

### KEY RESULTS BY SYSTEM

The following tables show select liability, salary, assets, and funded status measurements for each system and plan as of June 30, 2022.

Actuarial Results by System					
(Dollars in Millions)	PERS		TRS		SERS
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3
<b>Present Value of Fully Projected Benefits</b>					
Active Members	\$232	\$39,201	\$66	\$22,344	\$6,471
Inactive Members	10,834	27,928	7,979	9,559	4,545
<b>2022 Total</b>	<b>\$11,065</b>	<b>\$67,129</b>	<b>\$8,045</b>	<b>\$31,902</b>	<b>\$11,016</b>
<b>Present Value of Projected Salaries to Current Members (PVS)</b>					
Plan 1	\$134	N/A	\$25	N/A	N/A
Plan 2	N/A	\$88,854	N/A	\$31,821	\$12,576
Plan 3	N/A	26,523	N/A	57,957	11,761
<b>2022 Total</b>	<b>\$134</b>	<b>\$115,376</b>	<b>\$25</b>	<b>\$89,778</b>	<b>\$24,337</b>
<b>Entry Age Normal Actuarial Accrued Liability</b>					
Active Members	\$213	\$27,318	\$63	\$13,636	\$4,167
Inactive Members	10,834	27,928	7,979	9,559	4,545
<b>2022 Total (A)</b>	<b>\$11,047</b>	<b>\$55,247</b>	<b>\$8,041</b>	<b>\$23,195</b>	<b>\$8,712</b>
<b>Assets</b>					
Market Value of Assets	\$9,093	\$58,834	\$7,071	\$23,144	\$8,747
<b>Actuarial Value of Assets (B)</b>	<b>\$8,294</b>	<b>\$53,863</b>	<b>\$6,472</b>	<b>\$21,254</b>	<b>\$8,026</b>
<b>Funded Ratio</b>					
Unfunded Accrued Liability (A) - (B)	\$2,753	\$1,384	\$1,569	\$1,941	\$686
<b>2022 Funded Ratio (B) / (A)</b>	<b>75%</b>	<b>97%</b>	<b>80%</b>	<b>92%</b>	<b>92%</b>
<b>Historical Funded Ratio</b>					
2021	71%	95%	73%	90%	91%
2020	69%	98%	71%	93%	93%
2019	65%	96%	66%	91%	91%
2018	60%	91%	63%	90%	89%
2017	57%	89%	60%	91%	88%
2016	56%	87%	61%	89%	87%
2015	58%	88%	64%	92%	89%

Note: Totals may not agree due to rounding.

## II. ACTUARIAL EXHIBITS

Actuarial Results by System (Continued)					
	PSERS	LEOFF		WSPRS	Total
(Dollars in Millions)	Plan 2	Plan 1	Plan 2	Plan 1/2	All Systems
<b>Present Value of Fully Projected Benefits</b>					
Active Members	\$2,029	\$18	\$14,111	\$686	\$85,157
Inactive Members	272	4,186	8,907	1,223	75,433
<b>2022 Total</b>	<b>\$2,302</b>	<b>\$4,204</b>	<b>\$23,018</b>	<b>\$1,909</b>	<b>\$160,589</b>
<b>Present Value of Projected Salaries to Current Members (PVS)</b>					
Plan 1	N/A	\$2	N/A	\$133	\$293
Plan 2	\$6,671	N/A	\$28,558	977	169,458
Plan 3	N/A	N/A	N/A	N/A	96,241
<b>2022 Total</b>	<b>\$6,671</b>	<b>\$2</b>	<b>\$28,558</b>	<b>\$1,110</b>	<b>\$265,992</b>
<b>Entry Age Normal Actuarial Accrued Liability</b>					
Active Members	\$901	\$18	\$8,430	\$446	\$55,191
Inactive Members	272	4,186	8,907	1,223	75,433
<b>2022 Total (A)</b>	<b>\$1,173</b>	<b>\$4,204</b>	<b>\$17,336</b>	<b>\$1,669</b>	<b>\$130,623</b>
<b>Assets</b>					
Market Value of Assets	\$1,272	\$6,989	\$19,612	\$1,730	\$136,492
<b>Actuarial Value of Assets (B)</b>	<b>\$1,180</b>	<b>\$6,376</b>	<b>\$17,985</b>	<b>\$1,576</b>	<b>\$125,026</b>

