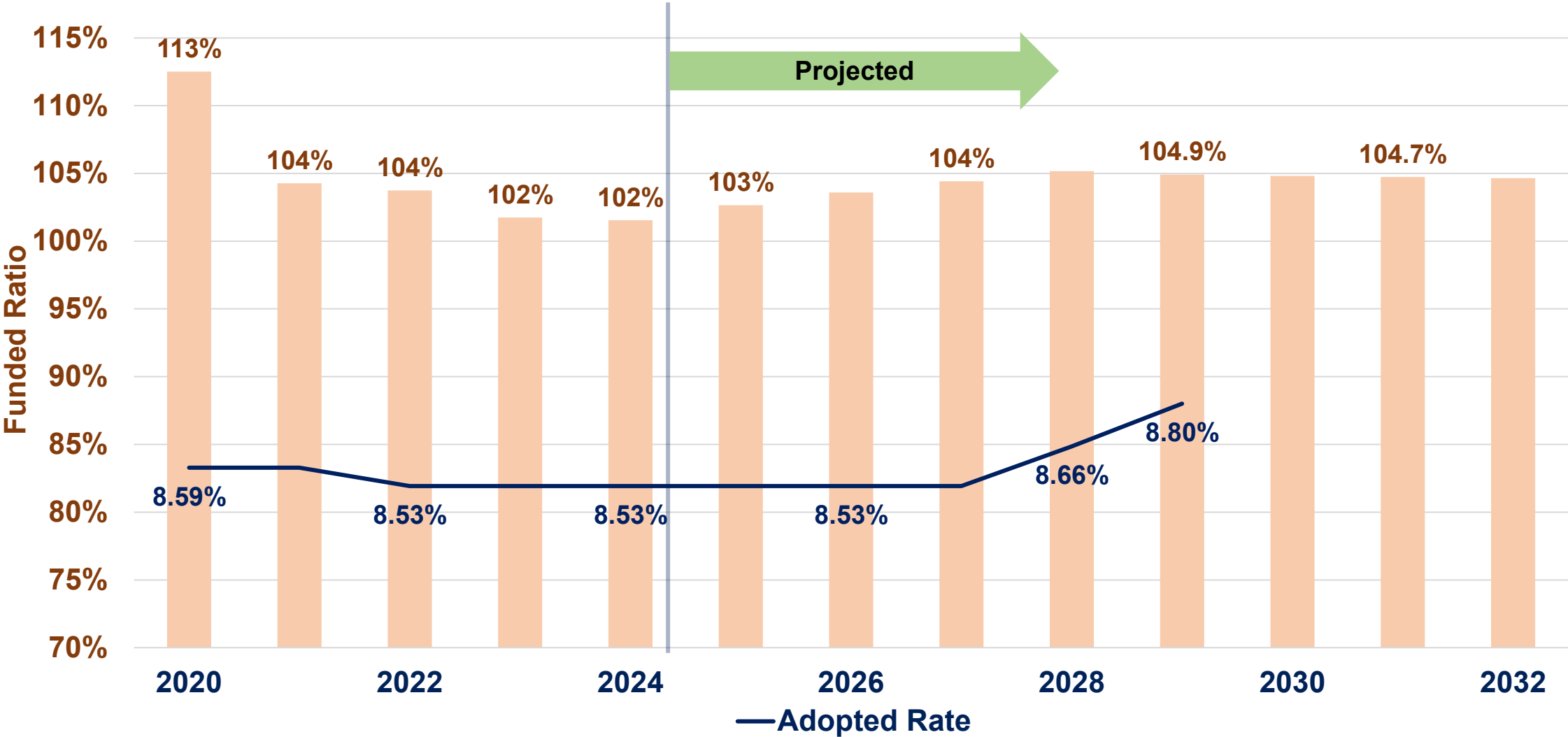
Report on Financial Condition

- Solvency: Ability to pay for member benefits when due
 - Current Funded Ratio 102%, projected to increase
- Affordability: Ability to provide adequate funding
 - Current member contribution rates are 8.53%, projected to increase
- Minimum contribution rate policy
 - 80% EANC when $FR \geq 110\%$
 - 90% EANC when $110\% > FR \geq 105\%$
 - **100% EANC when $FR < 105\%$**
- 2025 AVR results will be different than projections

