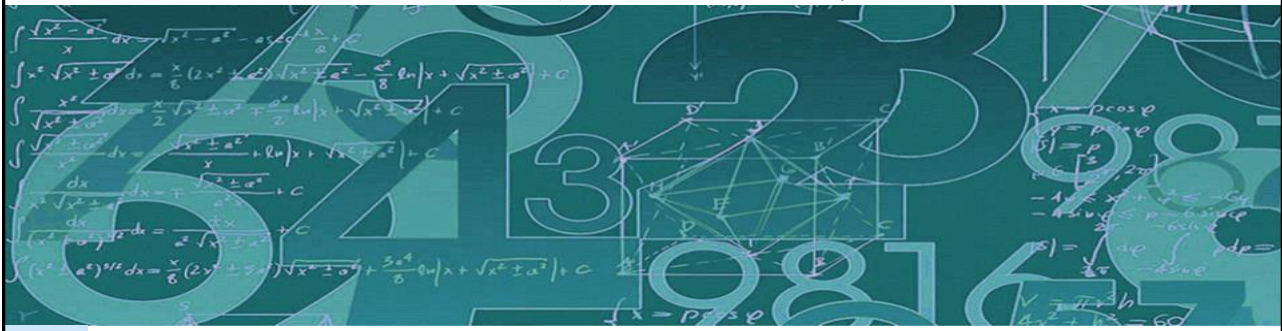


Actuarial Update on the Washington State Retirement Plans

Presentation to: DRS Advisory Committee

Luke Masselink, Senior Actuary, ASA, EA, MAAA

Frank Serra, Senior Actuarial Analyst



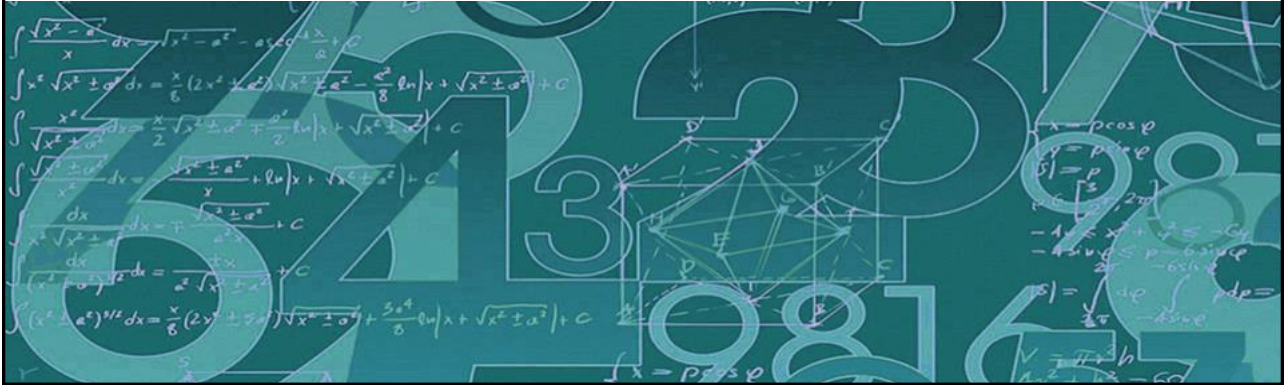
Office of the State Actuary
"Supporting financial security for generations."

November 30, 2023

Today's Presentation

- 2022 Actuarial Valuation Report
- 2023 Legislative Session
- 2023 Report on Financial Condition
- 2023 Economic Experience Study
- Please see the Appendix for full reports and source materials

June 30, 2022, Actuarial Valuation Report (AVR)