Funded Ratio					
Unfunded Accrued Liability (A) - (B)	(\$7)	(\$2,172)	(\$648)	\$93	\$5,597
<b>2022 Funded Ratio (B) / (A)</b>	<b>101%</b>	<b>152%</b>	<b>104%</b>	<b>94%</b>	<b>96%</b>
Historical Funded Ratio					
2021	98%	146%	104%	92%	93%
2020	101%	148%	113%	97%	95%
2019	101%	141%	111%	95%	92%
2018	96%	135%	108%	93%	89%
2017	95%	131%	109%	92%	86%
2016	94%	126%	105%	91%	84%
2015	95%	125%	105%	98%	86%

Note: Totals may not agree due to rounding.

Please keep in mind a few important notes on funded status. A plan with a funded status above 100 percent will still require future contributions if the plan has not yet accumulated sufficient assets to cover the PVFB. As of this valuation, only LEOFF I is projected to have sufficient assets without ongoing contributions. The funded status will change if calculated using assumptions and methods that vary from this report. Please visit our Interactive Reports [webpage](#) for funded status measures that vary by interest rate and asset valuation method under the latest rate setting valuation (2021 AVR).

### PLAN ASSETS

The following tables show the MVA changes from the previous valuation and development of the AVA. We calculated the AVA by smoothing or deferring investment gains or losses and recognizing past deferred assets consistent with funding policy in [RCW 41.45.035](#). Please visit the Asset Valuation Method section in our Actuarial Methods [webpage](#) for more information.

Change in Assets					
(Dollars in Millions)	PERS		TRS		SERS
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3
<b>Reconciliation of Market Value of Assets</b>					
<b>2021 AVR Market Value</b>	<b>\$9,626</b>	<b>\$59,057</b>	<b>\$7,177</b>	<b>\$22,782</b>	<b>\$8,660</b>
Remove Prior Adjustments to 2021 AVR	0	0	0	0	0
<b>2021 Unadjusted Market Value</b>	<b>\$9,626</b>	<b>\$59,057</b>	<b>\$7,177</b>	<b>\$22,782</b>	<b>\$8,660</b>
Contributions	612	1,429	510	829	334
Investment Returns	24	115	17	43	16
Other Revenue*	2	83	0	72	20
Disbursements	(1,170)	(1,850)	(867)	(582)	(282)
Adjustments to 2022 Market Value	0	0	\$234**	0	0
<b>2022 AVR Market Value (A)</b>	<b>\$9,093</b>	<b>\$58,834</b>	<b>\$7,071</b>	<b>\$23,144</b>	<b>\$8,747</b>
<b>Development of Actuarial Value of Assets</b>					
<b>Deferred Investment Gain/(Loss)***</b>					
Plan Year Ending 6/30/2022	(\$537)	(\$3,424)	(\$403)	(\$1,333)	(\$505)
Plan Year Ending 6/30/2021	1,334	8,116	995	3,122	1,188
Plan Year Ending 6/30/2020	(57)	0	(43)	0	0
Plan Year Ending 6/30/2019	0	0	0	0	0
Plan Year Ending 6/30/2018	0	0	0	0	0
Plan Year Ending 6/30/2017	60	280	51	100	39
Plan Year Ending 6/30/2016	0	0	0	0	0
<b>Total Deferred Investment Gain/(Loss) (B)</b>	<b>\$799</b>	<b>\$4,971</b>	<b>\$599</b>	<b>\$1,890</b>	<b>\$721</b>
<b>2022 Actuarial Value (A) - (B)</b>	<b>\$8,294</b>	<b>\$53,863</b>	<b>\$6,472</b>	<b>\$21,254</b>	<b>\$8,026</b>
<b>Ratio (Actuarial Value/Market Value)</b>	<b>91%</b>	<b>92%</b>	<b>92%</b>	<b>92%</b>	<b>92%</b>

\*Includes additional annuity purchases and service credit purchases.

\*\*Adjusted the Market Value of Assets to reflect \$250 million appropriation scheduled for June 30, 2023, discounted to the valuation date, under ESSB 5294 (Chapter 396, Laws of 2023).