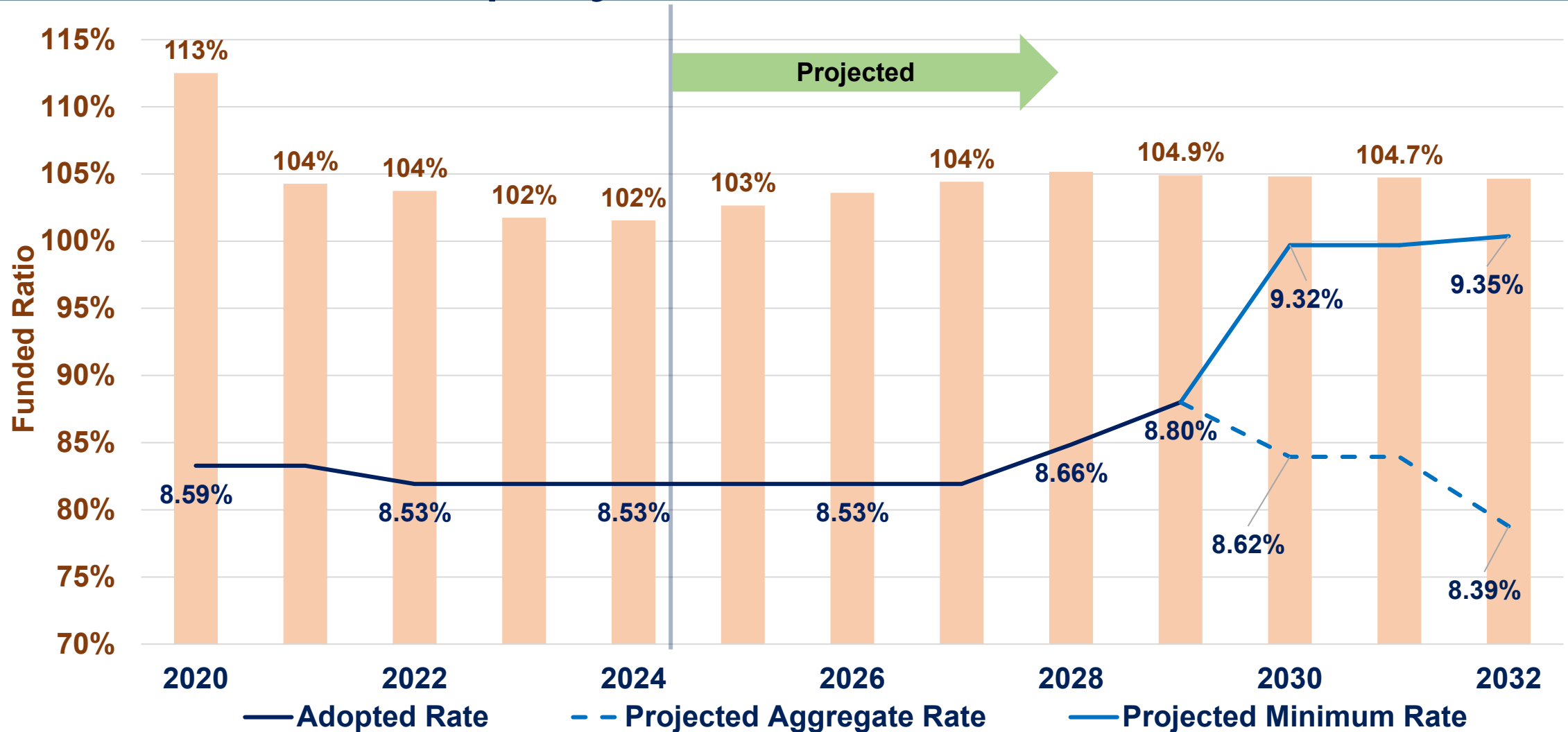
RFC – Historical and Projected Funded Ratio and Employee Contribution Rates



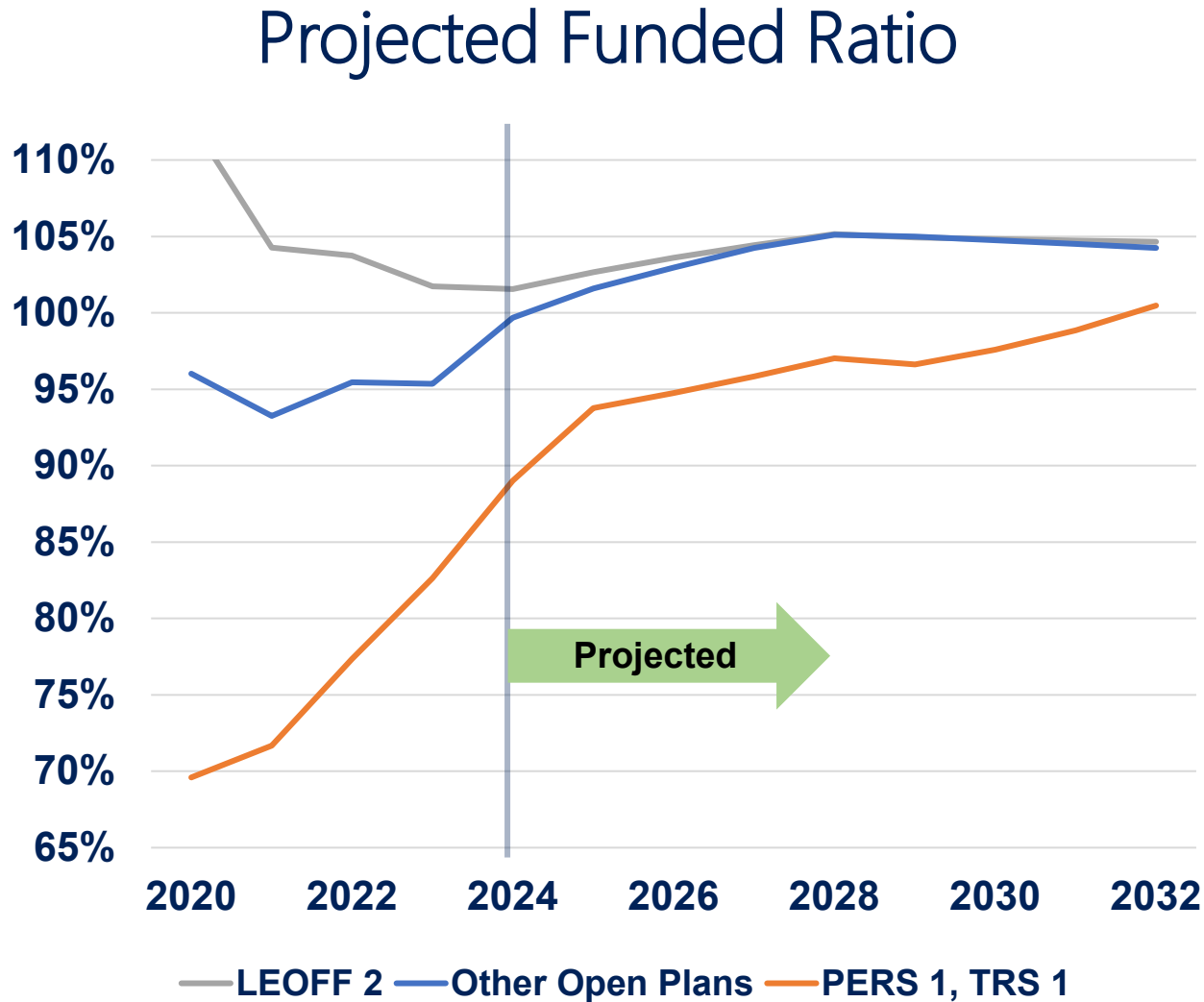
RFC – Historical and Projected Funded Ratio and Employee Contribution Rates