Background on the AVR

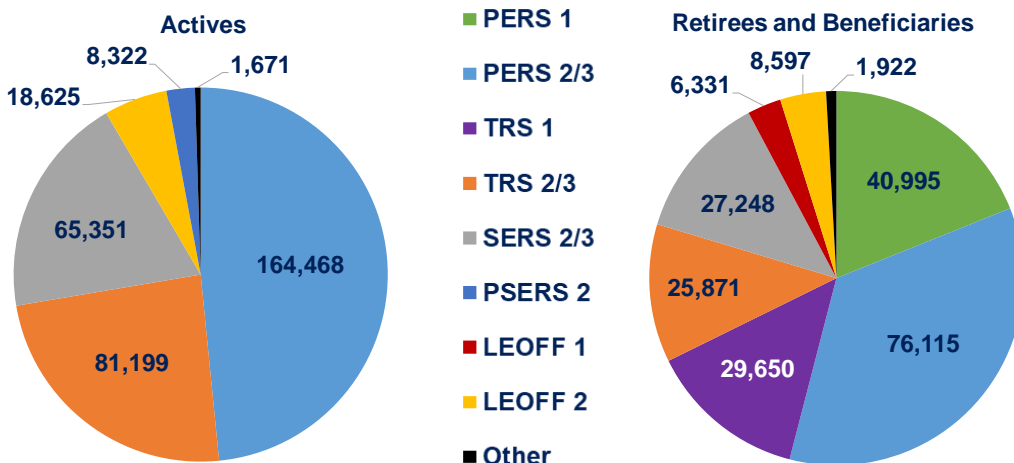
- Annual update on funding progress of State Retirement Systems
 - Membership data, assets, liabilities, funded status, and key changes
- Takes about a year from data collection to report publication
 - [June 30, 2022, AVR](#) began in October 2022 and published in August 2023
- Odd-numbered measurement years inform contribution rate adoption

Contribution Rate-Setting Process			
	Contribution Rate Collection Period		
	23-25 Biennium	25-27 Biennium	27-29 Biennium
Actuarial Valuation Date	June 30, 2021	June 30, 2023	June 30, 2025
Asset Returns Included	Returns through June 30, 2021	Returns through June 30, 2023	Returns through June 30, 2025
Rates Adopted During	Summer of 2022	Summer of 2024	Summer of 2026

Summary of Participant Data – All Systems

June 30, 2022	
Active Members	
Number	339,636
Average Annual Salary	\$78,865
Average Age	46.1
Average Service	10.6
Retirees and Beneficiaries	
Number	216,729
Average Annual Benefit	\$25,741
Terminated Members	
Number Vested	70,302
Number Non-Vested	168,695

Participant Data by Plan at June 30, 2022



PERS 1, TRS 1, LEOFF 1, and WSPRS 1/2 each have less than 1,000 actives in their plans.

PSERS 2 and WSPRS 1/2 both have less than 1,500 annuitants in their plans.

Highlights from 2022 AVR

Funded Status at June 30		
(Dollars in Millions)	2022	2021
All Systems		
Assumed Rate of Return	7.00%	7.00%
a. Accrued Liability*	\$130,623	\$123,621
b. Market Value of Assets	136,492	137,256
c. Deferred Gains/(Losses)	11,466	22,251
d. Actuarial Value of Assets (b - c)	125,026	115,005
Unfunded Liability (a - d)	\$5,597	\$8,616
Funded Ratio (d / a)	96%	93%

Note: Totals may not agree due to rounding.

*Liabilities valued using Entry Age Normal cost method.

- FY 2022 investment returns were 0.22% (dollar-weighted return)
 - FY 2021 investment returns were 31.62% (dollar-weighted return)
- Number of terminations were greater than expected across all systems
- Additional detail by individual plans will be shown later as part of the RFC

2023 Legislative Session



Two Significant Plan 1 Law Changes Occurred

- [ESSB 5294](#) updated funding policy and reduced short-term rates
- [SB 5350](#) provided an ad-hoc COLA to eligible annuitants
 - During 2023-25, SCPP must recommend an approach for on-going COLA
- Combined, these law changes decreased short-term contribution rates for PERS, TRS, SERS, and PSERS employers

PERS 1 and TRS 1 UAAL Rates for 2023-25 Biennium				
	Before 2023 Legislative Session		After 2023 Legislative Session*	
	FY 2024	FY 2025	FY 2024	FY 2025
PERS 1 UAAL	3.85%	3.85%	2.97%	2.47%
TRS 1 UAAL	6.46%	6.46%	1.44%	1.44%

*Reflecting SB 5350 and ESSB 5294.

2023 Report on Financial Condition (RFC)



RFC Assesses Plan Health Using Two Primary Measures

- **Affordability:** Ability to provide adequate funding
 - Can members, employers, local government, and the state pay the amount required to fully fund the plans?
 - Example: Contribution rates
- **Solvency:** Ability to pay for member benefits when due
 - Can the plans pay the benefits that have been earned by members?
 - Are the plans on target to meet future benefit requirements?
 - Example: Funded ratio



Affordability: Employer Contribution Rates

Total Employer Contribution Rates (as of 2022 Projections) ¹					
	2019-21	2021-23	2023-25	2025-27	2027-29
	Biennium	Biennium	Biennium	Biennium	Biennium
System	Collected	Collected	Adopted ⁴	Projected	Projected
PERS ²	12.68%	10.07%	9.08%	7.30%	5.77%
TRS ²	15.33%	14.24%	9.50%	9.22%	8.89%
SERS ²	13.01%	11.47%	10.48%	8.88%	7.25%
PSERS ²	11.96%	10.21%	9.45%	8.70%	7.94%
LEOFF ³	8.59%	8.53%	8.53%	8.22%	8.26%
WSPRS	17.50%	17.66%	17.79%	16.92%	10.90%

¹ Excludes DRS administrative expense fee.