\*\*\*The investment losses for plan year ending 6/30/2022 are smoothed over a 7-year period. Please see the 2021 AVR for a list of smoothing periods for the remaining plan years.

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Change in Assets (Continued)					
	PSERS	LEOFF		WSPRS	Total
(Dollars in Millions)	Plan 2	Plan 1	Plan 2	Plan 1/2	All Systems
<b>Reconciliation of Market Value of Assets</b>					
<b>2021 AVR Market Value</b>	<b>\$1,200</b>	<b>\$7,343</b>	<b>\$19,637</b>	<b>\$1,775</b>	<b>\$137,256</b>
Remove Prior Adjustments to 2021 AVR	0	0	(450)*	0	(450)
<b>2021 Unadjusted Market Value</b>	<b>\$1,200</b>	<b>\$7,343</b>	<b>\$19,187</b>	<b>\$1,775</b>	<b>\$136,807</b>
Contributions	89	0	415	29	4,246
Investment Returns	2	17	37	4	273
Other Revenue**	0	0	22	3	202
Disbursements	(19)	(370)	(499)	(81)	(5,720)
2022 Adjustments to Market Value	0	0	451*	0	684
<b>2022 AVR Market Value (A)</b>	<b>\$1,272</b>	<b>\$6,989</b>	<b>\$19,612</b>	<b>\$1,730</b>	<b>\$136,492</b>
<b>Development of Actuarial Value of Assets</b>					
<b>Deferred Investment Gain/(Loss)***</b>					
Plan Year Ending 6/30/2022	(\$72)	(\$414)	(\$1,112)	(\$101)	(\$7,903)
Plan Year Ending 6/30/2021	160	1,026	2,643	245	18,828
Plan Year Ending 6/30/2020	0	(44)	0	0	(145)
Plan Year Ending 6/30/2019	0	0	0	0	0
Plan Year Ending 6/30/2018	0	0	0	0	0
Plan Year Ending 6/30/2017	4	46	97	10	686
Plan Year Ending 6/30/2016	0	0	0	0	0
<b>Total Deferred Investment Gain/(Loss) (B)</b>	<b>\$91</b>	<b>\$613</b>	<b>\$1,628</b>	<b>\$154</b>	<b>\$11,466</b>
<b>2022 Actuarial Value (A) - (B)</b>	<b>\$1,180</b>	<b>\$6,376</b>	<b>\$17,985</b>	<b>\$1,576</b>	<b>\$125,026</b>
<b>Ratio (Actuarial Value/Market Value)</b>	<b>93%</b>	<b>91%</b>	<b>92%</b>	<b>91%</b>	<b>92%</b>

\*Re-stated the 2021 Market Value of Assets adjustment to include the balance of the Benefit Improvement Account, as of the current valuation date, to reflect the transfer into the LEOFF 2 trust under [SHB 1701](#) (Chapter 125, Laws of 2022).

\*\*Includes additional annuity purchases and service credit purchases.

\*\*\*The investment losses for plan year ending 6/30/2022 is smoothed over a 7-year period. Please see the 2021 AVR for a list of smoothing periods for the remaining plan years.

Investment Gains and (Losses) for Fiscal Year					
(Dollars in Millions)	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*
a. 2021 Market Value**	\$9,572	\$59,017	\$7,136	\$22,774	\$8,650
b. Total Cash Flow	(538)	(351)	(350)	298	69
c. 2022 Market Value**	9,059	58,791	6,804	23,122	8,737
d. Actual Return (c - b - a)	\$25	\$125	\$18	\$50	\$18
e. Weighted Asset Amount	\$9,314	\$58,860	\$6,971	\$22,926	\$8,681
f. Expected Return (7.0% x e)	652	4,120	488	1,605	608
g. Investment Gain/(Loss) for Prior Year (d - f)	(\$627)	(\$3,995)	(\$470)	(\$1,555)	(\$589)
h. Dollar-Weighted Rate of Return**	0.27%	0.21%	0.25%	0.22%	0.21%

Note: Totals may not agree due to rounding.

\*Excludes defined contribution portion of Plan 3 assets.

\*\*Source: Washington State Investment Board.