RFC – Historical and Projected Funded Ratio and Employee Contribution Rates



RFC – Other plans



- Plan health remains strong for DRS-administered plans
- [ESSB 5357](#)
 - Reduced short-term contribution rates
 - Increased ROR from 7.0% to 7.25%
 - Changed funding schedule for PERS and TRS Plans 1
- PFC adopts economic assumption changes by October 31

Economic Experience Study



Economic Experience Study

- Review of long-term statutory assumptions used for plan funding
 - Inflation
 - General salary growth
 - Investment rate of return
- Recommendation for assumption set, not specific assumptions
- Studies produced during odd-numbered calendar years

Key Considerations

Purpose of Assumptions



Actuarial Funding Contribution Rates
Monitoring Plan Health

Measurement Period



Longer period for Open Plans
Shorter period for Closed Plans

Relevant Data



Forecasts for Future and Historical Data

Actuarial Standards of Practice



Provides Guidance when Selecting or Recommending Assumptions

Professional Judgment

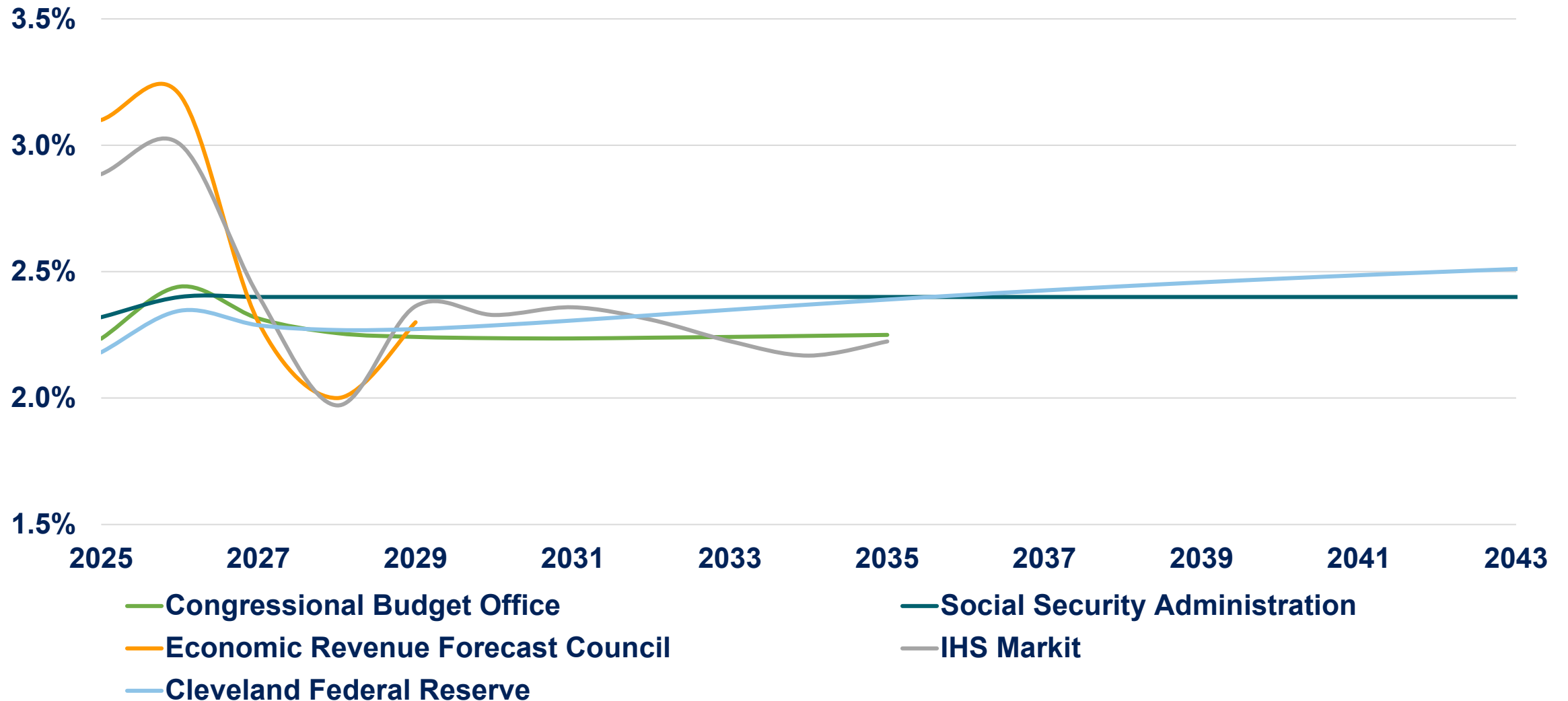


Based on Education and Experience

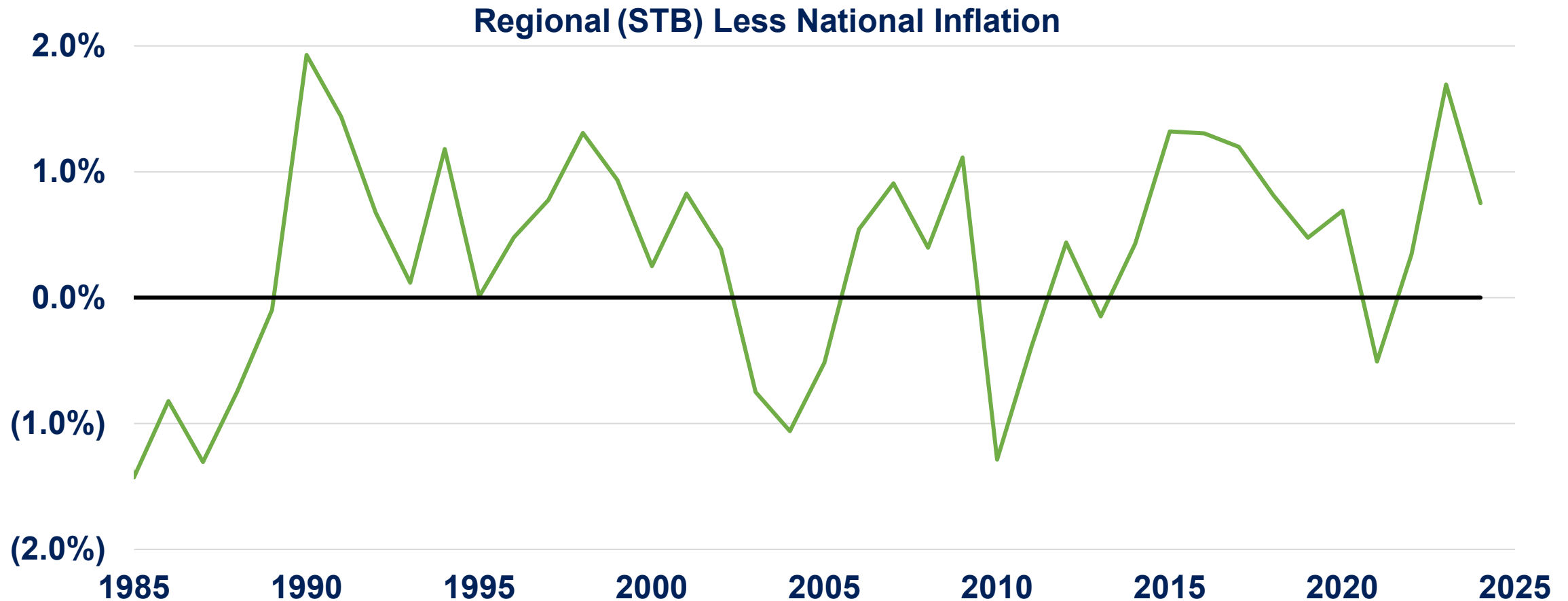
Inflation – Background

- Purpose of this assumption
 - Model future post-retirement COLAs for LEOFF 2 members
 - Serves as a component of assumed general salary growth
- We study inflation through two components
 - National inflation
 - Regional (Seattle-Tacoma-Bellevue) adjustment

National Inflation Forecasts Are Mostly in the Range of 2.3%-2.5%



We Continue to Expect Regional Inflation to Outpace National Inflation



- Over the past 10 and 20 years, the annual average inflation differential was 0.8% and 0.5%, respectively

Inflation – Recommendation

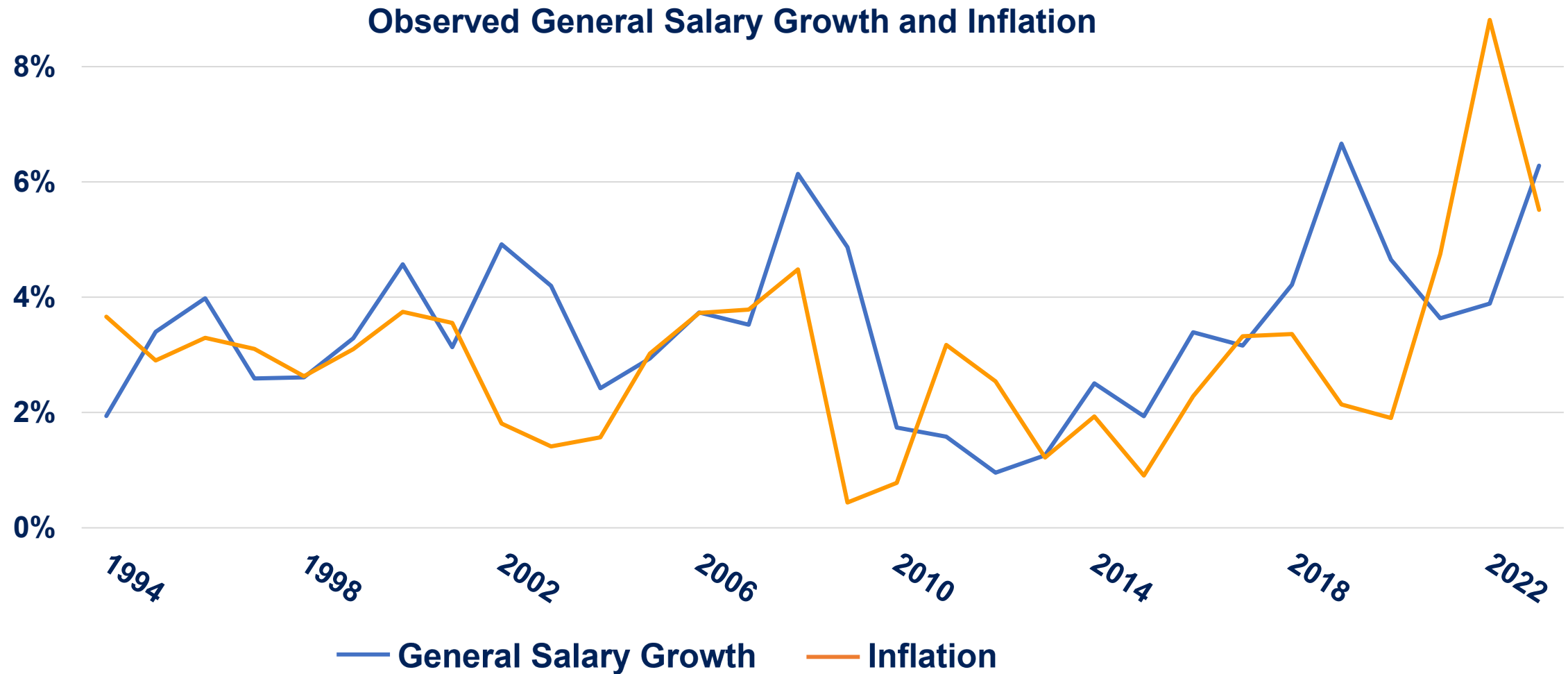
- We expect national inflation of 2.3-2.6% per year
- We expect regional inflation to exceed national inflation by 0.3-0.7%
- **Recommendation = 3.00%**
 - Increase from the current 2.75% assumption