² For plans with a UAAL rate that varies across the two years of a biennium, we averaged the rates.

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

⁴ Rates effective 9/1/2023 and reflect adoptions by PFC and LEOFF 2 Board with adjustments for 2023 Legislative Session changes.

- Decline in contribution rates is expected to continue
 - PERS 1 and TRS 1 UAAL (excluding benefit improvements) expected to be paid off by FY 2026

Affordability: Member Contribution Rates

Member Contribution Rates (as of 2022 Projections)					
	2019-21 Biennium	2021-23 Biennium	2023-25 Biennium	2025-27 Biennium	2027-29 Biennium
System	Collected	Collected	Adopted ³	Projected	Projected
PERS 2 ¹	7.90%	6.36%	6.36%	5.83%	4.85%
TRS 2 ¹	7.77%	8.05%	8.06%	8.28%	7.55%
SERS 2 ¹	8.25%	7.76%	7.76%	7.41%	6.33%
PSERS 2	7.20%	6.50%	6.73%	7.23%	7.02%
LEOFF 2	8.59%	8.53%	8.53%	8.22%	8.26%
WSPRS 1/2 ²	8.45%	8.61%	8.74%	8.74%	8.74%

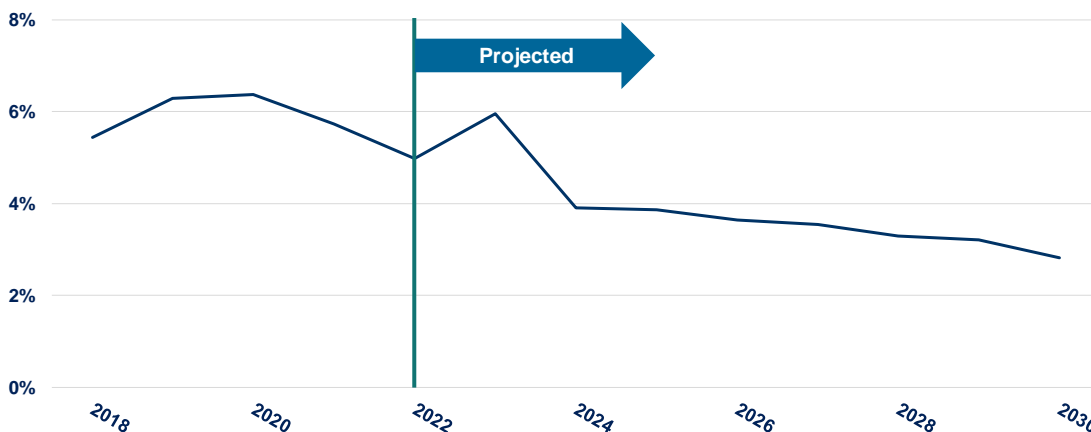
¹ Plan 1 members' contribution rate is statutorily set at 6.0%. Members in Plan 3 do not make contributions to their defined benefit.

² Current WSPRS member contribution rates are at the plan maximum.

