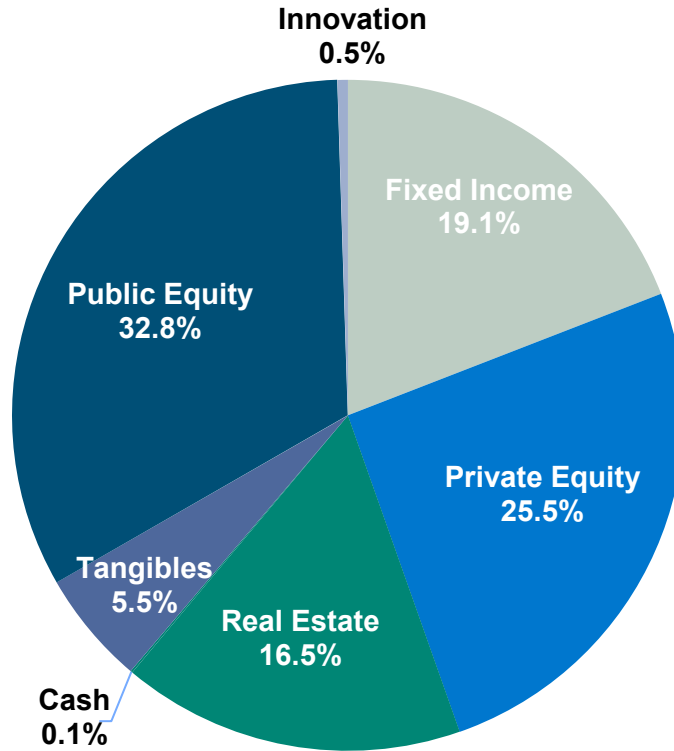


PLAN ASSETS

Retirement Commingled Trust Fund (CTF) Asset Allocation



Source: Washington State Investment Board June 30, 2021, Quarterly Report.

- Cash:** Highly liquid, very safe investments that can be easily converted into cash, such as Treasury Bills and money-market funds.
- Fixed Income:** Securities representing debt obligations and usually having fixed payments and maturities. Different types of fixed income securities include government and corporate bonds, mortgage-backed securities, asset-backed securities, convertible issues, and may also include money-market instruments.
- Innovation:** Fund that provides the ability to invest in a broad range of assets that fall outside the traditional asset classes or management style of existing asset classes.
- Public Equity:** Shares of U.S. and non-U.S. corporations that trade on public exchanges or “over-the-counter.” The ownership of a corporation is represented by shares that are claimed on the corporation’s earnings and assets.
- Private Equity:** The infusion of equity capital into a private company (one that is not available on the public markets). Private equity investments include securities that are not listed on a public exchange and are not easily accessible to most individuals. These investments range from initial capital in start-up enterprises to leveraged buyouts of mature corporations.
- Real Estate:** An externally-managed selection of partnership investments with the majority of the partnerships invested in high-quality real estate leased to third parties.
- Tangibles:** The tangible asset portfolio invests in sectors such as infrastructure, timber, agriculture, natural resources, commodities, or other sectors consistent with the goals of the asset class.

II. ACTUARIAL EXHIBITS

Each asset class is unique in terms of expected return, standard deviation, and correlation to other asset classes. Please see page 43 of the 2021 Economic Experience Study for more information.

The following tables show the MVA changes from the previous contribution rate-setting valuation to this year's valuation.