Investment Gains and (Losses) for Fiscal Year (Continued)					
(Dollars in Millions)	PSERS 2	LEOFF 1	LEOFF 2	WSPRS 1/2	Total
a. 2021 Market Value*	\$1,199	\$7,342	\$19,121	\$1,773	\$136,583
b. Total Cash Flow	69	(372)	(65)	(50)	(1,290)
c. 2022 Market Value*	1,270	6,988	19,095	1,727	135,593
d. Actual Return (c - b - a)	\$2	\$18	\$39	\$4	\$299
e. Weighted Asset Amount	\$1,233	\$7,160	\$19,094	\$1,749	\$135,988
f. Expected Return (7.0% x e)	86	501	1,337	122	9,519
g. Investment Gain/(Loss) for Prior Year (d - f)	(\$84)	(\$483)	(\$1,297)	(\$118)	(\$9,220)
h. Dollar-Weighted Rate of Return*	0.16%	0.25%	0.21%	0.23%	0.22%

Note: Totals may not agree due to rounding.

\*Source: Washington State Investment Board.

Additional information on the Retirement Commingled Trust Fund, including the asset allocation policy, can be found in the most recent EES.

### ACTUARIAL GAIN/LOSS

Actuaries use gain/loss analysis to compare actual changes to assumed changes from various sources with respect to assets, liabilities, and salaries. We also use this analysis to determine:

- ❖ The accuracy of our valuation model and annual processing.
- ❖ Why unfunded liability changed.
  - We observe changes to contribution rates during rate-setting AVRs.
- ❖ The reasonableness of the actuarial assumptions.

Actuarial gains will reduce unfunded liabilities and increase funded status; actuarial losses will increase unfunded liabilities and decrease funded status. Under a reasonable set of actuarial assumptions, actuarial gains and losses will offset over long-term experience periods. The following tables display actuarial gains and losses expressed as the change in unfunded PVFB. Unfunded PVFB is the difference between PVFB (today's value of all future benefits for current members when discounted at the valuation

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interest rate) and the AVA. It is used in the development of normal cost contribution rates in rate-setting valuations. This is a useful metric for actuarial gain/loss because it reflects changes in liabilities during FY 2022 along with any changes in plan assets.

Change in Unfunded PVFB by Source					
(Dollars in Millions)	PERS		TRS		SERS
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3
<b>2021 Unfunded PVFB Before Laws of 2022</b>	<b>\$3,152</b>	<b>\$13,895</b>	<b>\$2,093</b>	<b>\$10,158</b>	<b>\$2,648</b>
<b>Expected Change</b>	(163)	(721)	(107)	(238)	(165)
<b>Expected 2022 Unfunded PVFB</b>	<b>\$2,989</b>	<b>\$13,174</b>	<b>\$1,986</b>	<b>\$9,920</b>	<b>\$2,483</b>
<b>Liabilities</b>					
<b>Salaries</b>	\$3	\$353	\$0	\$250	\$312
<b>Termination</b>	(0)	(769)	0	(389)	(183)
<b>Retirement</b>	2	17	0	16	3
<b>Disability</b>	0	17	0	6	2
<b>Mortality</b>	(63)	(51)	(22)	10	1
<b>Growth/Return to Work</b>	1	1,755	0	1,283	554
<b>New TAP 3 Annuity Purchases</b>	0	40	0	68	18
<b>Other Liabilities</b>	22	56	(2)	(20)	13
<b>Total Liability Gains/(Losses)</b>	<b>(\$35)</b>	<b>\$1,417</b>	<b>(\$23)</b>	<b>\$1,223</b>	<b>\$721</b>
<b>Assets*</b>					
<b>Contributions</b>	(\$243)	\$163	(\$266)	\$80	\$2
<b>New TAP 3 Annuity Purchases</b>	N/A	(38)	N/A	(64)	(18)
<b>Disbursements</b>	(4)	(48)	2	(28)	(13)
<b>Investment Returns</b>	(249)	(1,298)	(195)	(489)	(188)
<b>Total Asset Gains/(Losses)</b>	<b>(\$496)</b>	<b>(\$1,221)</b>	<b>(\$459)</b>	<b>(\$501)</b>	<b>(\$216)</b>
<b>Incremental Changes</b>					
<b>Plan Change</b>	\$151	\$0	\$146	\$0	\$0
<b>Method Change</b>	0	0	0	0	0
<b>Assumption Change</b>	0	0	0	0	0
<b>Correction Change</b>	0	0	0	0	0
<b>Experience Study Change</b>	0	0	0	0	0
<b>Other Changes</b>	0	0	(234)**	0	0
<b>Total Incremental Changes Gains/(Losses)</b>	<b>\$151</b>	<b>\$0</b>	<b>(\$87)</b>	<b>\$0</b>	<b>\$0</b>
<b>Other Gains/(Losses)</b>	0	0	(0)	0	(0)
<b>2022 Results</b>					
<b>Total Change</b>	<b>(\$380)</b>	<b>\$196</b>	<b>(\$570)</b>	<b>\$722</b>	<b>\$505</b>
<b>2022 Preliminary Unfunded PVFB</b>	<b>\$2,609</b>	<b>\$13,370</b>	<b>\$1,416</b>	<b>\$10,642</b>	<b>\$2,988</b>
<b>Laws of 2023</b>	\$163	(\$104)	\$157	\$6	\$1
<b>2022 Adjusted Unfunded PVFB</b>	<b>\$2,771</b>	<b>\$13,266</b>	<b>\$1,573</b>	<b>\$10,648</b>	<b>\$2,989</b>

