



IV. APPENDICES

ACTUARIAL METHODS AND ASSUMPTIONS

To calculate the contribution rates necessary to pre-fund a plan's benefits, an actuary uses an actuarial cost method, a funding policy, economic assumptions, and demographic assumptions. The actuary may also use an asset valuation method other than market value. The section below lists the methods and assumptions that change regularly or are new since the last rate-setting valuation report. Please see our Actuarial Methods [webpage](#) for descriptions of the actuarial cost methods and asset valuation method we use for this valuation, and please see our Actuarial Assumptions [webpage](#) for descriptions of all remaining assumptions.

CHANGES IN METHODS AND ASSUMPTIONS SINCE THE LAST RATE-SETTING VALUATION

- ❖ We updated the Joint-and-Survivor Factors and Early Retirement Factors in our model. These factors are used to value benefits for early retirement and survivors of members that are deceased prior to retirement. These factors match the administrative factors recently provided to DRS for future implementation that reflect current demographic and economic assumptions.
- ❖ We updated the economic assumptions based on the 2021 action of the [PFC](#) and the [LEOFF Plan 2 Retirement Board](#). The investment return assumption was reduced from 7.50 (7.40 for LEOFF 2) to 7.00 percent, and the salary growth assumption was lowered from 3.50 to 3.25 percent. This action is a result of recommendations from our biennial economic experience study; please see the full report for additional details.
- ❖ We adjusted the LEOFF 2 liabilities, plan assets, and funding policy based on the passage of SHB 1701. This bill provided an increase to pension benefits, moved assets from the LEOFF 2 benefit improvement account to the trust fund available to fund current law benefits, and adjusted minimum contribution rate policy. Please see our fiscal note for the details on these new plan provisions and our [website](#) for changes in our assumptions.
- ❖ We increased the WSPRS general salary growth assumption for FY 2023 from 3.25 to 10.00 percent consistent with the increases included in the 2022 supplemental budget (Chapter 297, Laws of 2022, Sec 913 [2] and 914 [2]). It's our understanding this increase will apply to all troopers and will be granted in addition to other salary increases for experience and promotions. Therefore, we did not adjust our service-based salary increases assumption.
- ❖ We considered but did not make changes to our model to reflect the following:
 - [SB 5021](#) passed in the 2021 Legislative Session to provide pension benefit protection for members experiencing reductions in pay or service due to the COVID-19 budgetary crisis. Available data suggests furloughs tended to be significantly less than initially anticipated by the state and our fiscal note. As such, we did not make an adjustment within our model to reflect this legislation.
 - Approximately 6.5 percent of WSPRS active members terminated in October 2021 when failing to meet the Governor's vaccination mandate. It's unclear if these members have the option to rehire after receiving the vaccine or were (or will be) replaced by new hires. Given the uncertainty in status and the experience occurring after our measurement date, we chose not to reflect this (or similar plan experience from other systems) in our model.

COMMENTS ON VALUATION MODEL

As required under [ASOP No. 56](#) – Modeling, we share the following comments related to our reliance on the ProVal® software developed by Winklevoss Technologies.

- ❖ We understand this software model was primarily created for use by actuaries when performing valuations and projections of pension and retiree medical plans. The use of the model for this analysis is appropriate given its intended purpose.
- ❖ To assess the general operation of the model, we reviewed the output for reasonableness. This includes comparing the results to our simplified estimates done in Microsoft Excel and examining sample lives to confirm the programming is working as intended. We are not aware of any known weaknesses or limitations of the model that have a material impact on the results.
- ❖ The PFC hires auditors to independently review and replicate the results of rate-setting valuations. This process provides an additional reasonableness check of the model output.

Additionally, we considered how the use of different inputs to the model (e.g., data, assumptions, provisions) produce different results and evaluated the relative impacts to our expectations. This allows us to gain a deeper knowledge of the model's important dependencies and major sensitivities.

SUMMARY OF PLAN PROVISIONS

The summary of key plan provisions used in the actuarial valuation are provided in two sets of tables. The following tables contain plan provisions that can change frequently while the provisions that change less frequently can be found on our Summary of General Plan Provisions [webpage](#).

These tables and those on our website present high-level summaries and are not meant to be exhaustive lists. For complete details of plan provisions, please refer to the statutes governing the systems or contact the plan administrator (DRS). In the unlikely event that information contained in these summary tables conflicts with state law, the law takes precedence.

Summary of Frequently Changing Plan Provisions			
PERS	Plan 1	Plan 2	Plan 3
COLA	\$2.69* per Month per YOS on 7/1/22	Lesser of CPI** or 3%	Lesser of CPI** or 3%
Minimum Benefit per Month	\$70.18 per YOS on 7/1/22, \$2,138.63* for Select Annuitants	N/A	N/A
Material Plan Provision Changes since Last Rate-Setting Valuation	Plan 1 COLA 3% Increase (C 52, L 22)	None	None
Significant Plan Provisions Not Included in This Valuation	None	None	None

*Minimum COLA payable to qualified members only; increases by 3% annually. The Uniform COLA was removed under C 362, L 11.

**CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

Summary of Frequently Changing Plan Provisions (Continued)			
TRS	Plan 1	Plan 2	Plan 3
COLA	\$2.69* per Month per YOS on 7/1/22	Lesser of CPI** or 3%	Lesser of CPI** or 3%
Minimum Benefit per Month	\$70.18 per YOS on 7/1/22, \$2,138.63* for Select Annuitants	N/A	N/A
Material Plan Provision Changes since Last Rate-Setting Valuation	Plan 1 COLA 3% Increase (C 52, L 22)	None	None
Significant Plan Provisions Not Included in This Valuation	\$800 Million UAAL Payment*** (C 334, L 21, Sec 747)	None	None

*Minimum COLA payable to qualified members only; increases by 3% annually. The Uniform COLA was removed under C 362 L 11.

**CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

***Under current law, this payment occurs after the measurement date and will be reflected in our next rate-setting valuation.

Summary of Frequently Changing Plan Provisions (Continued)		
SERS	Plan 2	Plan 3
COLA	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month	N/A	N/A
Material Plan Provision Changes since Last Rate-Setting Valuation	None	None
Significant Plan Provisions Not Included in This Valuation	None	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

Summary of Frequently Changing Plan Provisions (Continued)

PSERS	Plan 2
COLA	Lesser of CPI* or 3%
Minimum Benefit per Month	N/A
Material Plan Provision Changes since Last Rate-Setting Valuation	Expanded Disability Benefits (C 22 L 22)
Significant Plan Provisions Not Included in This Valuation	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

Summary of Frequently Changing Plan Provisions (Continued)

LEOFF	Plan 1	Plan 2
COLA	Full CPI*	Lesser of CPI* or 3%
Minimum Benefit per Month	N/A	N/A
Material Plan Provision Changes since Last Rate-Setting Valuation	Lump Sum Payment (C 168 L 22)	Benefit Improvement / New Minimum Funding Policy (C 125 L 22)
Significant Plan Provisions Not Included in This Valuation	None	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

Summary of Frequently Changing Plan Provisions (Continued)

WSPRS	Plan 1	Plan 2
COLA	Lesser of CPI* or 3%	Lesser of CPI* or 3%
Minimum Benefit per Month**	\$40.44 per YOS on 1/1/22	\$40.44 per YOS on 1/1/22
Material Plan Provision Changes since Last Rate-Setting Valuation	None	None
Significant Plan Provisions Not Included in This Valuation	None	None

*CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.

**Amount increases by 3% annually.