Change in Market Value of Assets								
(Dollars in Millions)	PERS				TRS			
	Plan 1	TAP*	Plans 2/3 Pension**	Total	Plan 1	TAP*	Plans 2/3 Pension**	Total
2019 Market Value	\$7,851	\$166	\$42,365	\$42,532	\$5,880	\$427	\$15,516	\$15,943
Revenue								
Member Contributions	\$10	\$0	\$1,462	\$1,462	\$3	\$0	\$298	\$298
Employer/State Contributions	1,472	0	1,875	1,875	1,072	0	1,190	1,190
Total Contributions	\$1,482	\$0	\$3,337	\$3,337	\$1,075	\$0	\$1,488	\$1,488
Investment Return	\$2,675	\$74	\$16,028	\$16,102	\$1,995	\$177	\$6,000	\$6,178
Restorations***	4	0	68	68	1	0	7	7
Transfers In	0	65	1	67	0	115	3	117
Miscellaneous	0	0	0	0	0	0	0	0
Total Revenue	\$4,161	\$140	\$19,434	\$19,574	\$3,071	\$292	\$7,498	\$7,790
Disbursements								
Monthly Benefits	\$2,379	\$28	\$2,923	\$2,951	\$1,772	\$69	\$869	\$938
Refunds	8	0	88	88	2	0	9	9
Total Benefits	2,387	28	3,011	3,039	1,774	69	878	947
Transfers Out	0	0	7	7	0	0	3	3
Expenses	0	0	1	1	0	0	2	2
Payables	0	0	0	0	0	0	0	0
Total Disbursements	\$2,387	\$28	\$3,020	\$3,048	\$1,774	\$69	\$883	\$951
2021 Market Value	\$9,626	\$278	\$58,780	\$59,057	\$7,177	\$650	\$22,131	\$22,782
Adjustments to Market Value	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021 Adjusted Market Value (MV)	\$9,626	\$278	\$58,780	\$59,057	\$7,177	\$650	\$22,131	\$22,782
2021 Actuarial Value (AV)	\$8,064			\$49,451	\$6,001			\$19,098
Ratio (AV / MV)	84%			84%	84%			84%

Note: Totals may not agree due to rounding.

*Assets from purchased Total Allocation Portfolio (TAP) annuities by Plan 3 members are combined with the Plan 2/3 pension assets for purposes of calculating contribution rates.

**Excludes defined contribution portion of Plan 3 assets.

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

II. ACTUARIAL EXHIBITS

Change in Market Value of Assets (Continued)								
(Dollars in Millions)	SERS			PSERS	LEOFF		WSPRS	All Systems
	TAP*	Plan 2/3 Pension**	Total		Plan 1	Plan 2		
2019 Market Value*	\$113	\$6,005	\$6,118	\$717	\$6,029	\$13,916	\$1,362	\$100,349
Revenue								
Member Contributions	\$0	\$190	\$190	\$93	\$0	\$391	\$20	\$2,468
Employer/State Contributions	0	427	427	93	0	394	41	6,564
Total Contributions	0	617	617	187	0	785	61	9,032
Investment Return	47	2,305	2,352	313	2,057	5,233	490	37,395
Restoration***	0	2	2	1	0	44	3	130
Transfers In	32	1	33	0	0	0	1	218
Miscellaneous	0	0	0	0	0	0	0	0
Total Revenue	\$79	\$2,926	\$3,005	\$501	\$2,057	\$6,062	\$554	\$46,775
Disbursements								
Monthly Benefits	\$19	\$431	\$451	\$9	\$743	\$769	\$140	\$10,152
Refunds	0	9	9	8	0	18	1	143
Total Benefits	19	441	460	18	743	787	142	10,295
Transfers Out	0	3	3	0	0	0	0	14
Expenses	0	0	0	0	0	4	0	8
Payables	0	0	0	0	0	0	0	0
Total Disbursements	\$19	\$444	\$463	\$18	\$743	\$791	\$142	\$10,317
2021 Market Value	\$173	\$8,487	\$8,660	\$1,200	\$7,343	\$19,187	\$1,775	\$136,807
Adjustments to Market Value****	\$0	\$0	\$0	\$0	\$0	\$450	\$0	\$450
2021 Adjusted Market Value (MV)	\$173	\$8,487	\$8,660	\$1,200	\$7,343	\$19,637	\$1,775	\$137,256
2021 Actuarial Value (AV)			\$7,257	\$1,013	\$6,143	\$16,494	\$1,483	\$115,005
Ratio (AV / MV)			84%	84%	84%	84%	84%	84%

Note: Totals may not agree due to rounding.