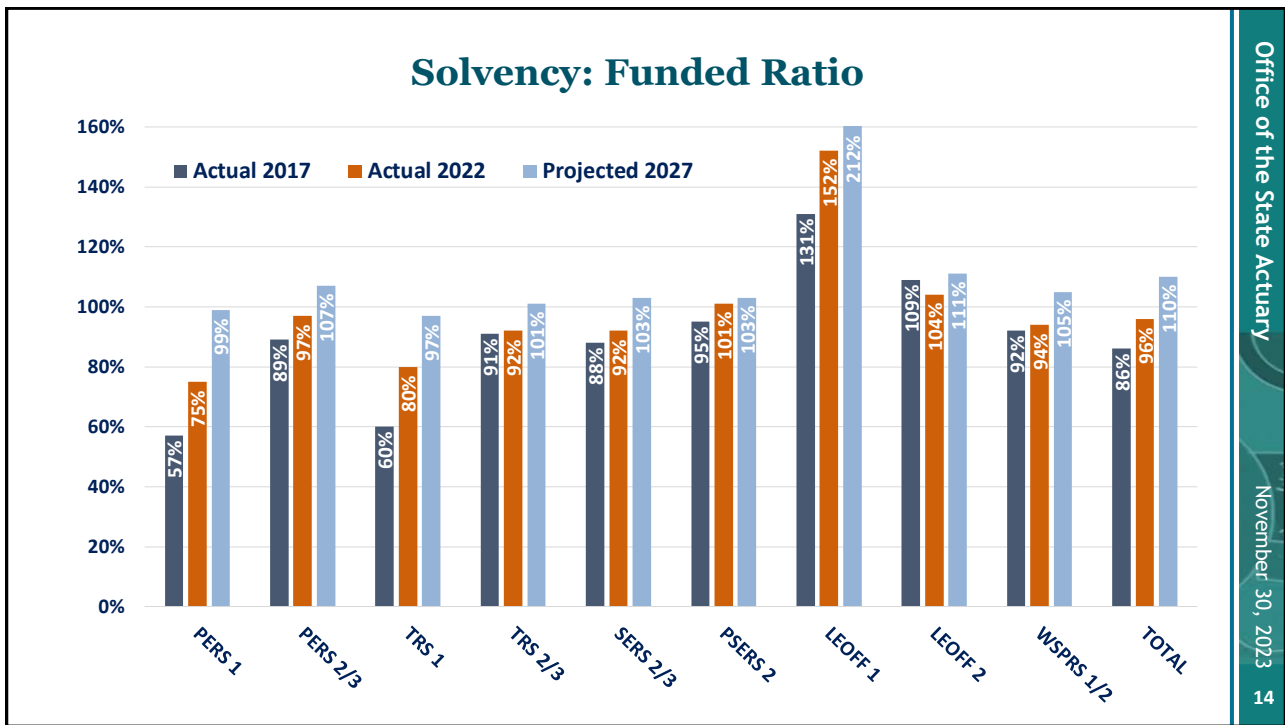
³ Rates effective 9/1/2023 and reflect adoptions by PFC and LEOFF 2 Board with adjustments for 2023 Legislative Session changes.

Affordability: Contribution as a Percent of GF-S Budget

Projected Estimated Pension Contributions as a Percent of GF-S Budget

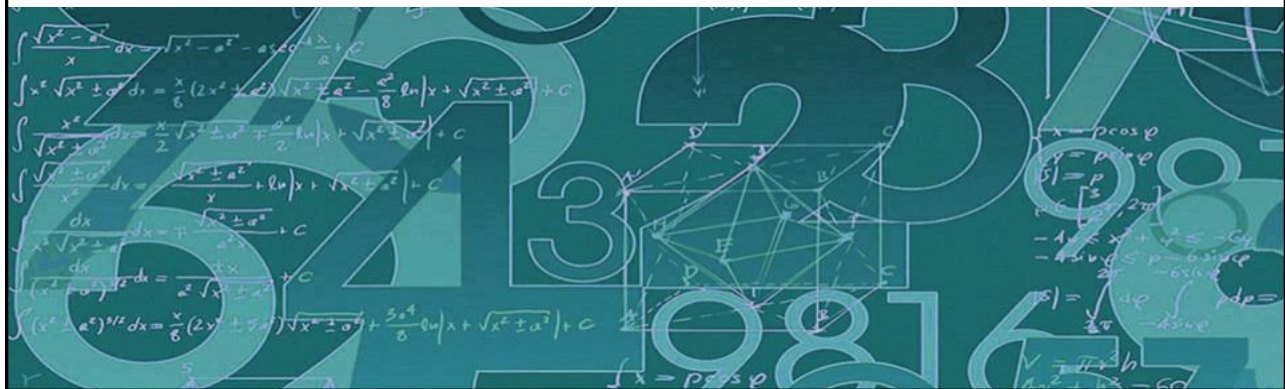


Note: We relied on the June 2022 Washington State Economic and Revenue Forecast for the short-term GF-S forecast. All other projected assumptions, including long-term GF-S growth, rely on data, assumptions, and methods consistent with a modified version of our most recent Projections Model (2021 Valuation Projections Model). Use of another report can lead to different results but the long-term trend is not expected to change.



