



OREGON PERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM



PERS

BY THE NUMBERS | 2023



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EXECUTIVE MESSAGE

We are excited to unveil a newly revised format for the 2023 *PERS by the Numbers*! While the core information remains the same as in previous years, we've streamlined the presentation and moved some less critical details into appendices. We are particularly thrilled to announce that we hit a new milestone — passing the 400,000 member mark (405,373 to be exact)!

The PERS Board approved revised actuarial assumptions and methodologies used to conduct actuarial valuations for calendar years 2022 and 2023. This includes the assumed rate of return, one of the more impactful actuarial assumptions. The assumed rate is used to determine the actuarial accrued liability as well as the actuarial shortfall, also known as unfunded actuarial liability. Together, these two measurements are used to monitor the health and solvency of the PERS pension system. The board voted to continue using an assumed rate of 6.90% for the 2022 and 2023 actuarial valuations.

Based on these updated assumptions and methodologies, our consulting actuaries have determined that the projected funding status for the system is at 73% with an unfunded actuarial liability of \$28.0 billion (excluding side accounts), and it's 79% funded with an unfunded actuarial liability of \$21.8 billion (including side accounts).

In 2023, Oregon also had a “long” legislative session, with several bills passed that will impact the PERS system and our operations as a state agency. One significant change was the extension of the work after retirement (WAR) provisions originally set to expire at the end of 2024. These provisions were extended through 2034, which means that through December 31, 2034, most retirees may work for a PERS-participating employer for an unlimited number of hours while continuing to receive their pension benefit. The extension also means that employer contributions will continue to be charged on the salary of rehired retirees. Employer WAR contributions brought in an additional \$46 million to PERS in 2022 alone.

For those who have followed our annual reports closely, one statistic that has always piqued interest is the number of retirees choosing the Money Match pension option. These pensions tend to offer higher benefits compared to our median pension benefits. With the Oregon Public Service Retirement Plan, or OPSRP (which lacks the Money Match pension option), in place for 20 years, the percentage of members retiring with Money Match pensions has now dwindled to just 23% from a high of 96% in 2001 (see page 11 for more explanation of this data).

Overall, the median annual retirement benefit for our members retiring in 2022 was \$27,156.

OPSRP members now account for 80% of all active members and 67% of the normal cost portion of overall contributions. The normal cost for OPSRP members has remained relatively stable on a biennium-to-biennium basis. This stability is evidence that the pension reforms initiated in 2003 are paying off over the long run, aligning with the original goals of the OPSRP tier, as outlined in the “relating to” clause of House Bill (HB) 2003 (2003):

“OPSRP was created as a cost saving measure, to prevent the previous increases in the Unfunded Actuarial Liability, to increase the stability and funded status of the plan, and to ensure continued longevity of the PERS plan.”



A stylized, handwritten signature in dark ink, appearing to read 'K. Olineck'.

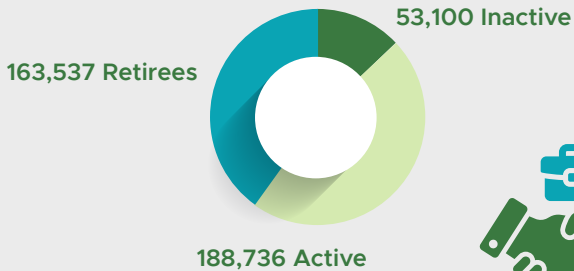
Kevin Olineck, PERS Director

2023 at a glance

Demographics

Total number of members*

405,373 total



Number of employers*

897



Number of retirements

7,512



Retirees working
after retirement

9,891

Programs

(PERS lines of business)



OSGP participants

38,154



PHIP covered lives

53,113



IAP accounts

325,482



IAP account balances
after earnings
crediting (\$M)

\$12,411.5

Financials

Funded percentage

79%

With side
accounts



73%

Without side
accounts

44%

Average salary
replacement



\$34,204

Average annual
retirement
amount



Economic impact in
\$ for 2022

\$4.89 billion

*As of June 30, 2023

All other statistics are for the
2022 calendar year.

