I. SUMMARY OF KEY RESULTS

2019
Actuarial
Valuation
Report

INTENDED USE

The purpose of this report is to develop contribution rates required to fund the Washington State retirement systems for the 2021-23 Biennium based on a June 30, 2019, measurement date and based on the funding policy described in this section. This report provides information on the contribution rates, funding progress, and developments in the plans over the past year. This report also discloses the data, assumptions, and methods we used to develop the contribution rates. This report is not intended to satisfy the accounting requirements under the Governmental Accounting Standards Board (GASB) rules.

Similarly, this actuarial valuation is not intended to report on the overall health or financial condition of the pension system. Such information can be found in the *2019 Report on Financial Condition* (RFC), which we issue every two years. The key measures we use in the RFC to assess the health of a pension plan include funding level, adequacy and affordability of contributions, and risk.

The information developed in this report does not consider impacts to the systems from the COVID-19 health crisis, which began after the measurement date of June 30, 2019. We have created an educational page to help interested parties understand how COVID-19 may impact the Washington State retirement systems.

COMMENTARY ON RISK

Actuarial Standards of Practice (ASOP) guide actuaries when performing and communicating their work. ASOP number 51 is specific to communicating risk in defined benefit pension plans, particularly in how actual future measurements may differ significantly from expected future measurements. In the course of developing our actuarial valuation we make hundreds of assumptions, such as the level of returns on future investments, the rate of mortality for retirees, and the number of members contributing to the pension system annually. In some cases, small changes in these assumptions or unexpected plan experience can lead to significant changes in measurements, like the calculation of a plan's contribution rates or the projection of a plan's funded status. This can affect plan risk, and these sensitivities can evolve as the plans grow and mature over time. The Legislature's response to these changes and their action governing the state's pension system also affects plan risk.

To help readers better understand some of these risks and their potential impacts, we have developed a "Commentary on Risk" webpage which can be found on our website. In the **Actuarial Exhibits** section of this report, we have also included the impact to the total retirement systems' funded status from changes in rates of mortality and mortality improvement, one of our most impactful assumptions. For risk commentary specific to COVID-19, please see our dedicated educational webpage on potential impacts to the Washington State retirement systems.

CONTRIBUTION RATES

We determine the member and employer contribution rates as a percentage of salary. The summary table to the right shows contribution rates based on the 2019 valuation, along with rates from the previous valuation. Throughout this report, we reconcile how plan experience compared to our assumptions over the valuation year. In doing so, we compare

Calculated Contribution Rates

	Plan 1		Plans 2/3	
	2019	2018	2019	2018
PERS				
Member*	6.00%	6.00%	6.36%	7.46%
Total Employer	10.07%	11.56%	10.07%	11.56%
TRS				
Member*	6.00%	6.00%	8.05%	8.02%
Total Employer	14.24%	14.51%	14.24%	14.51%
SERS				
Member*	N/A	N/A	7.76%	8.02%
Total Employer	N/A	N/A	11.47%	12.10%
PSERS				
Member	N/A	N/A	6.50%	7.09%
Total Employer	N/A	N/A	10.21%	11.17%
LEOFF				
Member	0.00%	0.00%	7.68%	8.67%
Employer	0.00%	0.00%	4.61%	5.20%
State	0.00%	0.00%	3.07%	3.47%
WSPRS				
Member	8.61%	8.45%	8.61%	8.45%
Employer (State)	18.57%	20.41%	18.57%	20.41%

Note: Employer rates exclude administrative expense rate.

**Plan 3 members do not contribute to the defined benefit plan.*

the contribution rates calculated under this valuation against those rates calculated under the 2018 valuation. Please note, however, that the contribution rates expressed for the 2018 valuation were not collected, as that was not a rate-setting year under the current contribution rate-setting cycle. The **Actuarial Exhibits** section of this report shows how we developed the contribution rates for 2019.

No member or employer/state contributions are required for LEOFF 1, as the plan remains fully funded. See RCW 41.26.080(2).

Minimum employer contribution rates adopted by the Legislature for the PERS Plan 1 and the TRS Plan 1 became effective at the beginning of the 2015-17 Biennium. Ignoring recent benefit improvements, both the PERS 1 and TRS 1 employer contribution rates are currently at the minimum rates set in statute. However, the final calculated employer contribution rates for these plans are above the minimum due to the supplemental contribution rate increases for recent benefit enhancements. For more information, please refer to the contribution rate development in the **Actuarial Exhibits** section.