- ### Pension Plan Risks
- Projections won't play out as expected
 - Investment experience
 - Choices made by policy makers
 - Demographic experience
 - Managing risk is a group effort
 - Legislature and policy makers can adopt sound assumptions/contribution rates and ensure benefit improvements are affordable/sustainable
 - OSA revisits assumptions regularly, performs pricing analysis on plan changes, and evaluates risk continually

2023 Economic Experience Study (EES)



Long-Term Economic Assumptions

- Inflation

⇒

Inform future regional COLA expectations
- General Salary Growth

⇒

Project wages to determine future benefits and calculate contribution rates
- Investment Return

⇒

Assumed annual return on assets used to determine present value of benefits and salaries
- Membership Growth for Plan 1 Funding

⇒

Demographic assumption for calculating Plan 1 UAAL and benefit improvement contribution rates

Summary of Assumptions

Assumption	Adopted
Inflation	2.75%
General Salary Growth	3.25%
Investment Return	7.00%
Membership Growth for Plan 1 Funding	1.00%

- Assumptions adopted by PFC and LEOFF 2 Board in 2023 are consistent with the recommendations of the SCPP and state actuary, as well as the currently prescribed assumptions, but are subject to Legislative revision
- If we become aware of actual experience well above/below our long-term expectations, we can update our assumptions in a future actuarial valuation
- Additional details on assumptions can be found in the Appendix

Summary

- Current and projected retirement plan health is improving
 - Contribution rates trending down
 - Contributions as a Percent of GF-S Budget trending down
 - Funded ratios trending up
- Managing financial risks to retirement plans requires regular monitoring and timely action
 - Economic assumptions reviewed this year; no change recommended/adopted
 - Next year's 2023 AVR will inform contribution rates for 2025-27 Biennium and will reflect laws passed during 2023 (and 2024) Session
- Constantly adding and updating content on [our website](#)
 - E.g., projected contribution rates, historical data, educational content

Questions?



Questions? Please Contact: The Office of the State Actuary
leg.wa.gov/OSA; state.actuary@leg.wa.gov
360-786-6140, PO Box 40914, Olympia, WA 98504
Luke Masselink & Frank Serra

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Thank You



Appendix

- Report Resources
- Pension Laws Passed During 2023 Session
- Historical Funded Status by Plan
- Additional Information on EES Assumptions



Report Resources

- [2022 Actuarial Valuation Report](#)
- [2023 Report on Financial Condition](#)
- [2023 Economic Experience Study](#)

Pension Laws Passed During 2023 Session

- In addition to the Plan 1 bills on slide 8, the following laws impacted the state retirement systems
 - [SHB 1007](#) expanded the definition of veteran
 - [HB 1055](#) allowed existing PERS 2/3 Public Safety Telecommunicators (PSTs) the opportunity to transfer into PSERS prospectively
 - Newly hired PSTs will become PSERS members
 - [2SSB 5454](#) added PTSD as an occupational disease for Registered Nurses
 - [SHB 1056](#) allowed 2008 ERF recipients to return to work with a DRS employer up to 867 hours before reaching age 65
 - Also increased benefits for 2000 ERF recipients hired on or after 9/1/2008

Note: The above list is not exhaustive. For additional details on the 2023 Session bills please see the [June 2023 SCPP Committee materials](#).

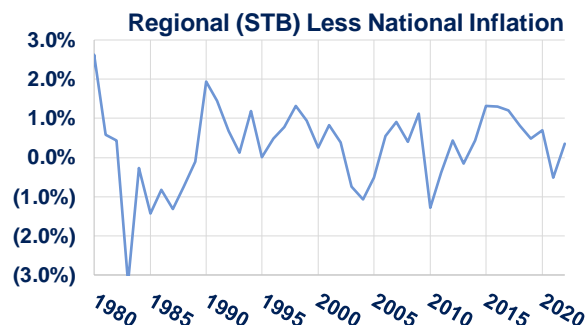
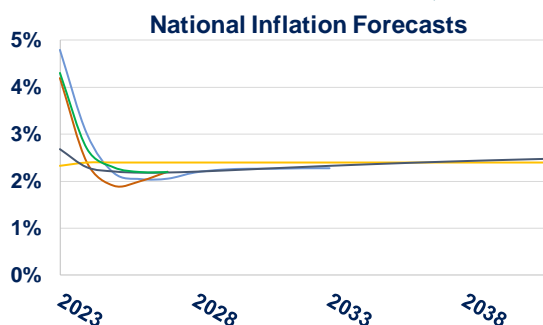
Historical Funded Status by Plan