Note: Totals may not agree due to rounding.

\*Asset Gain/Loss performed on AVA not MVA.

\*\*Adjusted assets to reflect \$250 million appropriation scheduled for June 30, 2023, discounted to the valuation date, under ESSB 5294 (Chapter 396, Laws of 2023).

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Change in Unfunded PVFB by Source (Continued)				
	PSERS	LEOFF		WSPRS
(Dollars in Millions)	Plan 1	Plan 1	Plan 2	Plan 1/2
<b>2021 Unfunded PVFB Before Laws of 2022</b>	<b>\$1,035</b>	<b>(\$1,933)*</b>	<b>\$4,580*</b>	<b>\$407</b>
Expected Change	(38)	(135)	(113)	(12)
<b>Expected 2022 Unfunded PVFB</b>	<b>\$997</b>	<b>(\$2,068)</b>	<b>\$4,467</b>	<b>\$394</b>
Liabilities				
Salaries	\$8	(\$0)	\$475	(\$7)
Termination	(173)	0	(203)	(53)
Retirement	(1)	(0)	58	(8)
Disability	1	0	1	1
Mortality	1	(27)	(2)	4
Growth/Return to Work	127	0	605	16
Other Liabilities	(9)	104**	37	14
<b>Total Liability Gains/(Losses)</b>	<b>(\$47)</b>	<b>\$77</b>	<b>\$971</b>	<b>(\$34)</b>
Assets***				
Contributions	18	(0)	(18)	8
Disbursements	8	7	(1)	2
Investment Returns	(23)	(187)	(400)	(40)
<b>Total Asset Gains/(Losses)</b>	<b>\$3</b>	<b>(\$180)</b>	<b>(\$419)</b>	<b>(\$31)</b>
Incremental Changes				
Plan Change	13	0	0	0
Method Change	0	0	0	0
Assumption Change	0	0	0	0
Correction Change	0	0	0	0
Experience Study Change	0	0	0	0
Other Changes	0	0	0	0
<b>Total Incremental Changes Gains/(Losses)</b>	<b>\$13</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Other Gains/(Losses)	0	0	(0)	(0)
2022 Results				
<b>Total Change</b>	<b>(\$31)</b>	<b>(\$104)</b>	<b>\$552</b>	<b>(\$65)</b>
<b>2022 Preliminary Unfunded PVFB</b>	<b>\$966</b>	<b>(\$2,172)</b>	<b>\$5,019</b>	<b>\$329</b>
Laws of 2023	\$155	\$0	\$14	\$3
<b>2022 Adjusted Unfunded PVFB</b>	<b>\$1,121</b>	<b>(\$2,172)</b>	<b>\$5,033</b>	<b>\$332</b>

Note: Totals may not agree due to rounding.

\*Includes the liabilities from benefit improvements under SHB 1701 (Chapter 125, Laws of 2022) and [Substitute Senate Bill 5791](#) (Chapter 168, Laws of 2022).

\*\*Includes actuarial gains or losses due to inflation. LEOFF 1 annuitants receive COLAs fully indexed to Seattle area Consumer Price Index.

\*\*\*Asset Gain/Loss performed on AVA not MVA.