The employer contribution rate for the WSPRS Plans 1/2 excludes the rate smoothing as referenced in the 2019 Legislative Session laws (C 416 L 19, Sec 711(6)). Please see the **Contribution Rate-Setting Cycle** section for the rate adopted by the Pension Funding Council that reflects rate smoothing.

2021-23 Contribution Rates		
	Calculated	Adopted
PERS 1		
Member	6.00%	6.00%
Total Employer	10.07%	10.07%
PERS 2/3		
Member*	6.36%	6.36%
Total Employer	10.07%	10.07%
TRS 1		
Member	6.00%	6.00%
Total Employer	14.24%	14.24%
TRS 2/3		
Member*	8.05%	8.05%
Total Employer	14.24%	14.24%
SERS 2/3		
Member*	7.76%	7.76%
Total Employer	11.47%	11.47%
PSERS 2		
Member	6.50%	6.50%
Total Employer	10.21%	10.21%
LEOFF 1		
Member	0.00%	0.00%
Employer	0.00%	0.00%
State	0.00%	0.00%
LEOFF 2**		
Member	7.68%	8.53%
Employer	4.61%	5.12%
State	3.07%	3.41%
WSPRS 1/2***		
Member	8.61%	8.61%
Employer (State)	18.57%	17.66%

Note: Employer rates exclude administrative expense rate.

**Plan 3 members do not contribute to the define benefit plan."*

***The LEOFF 2 Board adopts contribution rates for LEOFF 2. The Board adopted rates equal to 100 percent of the Entry Age Normal Cost. Please see the 2019 LEOFF 2 Actuarial Valuation Report for more information.*

****Adopted employer contribution rate reflects temporary and supplemental smoothing per 2019 Legislative Session Law (C 416 L19 Sec 711(6)).*

PROJECTED CONTRIBUTION RATES

In addition to calculating contribution rates in this report, we also estimate contribution rates for future biennia based upon projected assets and liabilities. These projected rates can be found on our website. Please note that these projected rates are subject to change based on modifications to plan provisions, assumptions, and the actual experience of the systems.

CONTRIBUTION RATE-SETTING CYCLE

Under current Washington State law, in July of even-numbered years, the Pension Funding Council (PFC) reviews, and may adopt, the basic contribution rates that we calculate. These rates are based on an actuarial valuation performed on asset, participant, and plan information compiled in odd-numbered years. In calculating basic contribution rates, we apply the statutory funding policies described in this section.

The basic rates adopted by the PFC will remain in place for the ensuing biennium, subject to revision by the Legislature. The LEOFF 2 Board performs these duties for LEOFF 2 under the same cycle.

RCW 41.45.070 requires that a temporary and supplemental contribution rate increase be charged to fund the cost of benefit enhancements enacted following the adoption of the basic rates. Supplemental contribution rates are included in the basic rates at the beginning of the next contribution rate-setting cycle.

For reference, the table to the right compares the member and total employer contribution rates that were adopted by the PFC against the rates that were calculated by the Office of the State Actuary (OSA).

FUNDING POLICY

Washington State relies on systematic actuarial funding to finance the on-going cost of the state retirement systems. Under this financing approach, we reduce the cost of future pension payments by the expected long-term return on invested contributions. The investment of these contributions is under the direction of the Washington State Investment Board (WSIB). RCW 43.33A.110 requires WSIB to maximize investment returns at a prudent level of risk.

The state's funding policy is found in Chapter 41.45 RCW — Actuarial Funding of State Retirement Systems. It includes the following goals:

- Provide a dependable and systematic process for funding the benefits to members and retirees of the Washington State retirement systems.
- Fully fund the retirement system Plans 2 and 3, and WSPRS, as provided by law.
- Fully amortize the total cost of LEOFF 1 not later than June 30, 2024.
- Fully amortize the Unfunded Actuarial Accrued Liability (UAAL) in PERS Plan 1 and TRS Plan 1 within a rolling ten-year period using methods and assumptions that balance needs for increased benefit security, decreased contribution rate volatility, and affordability of pension contribution rates.
- Establish long-term employer contribution rates that will remain a relatively predictable proportion of future state budgets.
- Fund, to the extent feasible, all benefits for Plans 2 and 3 members over the working lives of those members so that the taxpayers who receive the services of those members pay the cost of their benefits.