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	\$11,047	\$55,247	\$8,041	\$23,195	\$8,712	\$1,173	\$4,204	\$17,336	\$1,669	\$130,623	
Valuation Assets	8,294	53,863	6,472	21,254	8,026	1,180	6,376	17,985	1,576	125,026	
Unfunded Liability	\$2,753	\$1,384	\$1,569	\$1,941	\$686	(\$7)	(\$2,172)	(\$648)	\$93	\$5,597	
	Funded Ratio										
2022	75%	97%	80%	92%	92%	101%	152%	104%	94%	96%	7.0%
2021	71%	95%	73%	90%	91%	98%	146%	104%	92%	93%	7.0%
2020	69%	98%	71%	93%	93%	101%	148%	113%	97%	95%	7.5%
2019	65%	96%	66%	91%	91%	101%	141%	111%	95%	92%	7.5%
2018	60%	91%	63%	90%	89%	96%	135%	108%	93%	89%	7.5%
2017	57%	89%	60%	91%	88%	95%	131%	109%	92%	86%	7.5%
2016	56%	87%	61%	89%	87%	94%	126%	105%	91%	84%	7.7%
2015	58%	88%	64%	92%	89%	95%	125%	105%	98%	86%	7.7%
2014	61%	90%	69%	94%	91%	96%	127%	107%	100%	87%	7.8%

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

Inflation

- National inflation forecasts are elevated in the short-term but closer to 2.3-2.5% in the long-term
- Regional inflation is expected to continue outpacing national by 0.2-0.5%
- Federal Reserve remains committed to bringing down inflation
- For additional information, see the 2023 EES



General Salary Growth

- General Salary Growth equals Inflation plus Real Wage Growth
 - Inflation was already covered
- We look at Real Wage Growth forecasts on a national level
 - Regional forecasts are not readily available
- We look at the change in forecasts rather than the values themselves
 - Forecasts rely on a broader definition of wages and can include benefits
 - Forecasts may include both economic and demographic sources
- Real Wage Growth forecasts have remained steady over the past 2-4 years
- For additional information, see the 2023 EES

Investment Returns – WSIB’s CMAs

Asset Class	WSIB Capital Market Assumptions					
	Expected 1-Year Return*			Standard Deviation		
	2023	2021	Difference	2023	2021	Difference
Global Equity	8.1%	8.1%	0.0%	19.0%	19.0%	0.0%
Tangible Assets	7.0%	6.9%	0.1%	12.0%	12.0%	0.0%
Fixed Income	4.6%	3.7%	0.9%	6.0%	6.0%	0.0%
Private Equity	11.1%	11.1%	0.0%	25.0%	25.0%	0.0%
Real Estate	7.3%	7.6%	(0.3%)	13.0%	13.0%	0.0%
Cash	2.5%	1.7%	0.8%	2.0%	1.5%	0.5%

*Reflects arithmetic returns. Geometric returns are lower but have the same difference between 2023 and 2021.

- One-year expected returns for Fixed Income and Cash are nearly 1% higher, but all other asset classes display modest to no change since our last study
- Except for Cash, no changes to expected standard deviation (or volatility)

Investment Returns – WSIB’s CTF Target Asset Allocation

	WSIB CTF Target Asset Allocation		
	2023 EES	2021 EES*	Difference
Global Equity	30%	32%	(2%)
Tangible Assets	8%	7%	1%
Fixed Income	19%	20%	(1%)
Private Equity	25%	23%	2%
Real Estate	18%	18%	0%
Cash	0%	0%	0%
Total	100%	100%	

*Report published prior to WSIB's October 2021 target asset allocation update.

- Private Equity and Tangible Assets saw a small allocation increase; Global Equity and Fixed Income saw a small decrease since our last study
- A future change in the CTF asset allocation could lead to a different recommended return assumption in the future

Investment Returns – WSIB’s Simulated Returns for the CTF

15-Year Simulated Annual Investment Returns*			
	2023	2021	Difference
70th Percentile	8.94%	8.81%	0.13%
60th Percentile	7.92%	7.83%	0.09%
Median Return	7.02%	6.89%	0.13%
40th Percentile	6.11%	5.94%	0.17%
30th Percentile	5.15%	4.98%	0.17%

**Displayed simulations rely on a downside log-stable distribution, which uses actual historical returns to inform the future distribution (and volatility) of more pessimistic return scenarios.*

- Simulations rely on CMAs and Target Asset Allocation
- Simulated returns are modestly higher than reported in our last study
 - 15-year median return increased by 13 basis points and is now close to 7.00%
 - Simulated median returns were 7.03% and 7.01% over a 10- and 25-year horizon, respectively