*Assets from purchased Total Allocation Portfolio (TAP) annuities by Plan 3 members are combined with the Plan 2/3 pension assets for purposes of calculating contribution rates.

**Excludes defined contribution portion of Plan 3 assets.

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

****Adjusted the Market Value of Assets to reflect the transfer of the Benefit Improvement Account, measured at June 30, 2021, into the LEOFF 2 trust under SHB 1701.

II. ACTUARIAL EXHIBITS

Calculation of Actuarial Value of Assets							
<i>(Dollars in Millions)</i>			PERS 1	PERS 2/3	TRS 1	TRS 2/3	SERS 2/3
a. Adjusted Market Value at 6/30/2021			\$9,626	\$59,057	\$7,177	\$22,782	\$8,660
Deferred Gains and (Losses)							
Ending	Period	Remaining					
6/30/2021	8	7	1,557	9,468	1,160	3,643	1,385
6/30/2020*	3,4	1,2	(\$115)	(\$422)	(\$86)	(\$159)	(\$61)
6/30/2019	2	0	0	0	0	0	0
6/30/2018	3	0	0	0	0	0	0
6/30/2017	7	2	119	560	101	199	78
b. Total Deferral			\$1,561	\$9,606	\$1,176	\$3,684	\$1,402
c. Market Value less Deferral (a - b)			\$8,064	\$49,451	\$6,001	\$19,098	\$7,257
d. 70% of Market Value of Assets			\$6,738	\$41,340	\$5,024	\$15,947	\$6,062
e. 130% of Market Value of Assets			\$12,514	\$76,775	\$9,330	\$29,616	\$11,258
f. Actuarial Value of Assets**			\$8,064	\$49,451	\$6,001	\$19,098	\$7,257

Note: Totals may not agree due to rounding. The gain/(loss) for plan years not shown has been fully recognized.

*Plans 1 equal four year smoothing; all other plans equal three year smoothing period.

**Actuarial Value of Assets can never be less than 70% or greater than 130% of the Market Value of Assets.

Calculation of Actuarial Value of Assets (Continued)							
<i>(Dollars in Millions)</i>			PSERS 2	LEOFF 1	LEOFF 2	WSPRS 1/2	Total
a. Adjusted Market Value at 6/30/2021			\$1,200	\$7,343	\$19,637	\$1,775	\$137,256
Deferred Gains and (Losses)							
Ending	Period	Remaining					
6/30/2021	8	7	186	1,196	3,083	286	21,966
6/30/2020*	3,4	1,2	(7)	(89)	(135)	(13)	(1,086)
6/30/2019	2	0	0	0	0	0	0
6/30/2018	3	0	0	0	0	0	0
6/30/2017	7	2	8	93	194	19	1,371
b. Total Deferral			\$187	\$1,200	\$3,142	\$292	\$22,251
c. Market Value less Deferral (a - b)			\$1,013	\$6,143	\$16,494	\$1,483	\$115,005
d. 70% of Market Value of Assets			840	5,140	13,746	1,242	96,080
e. 130% of Market Value of Assets			1,561	9,546	25,528	2,307	178,433
f. Actuarial Value of Assets**			\$1,013	\$6,143	\$16,494	\$1,483	\$115,005

Note: Totals may not agree due to rounding. The gain/(loss) for plan years not shown has been fully recognized.

*Plans 1 equal four year smoothing; all other plans equal three year smoothing period.