Based on the funding policy, the same contribution rate is charged to employers within each system regardless of the plan in which employees hold membership (except for LEOFF). In addition, all benefit increases that become effective after June 30, 2009, for PERS Plan 1 and TRS Plan 1 members, are funded over a fixed ten-year period.

If all actuarial assumptions are realized and all future contributions required under this funding policy are made, we expect the funding policy to accumulate sufficient assets to provide for all future benefits for current members when due.

The LEOFF 2 Board revised their long-term funding policy in 2019 to reduce minimum contribution rates to 90 percent of the Entry Age Normal Cost (EANC) when the plan funded ratio meets or exceeds 105 percent. The minimum rates remain at 100 percent of the EANC when the plan funded ratio is below 105 percent.

The 2019 Legislative Session law (C 416 L 19, Sec 711(6)) intends for the WSPRS employer contribution rates to be smoothed over the 2019-21, 2021-23, and 2023-25 Biennia. The WSPRS calculated contribution rates displayed in this valuation exclude this smoothing policy. The adopted rates reflect information OSA presented to the PFC that incorporates the smoothing policy.

COMMENTS ON 2019 RESULTS

Many factors can influence how actuarial valuation results change from one measurement date to the next. Those factors include changes in the plan provisions, assumptions and methods, covered population, and experience that varies from our expectations.

CHANGES IN PLAN PROVISIONS

- A law passed during the 2020 Legislative Session granted a one-time cost-of-living-adjustment for PERS and TRS Plan 1 members. See the **Summary of Plan Provisions** section of this report for more details about this and other plan changes.

CHANGES IN ASSUMPTIONS AND METHODS

- This valuation reflects updates to the demographic assumptions for all plans consistent with our *2013-18 Demographic Experience Study*. The impact of the new assumptions varies, with some systems showing an increase in expected future costs while other systems point to lower plan costs. See the **Actuarial Gain/Loss** section for the contribution rate impact from the new assumptions for each system.

- The Plan 2/3 results in this valuation now includes liabilities and assets for the Total Allocation Portfolio (TAP) annuities purchased by Plan 3 retirees of PERS, TRS, and SERS. The Plans 2/3 funded ratios and rounded contribution rates were not impacted by this change.

CHANGES IN COVERED POPULATION AND PLAN EXPERIENCE

- The actual rate of investment return on the Market Value of Assets (MVA) was 8.86 percent and the rate of investment return on the Actuarial Value of Assets (AVA) was 10.67 percent. Both were higher than expected for the valuation year.
- Salaries grew more than expected for the TRS and SERS retirement systems as a result of collective bargaining agreements adopted in the summer of 2018.
- The PSERS active population grew by about 26 percent, largely from PERS transfers of nursing and custody staff allowed under expanded PSERS membership provisions enacted in laws of 2018 (C 241 L 18).
- We observed no other significant changes in the retirement system population.

Detailed gain and loss information by system can be found in the **Actuarial Exhibits** section of this report. Please see the **Actuarial Certification Letter** for additional comments on the valuation results.

ACTUARIAL LIABILITIES

The next table summarizes key measures of actuarial liability along with the liabilities from last year's valuation. The Future Value of Fully Projected Benefits represents the total expected value of all future benefit payments for all members of all systems as of the valuation date. The Present Value of Fully Projected Benefits represents today's value of the Future Value of Fully Projected Benefits when we discount future benefit payments with the valuation interest rate. In other words, if we invest the Present Value of Fully Projected Benefits as a lump sum amount at the valuation date and earn the currently assumed valuation interest rate each year, we anticipate there would be enough money to pay all expected future benefit payments for current members.

Actuarial Liabilities		
(Dollars in Millions)	**2019**	**2018**
All Systems		
Future Value of Fully Projected Benefits	$767,739	$705,427
Present Value of Fully Projected Benefits	126,001	117,706
Actuarial Accrued Liability	$104,020	$98,061
Valuation Interest Rate*	7.50%	7.50%

**7.40% in LEOFF 2.*

The Actuarial Accrued Liability identifies the portion of the present value of future benefits that has been accrued as of the valuation date based on the Entry Age Normal (EAN) actuarial cost method.