General Salary Growth – Background

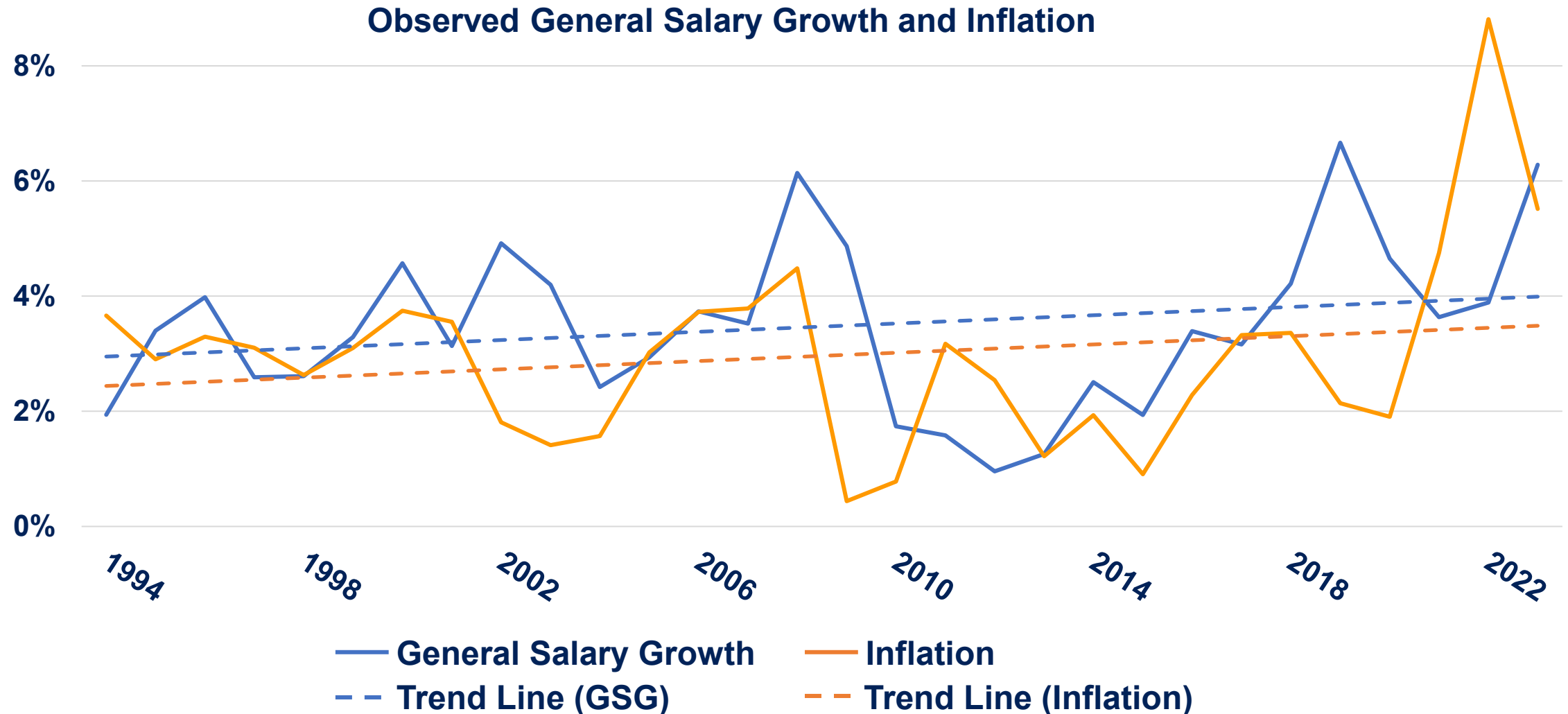
- Purpose of this assumption
 - Model the future annual increase in members' salaries due to economic forces
 - We have a separate assumption for salary increases due to demographic forces
- We study general salary growth through two components
 - Inflation
 - Real wage growth



General Salary Growth Has Been Volatile and Typically Lags Inflation



General Salary Growth Has Been Volatile and Typically Lags Inflation



General Salary Growth – Recommendation

- We expect long-term inflation will be higher than current assumption
- We observed little change in forecasts for real wage growth
- **Recommendation = 3.50%**
 - Increase from the current 3.25% assumption



Investment Rate of Return – Background

- Purpose of this assumption
 - Model future annual return on CTF assets, net of investment expenses
 - Calculate present value of benefits and salaries

Capital Market Assumptions (CMAs) & Simulated Returns

WSIB Capital Market Assumptions		
Asset Class	Geometric Return	Target Allocation
Global Equity	6.5%	30%
Tangible Assets	6.4% ↑	8%
Fixed Income	4.9% ↑	19%
Private Equity	8.3% ↓	25%
Real Estate	6.6% ↑	18%
Cash	3.0% ↑	0%

15-Year Simulated CTF Return	
Mean Return	7.2% ↑
60th Percentile	8.2% ↑
Median Return	7.3% ↑
40th Percentile	6.4% ↑