**Actuarial Value of Assets can never be less than 70% or greater than 130% of the Market Value of Assets.

II. ACTUARIAL EXHIBITS

Investment Gains and (Losses) for Fiscal Year 2021

(Dollars in Millions)	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*
a. 2020 Market Value**	\$7,679	\$44,703	\$5,735	\$17,008	\$6,499
b. Total Cash Flow	(445)	136	(342)	315	78
c. 2021 Market Value**	9,572	59,017	7,136	22,774	8,650
d. Actual Return (c - b - a)	\$2,338	\$14,179	\$1,743	\$5,451	\$2,074
e. Weighted Asset Amount	\$7,454	\$44,768	\$5,563	\$17,167	\$6,538
f. Expected Return (7.5% x e)	559	3,358	417	1,288	490
g. Investment Gain/(Loss) for Prior Year (d - f)	\$1,779	\$10,821	\$1,326	\$4,163	\$1,583
h. Dollar-Weighted Rate of Return**	31.33%	31.67%	31.31%	31.76%	31.73%

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 2021 (Continued)

(Dollars in Millions)	PSERS 2	LEOFF 1	LEOFF 2	WSPRS	Total
a. 2020 Market Value*	\$832	\$5,917	\$14,528	\$1,383	\$104,283
b. Total Cash Flow	89	(372)	(7)	(40)	(588)
c. 2021 Market Value*	1,199	7,342	19,121	1,773	136,583
d. Actual Return (c - b - a)	\$279	\$1,797	\$4,599	\$429	\$32,889
e. Weighted Asset Amount	\$875	\$5,733	\$14,530	\$1,364	\$103,991
f. Expected Return (7.5% x e)**	66	430	1,075	102	7,785
g. Investment Gain/(Loss) for Prior Year (d - f)	\$213	\$1,367	\$3,524	\$327	\$25,104
h. Dollar-Weighted Rate of Return*	31.91%	31.32%	31.65%	31.46%	31.62%

Note: Totals may not agree due to rounding.

*Source: Washington State Investment Board.

**The expected return for LEOFF 2 is (7.4% x e).

Investment Gains and (Losses) for Fiscal Year 2020

(Dollars in Millions)	PERS 1	PERS 2/3*	TRS 1	TRS 2/3*	SERS 2/3*
a. 2019 Market Value**	\$7,800	\$42,325	\$5,841	\$15,506	\$5,994
b. Total Cash Flow	(462)	249	(360)	307	102
c. 2020 Market Value**	7,679	44,506	5,735	16,529	6,372
d. Actual Return (c - b - a)	\$340	\$1,932	\$254	\$716	\$276
e. Weighted Asset Amount	\$7,592	\$42,566	\$5,678	\$15,700	\$6,060
f. Expected Return (7.5% x e)	569	3,192	426	1,178	454
g. Investment Gain/(Loss) for Prior Year (d - f)	(\$229)	(\$1,261)	(\$172)	(\$462)	(\$179)
h. Dollar-Weighted Rate of Return**	4.48%	4.54%	4.47%	4.56%	4.55%

Note: Totals may not agree due to rounding.

*Excludes defined contribution portion of Plan 3 assets.

**Source: Washington State Investment Board.

II. ACTUARIAL EXHIBITS

Investment Gains and (Losses) for Fiscal Year 2020 <i>(Continued)</i>					
<i>(Dollars in Millions)</i>	PSERS 2	LEOFF 1	LEOFF 2	WSPRS	Total
a. 2019 Market Value*	\$715	\$6,028	\$14,159	\$1,361	\$99,729
b. Total Cash Flow	81	(373)	(258)	(38)	(752)
c. 2020 Market Value*	832	5,917	14,528	1,383	103,479
d. Actual Return (c - b - a)	\$35	\$262	\$627	\$61	\$4,502
e. Weighted Asset Amount	\$757	\$5,861	\$13,937	\$1,346	\$99,497
f. Expected Return (7.5% x e)**	57	440	1,031	101	7,448
g. Investment Gain/(Loss) for Prior Year (d - f)	(\$22)	(\$178)	(\$404)	(\$40)	(\$2,947)
h. Dollar-Weighted Rate of Return*	4.62%	4.47%	4.50%	4.50%	4.52%

Note: Totals may not agree due to rounding.

**Source: Washington State Investment Board.*

***The expected return for LEOFF 2 is (7.4% x e).*