See the **Actuarial Exhibits** section of this report for a summary of actuarial liabilities by system and plan. For projected benefit payments by year for each system and plan, please visit the **Interactive Reports** page on our website. Also, see the **Glossary** on our website for brief explanations of the actuarial terms.

ASSETS

The table to the right shows the combined MVA and AVA along with approximate rates of investment return for all the systems combined.

To limit the volatility in contribution rates and funded status due to short-term market fluctuations, we smooth (or defer recognition of) the difference between actual and expected annual investment returns over a period not to exceed eight years. The number of years over which we smooth depends on the magnitude of the gain or loss. The AVA equals the MVA less the Total Deferred Investment Gains and (Losses) at the valuation date. The AVA can never be less than 70 percent or greater than 130 percent of the MVA.

See the **Actuarial Exhibits** section of this report for a summary of assets by system and plan, and for the development of the AVA.

Assets		
(Dollars in Millions)	**2019**	**2018**
All Systems		
Market Value of Assets (MVA)	$100,349	$92,057
Actuarial Value of Assets (AVA)	95,987	86,855
Member/Employer Contributions	4,088	3,700
Disbursements	4,659	4,620
Investment Return	8,119	8,048
Other	$58	$77
MVA Return[1]	8.86%	9.56%
AVA Return[2]	10.67%	9.43%

[1] *Dollar-weighted rate of return on the MVA, net of expenses.*

[2] *The AVA is used in determining contribution rates.*

FUNDED STATUS

Funded status is one of many measures that helps explain the health of a pension plan. A history of funded status measured consistently over a defined period helps readers evaluate a plan's funding progress over time. The funded status represents the portion of the actuarial accrued liability covered by today's actuarial assets. A plan with a 100 percent funded ratio has one dollar in actuarial assets for each dollar of accrued liability at the valuation date. A plan with a funded ratio of at least 100 percent is generally considered to be on target with its financing plan. However, a plan more/less than 100 percent funded is not automatically considered over-funded/at-risk.

The table to the right displays the funded status for all the systems combined. We provide this table for summarization purposes only. Absent a qualified merger or plan termination, assets from an individual qualified retirement plan may not be used to fund benefits from another plan. See the **Actuarial Exhibits** section of this report for the funded status by system and plan.

Funded Status		
(Dollars in Millions)	**2019**	**2018**
All Systems		
a. Accrued Liability*	$104,020	$98,061
b. Market Value of Assets	100,349	92,057
c. Deferred Gains/(Losses)	4,361	5,202
d. Actuarial Value of Assets (b - c)	95,987	86,855
Unfunded Liability (a - d)	$8,033	$11,206
Funded Ratio (d / a)	92%	89%

Note: Totals may not agree due to rounding.

**Liabilities valued using Entry Age Normal cost method.*

PARTICIPANT DATA

The table to the right summarizes participant data used in the actuarial valuation for the plan year ending June 30, 2019, along with information from last year's valuation. See the **Participant Data** section of this report for participant data summarized by system and plan.

Participant Data		
All Systems	**2019**	**2018**
Active Members		
Number	330,445	323,491
Total Salaries *(in Millions)*	$23,148	$21,255
Average Annual Salary	$70,052	$65,704
Average Attained Age	46.5	46.6
Average Service	11.1	11.3
Retirees and Beneficiaries		
Number	192,866	185,139
Average Annual Benefit	$23,796	$23,144
Terminated Members		
Number Vested	64,157	63,040
Number Non-Vested*	145,423	140,254

**Members who terminated without a vested lifetime benefit but are eligible for a refund of their employee contributions with interest that currently reside in the trust.*

KEY ASSUMPTIONS

This table displays key economic assumptions used in the actuarial valuation. There were no changes in these assumptions from our prior year's valuation.

Key Assumptions	
All Systems	
Valuation Interest Rate*	7.50%
General Salary Increase	3.50%
Inflation	2.75%
Growth in Membership**	0.95%

**7.40% in LEOFF 2.*

***1.25% in TRS. Used for the amortization of PERS 1 and TRS 1 UAAL only.*