We Considered Adjustments to WSIB's Simulations

- OSA and WSIB apply these assumptions differently
 - **Purpose** – Plan funding (OSA) vs. strategic asset allocation (WSIB)
 - **Time Horizon** – 7 to 20 years (OSA) vs. 15 years (WSIB)
- Potential adjustments also consider investment factors
 - Inflation
 - Reversion of returns to their long-term mean values
 - Assumed premium of private equity over global equity returns
- Adjustments found to be largely unneeded or offsetting

Investment Rate of Return – Recommendation

- Future expected returns are projected to be higher compared to prior study
 - New CMAs
 - Different WSIB model used to simulate future returns
- Considered adjustments to WSIB's simulations but found them to be unneeded or offsetting
- **Recommendation = 7.25% for all plans**
 - Increase from the current 7.00% assumption

Summary of Long-Term Economic Assumptions

Assumption	Current Assumption	Recommended
Inflation	2.75%	3.00%
General Salary Growth	3.25%	3.50%
Investment Return	7.00%	7.25%

- Recommendation for assumption set, not specific assumptions
- Any economic assumption changes will first be reflected in the 2025 AVR which will inform contribution rate discussions for the 2027-29 Biennium

Recommendation Adoption Impacts

- Funded status expected to increase by roughly 2%

Preliminary Impact on Contribution Rates		
	Aggregate	EANC
Employee	-0.55%	-0.07%
Total Employer	-0.33%	-0.04%
Total State	-0.22%	-0.03%

- 2025 AVR would reflect calculated contribution rates under new assumptions
 - Aggregate contribution rates converge to 100% funded ratio over time
 - EANC rates are used in minimum rate calculation

Next Steps

- **Today –**

- Results of 2025 RFC and EES including State Actuary Recommendation
 - Supporting information is located in Appendix slides
- Preliminary results of *Demographic Experience Study* (DEXTER)

- **October –**

- Detailed results of [2024 AVR](#)
- More information on DEXTER

- **December –**

- Possible Board action on adopted economic and demographic assumptions
- Audit results of DEXTER will be available

Thank You

For questions, please contact
[The Office of the State Actuary](#)
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Luke Masselink and Sarah Baker

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9/24/2025

Office of the State Actuary



Appendix



Appendix

A. RFC – All DRS Plans

B. EES – Supporting Information

- Please see the [EES report](#) for all applicable disclosures

C. Other states' economic assumptions

D. Historical economic assumptions for Washington State pension systems

E. Disclosures on contribution rate and budget impacts



A. Contribution Rates Trending Downward

- As of 2024 AVR, \$7.3 billion in deferred asset gains (all plans combined) under asset smoothing method
- 2025-27 rates set by ESSB 5357, which suspended Plan 1 UAAL funding and decreased the rates adopted by PFC

Total Employer Contribution Rates ¹			
	2021-23	2023-25	2025-27
	Biennium	Biennium	Biennium
System	Collected ²	Collected ²	Adopted
PERS	10.13%	9.10%	5.38%
TRS	14.38%	9.58%	7.54%
SERS	11.54%	10.52%	6.87%
PSERS	10.31%	9.48%	6.91%
LEOFF ³	8.53%	8.53%	8.53%
WSPRS	17.66%	17.78%	15.85%

¹Excludes DRS administrative expense fee.

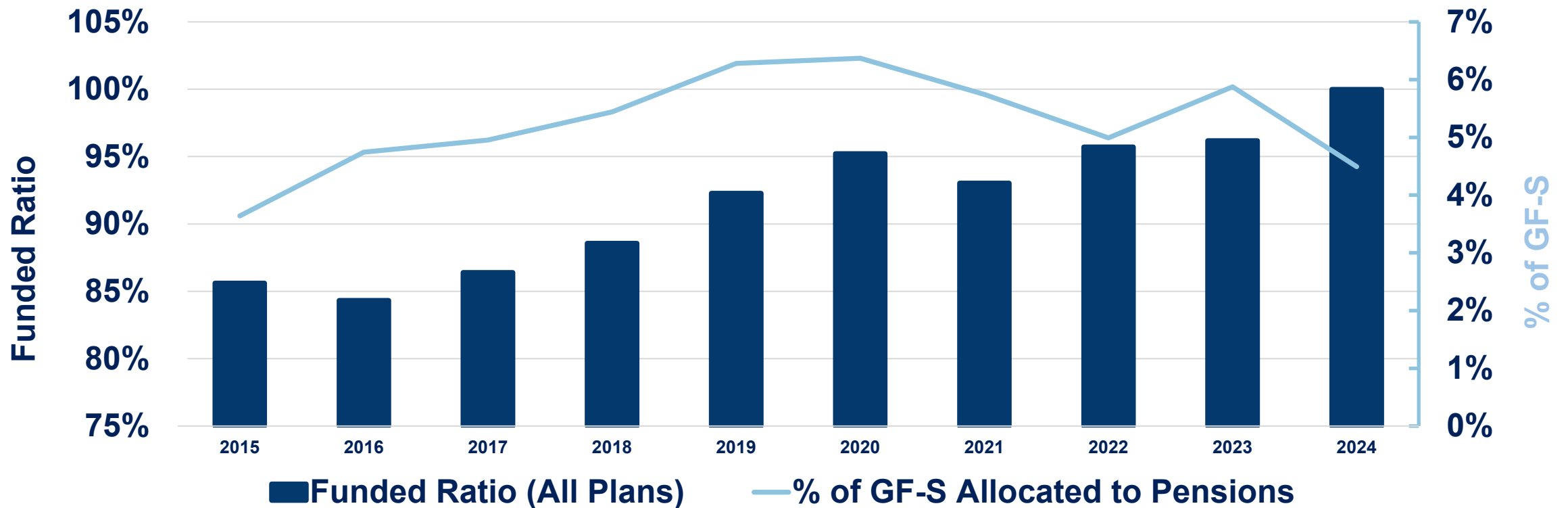
²Average collected rate over biennium.

³LEOFF 2 rate. No contributions are required for LEOFF 1 when the plan is fully funded.

A. Improved Funded Ratio Aided by Higher Contribution Levels

- ER contribution rates began declining in FY 2021
 - One-time, TRS 1 \$250 million payment in FY 2023

Funded Ratio (All Plans) and Pension Contributions as a % of GF-S



A. Affordability and Solvency Continue to Improve

- Affordability
 - Contribution rates began trending downward in 2021-23 Biennium
 - Recent legislation prescribed lower contribution rates and paused PERS 1 and TRS 1 UAAL funding
- Solvency
 - Funded ratio (all plans combined) has trended upward since 2016
 - As of June 30, 2024, all open plans have a funded ratio (FR) above 95%
 - PERS 1, TRS 1, and LEOFF 1 have FR of 87%, 91%, and 160%, respectively

A. Projected Rates Continue Downward Trend for Most Plans

- Reflects future experience occurring exactly as assumed
- Smaller portion of the GF-S allocated to pensions
 - ~ 3.5% in FY 2026 vs. ~ 6% in FY 2020

Total Employer Contribution Rates ¹				
	2025-27 Biennium	2027-29 Biennium	2029-31 Biennium	2031-33 Biennium
System	Adopted	Projected	Projected	Projected
PERS	5.38%	4.71%	4.94%	4.93%
TRS	7.54%	6.79%	6.89%	6.60%
SERS	6.87%	5.85%	5.40%	5.28%
PSERS	6.91%	6.87%	7.01%	6.87%
LEOFF ²	8.53%	8.73%	9.32%	9.35%
WSPRS	15.85%	14.71%	10.35%	8.36%

¹Excludes DRS administrative expense fee.

²Displayed the average LEOFF 2 adopted rate for the 2027-29 Biennium. No contributions are required for LEOFF 1 when the plan is fully funded.

A. Historical Funded Ratios by Plan

Funded Status on an Actuarial Value Basis											
(Dollars in Millions)	PERS		TRS		SERS	PSERS	LEOFF		WSPRS	Total	Interest Rate
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	Plan 2	Plan 1	Plan 2	Plan 1/2		
Accrued Liability	\$10,113	\$63,150	\$7,375	\$26,857	\$10,021	\$1,615	\$4,123	\$20,738	\$1,857	\$145,849	
Valuation Assets	\$8,833	\$63,885	\$6,733	\$26,116	\$9,780	\$1,609	\$6,589	\$21,060	\$1,784	\$146,390	
Unfunded Liability	\$1,280	(\$735)	\$642	\$741	\$241	\$5	(\$2,466)	(\$322)	\$73	(\$541)	
Funded Ratio											
2024	87%	101%	91%	97%	98%	100%	160%	102%	96%	100%	7.25%*
2023	80%	97%	86%	92%	93%	96%	149%	102%	94%	96%	7.00%
2022	75%	97%	80%	92%	92%	101%	152%	104%	94%	96%	7.00%
2021	71%	95%	73%	90%	91%	98%	146%	104%	92%	93%	7.00%
2020	69%	98%	71%	93%	93%	101%	148%	113%	97%	95%	7.50%
2019	65%	96%	66%	91%	91%	101%	141%	111%	95%	92%	7.50%
2018	60%	91%	63%	90%	89%	96%	135%	108%	93%	89%	7.50%
2017	57%	89%	60%	91%	88%	95%	131%	109%	92%	86%	7.50%
2016	56%	87%	61%	89%	87%	94%	126%	105%	91%	84%	7.70%
2015	58%	88%	64%	92%	89%	95%	125%	105%	98%	86%	7.70%

Note: Totals may not agree due to rounding. Liabilities valued using the EAN cost method. Assets valued using the actuarial smoothing method.

*7.00% interest rate assumption for LEOFF 2.

A. Disclosure on RFC Information

- Unless noted otherwise, we relied on data, assumptions, methods from our [Preliminary 2024 Valuation Projections Model](#) to project plan health
 - FY 2025 returns not finalized
 - The final model will reflect known asset returns through June 30, 2025

This presentation summarizes the results of OSA's analysis on the financial condition of the Washington State retirement systems, pursuant to [RCW 41.45.030](#). The primary purpose of this presentation is to assist the PFC and LEOFF 2 Board in evaluating whether to adopt changes to the long-term economic assumptions identified in [RCW 41.45.035](#). This RFC may not be appropriate for other purposes. Please replace this presentation with our next RFC when available.

We relied on information gathered from our 2023 Valuation Projections Model, 2024 AVR, and preliminary 2024 Valuation Projections Model to prepare this presentation. We believe that this information, along with the assumptions and methods used to conduct our analysis, is reasonable and appropriate for the primary purpose stated above. The use of another set of data, assumptions, and methods, however, could also be reasonable and could produce materially different results. In our opinion, all methods, assumptions, and calculations are in conformity with generally accepted actuarial principles and applicable standards of practice as of the date of this presentation.

Kyle Stineman (ASA, MAAA) and Luke Masselink (ASA, EA, MAAA) served as the reviewing and responsible actuaries for the RFC information. They meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein and are available to offer extra advice and explanation as needed.

B. WSIB CMAs and Target Asset Allocation

WSIB Capital Market Assumptions						
Asset Class	Expected 1-Year Return*			Standard Deviation		
	2025	2023	Difference	2025	2023	Difference
Global Equity	8.0%	8.1%	(0.1%)	18.0%	19.0%	(1.0%)
Tangible Assets	7.1%	7.0%	0.1%	12.0%	12.0%	0.0%
Fixed Income	5.1%	4.6%	0.5%	6.0%	6.0%	0.0%
Private Equity	11.0%	11.1%	(0.1%)	25.0%	25.0%	0.0%
Real Estate	7.4%	7.3%	0.1%	13.0%	13.0%	0.0%
Cash	3.0%	2.5%	0.5%	2.1%	2.0%	0.1%

*Reflects arithmetic returns. Geometric returns are lower but have similar differences between 2025 and 2023.

WSIB CTF Target Asset Allocation	
	2025 & 2023 EES
Global Equity	30%
Tangible Assets	8%
Fixed Income	19%
Private Equity	25%
Real Estate	18%
Cash	0%
Total	100%

B. Simulated CTF Investment Returns

15-Year Simulated Annual Investment Returns*			
	2025	2023	Difference
Mean Return	7.19%	7.06%	0.13%
70th Percentile	9.13%	8.94%	0.19%
60th Percentile	8.22%	7.92%	0.30%
Median Return	7.33%	7.02%	0.31%
40th Percentile	6.42%	6.11%	0.31%
30th Percentile	5.44%	5.15%	0.29%

Note: Differences may not agree due to rounding. Figures are based on unique simulations and may differ slightly from those contained in the WSIB CMA White Paper.

**Displayed simulations vary based on the simulation model used. Consistent with WSIB CMA studies, the 2023 simulations rely on a downside log-stable distribution while 2025 figures rely on unique non-normal distribution simulations.*

C. Other States' Economic Assumptions

Economic Assumptions for Public Plans Outside Washington				
Plan Name	Inflation*	General Salary Growth	Investment Return	Date of Valuation
Washington 2025 EES Recommendations	3.00%	3.50%	7.25%	
Washington Currently Prescribed Assumptions	2.75%	3.25%	7.00% LEOFF 2 7.25% Other Plans	
Alaska PERS & Teachers	2.50%	2.75%	7.25%	6/30/2023
California PERS	2.30%	2.80%	6.80%	6/30/2024
California Teachers	2.75%	3.50%	7.00%	6/30/2024
Colorado PERA	2.30%	3.00%	7.25%	12/31/2023
Florida Retirement System	2.40%	3.50%	6.70%	7/1/2024
Idaho PERS	2.30%	3.05%	6.30%	6/30/2024
Iowa PERS	2.60%	3.25%	7.00%	6/30/2024
Missouri State Employees	2.25%	2.75%	6.95%	6/30/2024
Ohio PERS	2.35%	2.75%	6.90%	12/31/2024
Oregon PERS	2.40%	3.40%	6.90%	12/31/2023
Wisconsin Retirement System	2.40%	3.00%	5.40%	12/31/2023
Selected Public Plans Outside WA – Average	2.41%	3.07%	6.77%	
Selected Public Plans Outside WA – Minimum	2.25%	2.75%	5.40%	
Selected Public Plans Outside WA – Maximum	2.75%	3.50%	7.25%	

Note: Data gathered from the National Association of State Retirement Administrators (NASRA) as of June 2025. This data reflects the assumptions prescribed by each plan, which may not match the actuary's recommended assumption. There may also be a timing lag between the date of valuation and when the assumptions were actually last studied.

**Selected public plans outside Washington primarily use a national inflation assumption rather than a regional assumption. We expect inflation in the STB region to be higher than the national average.*

D. Historical Economic Assumptions for Washington State Pension Systems

Historical Economic Assumptions for Washington State Pension Systems				
Valuation Years	Inflation	General Salary Growth	Investment Return	Membership Growth for Plan 1 Funding
1989 - 1994	5.00%	5.50%	7.50%	0.75% TRS 1.25% PERS
1995 - 1997	4.25%	5.00%	7.50%	0.90% TRS 1.25% PERS
1998 - 1999	3.50%	4.00%	7.50%	0.90% TRS 1.25% PERS
2000 - 2008	3.50%	4.50%	8.00%	0.90% TRS 1.25% PERS
2009 - 2010	3.50%	4.50% LEOFF 2 4.00% Other Plans	8.00%	0.90% TRS 1.25% PERS
2011 - 2012	3.00%	3.75%	7.5% LEOFF 2 7.9% Other Plans	0.80% TRS 0.95% PERS
2013 - 2014	3.00%	3.75%	7.5% LEOFF 2 7.8% Other Plans	0.80% TRS 0.95% PERS
2015	3.00%	3.75%	7.5% LEOFF 2 7.7% Other Plans	0.80% TRS 0.95% PERS
2016	3.00%	3.75%	7.5% LEOFF 2 7.7% Other Plans	1.25% TRS 0.95% PERS
2017 - 2020	2.75%	3.50%	7.4% LEOFF 2 7.5% Other Plans	1.25% TRS 0.95% PERS
2021 - 2023	2.75%	3.25%	7.00%	1.00% TRS/PERS
2024	2.75%	3.25%	7.00% LEOFF 2 7.25% Other Plans	1.00% TRS/PERS

Note: Values represent prescribed assumptions, which may not necessarily match OSA's recommended assumptions.

E. Disclosures on Funded Ratio and Contribution Rate Impacts of Adopting Recommendations

- We prepared these contribution rate and funded ratio impacts to assist the LEOFF 2 Board when selecting long-term economic assumptions in 2025. It may not be appropriate for other purposes. Please replace with updated analysis when available.
- Unless noted otherwise, this pricing uses the same assumptions, methods, and data as the 2023 Actuarial Valuation Report.
- The actuarial assumptions, methods, and data used are reasonable for the purposes of this pricing exercise. The use of another set of assumptions, methods, and data may also be reasonable and might produce different results.
- The models used are appropriate for the purpose of this pricing. We are not aware of any known weaknesses or limitations of the models that have a material impact on the results.
- Matthew M. Smith (FCA, EA, MAAA) served as the reviewing and certifying actuary of these pricing results. He is available to offer extra advice and explanations as needed.