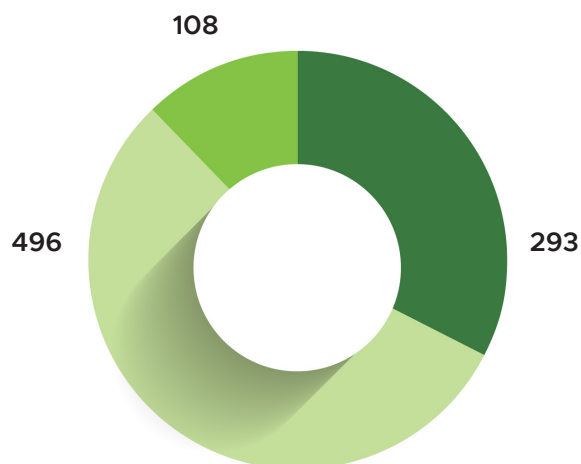
System
Demographics

01

PERS-PARTICIPATING EMPLOYERS AS OF JUNE 30, 2023

Currently 897, including state agencies, universities, community colleges, school districts, cities, counties, and other local government units. See a full list of PERS employers in Appendix A.

- State government 108
- Local government 496
- School districts 293

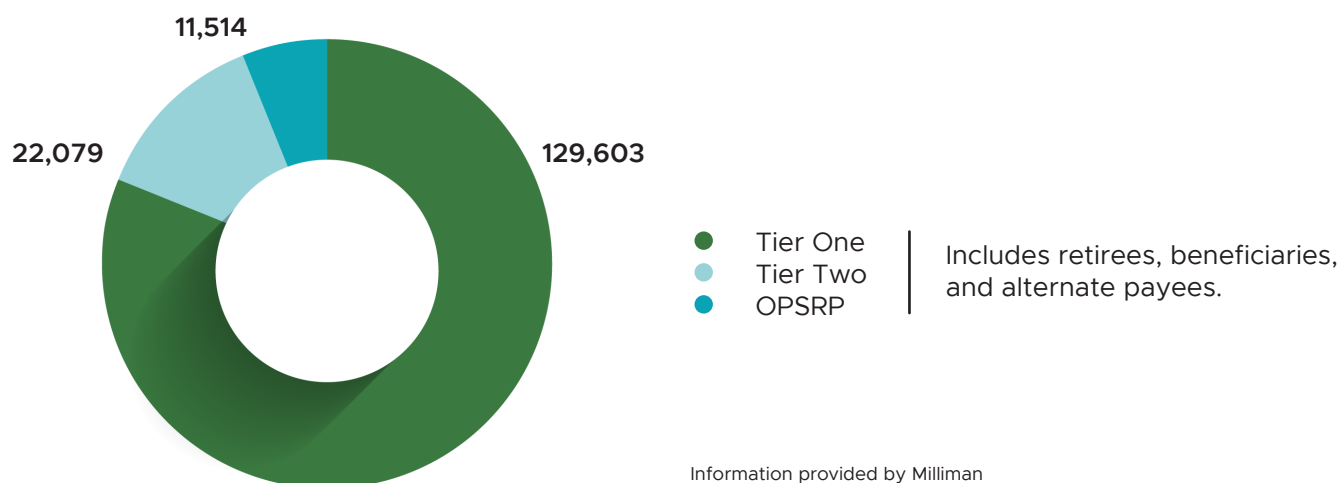


Membership by Category		State Govt.	Local Govt.	School Districts	Total
Tier One	Active	3,077	2,811	3,614	9,502
	Inactive	2,239	2,560	2,767	7,566
Tier Two	Active	6,704	8,078	10,461	25,243
	Inactive	2,897	4,642	5,296	12,835
OPSRP	Active	43,519	47,780	62,692	153,991
	Inactive	8,357	11,114	13,228	32,699
Subtotal	Active	53,300	58,669	76,767	188,736
	Inactive	13,493	18,316	21,291	53,100
Retired*		47,542	48,432	67,563	163,537
TOTAL AS OF JUNE 30, 2023					405,373

*Retirements include beneficiaries, but not members who received total lump-sum retirement or account withdrawal payouts.

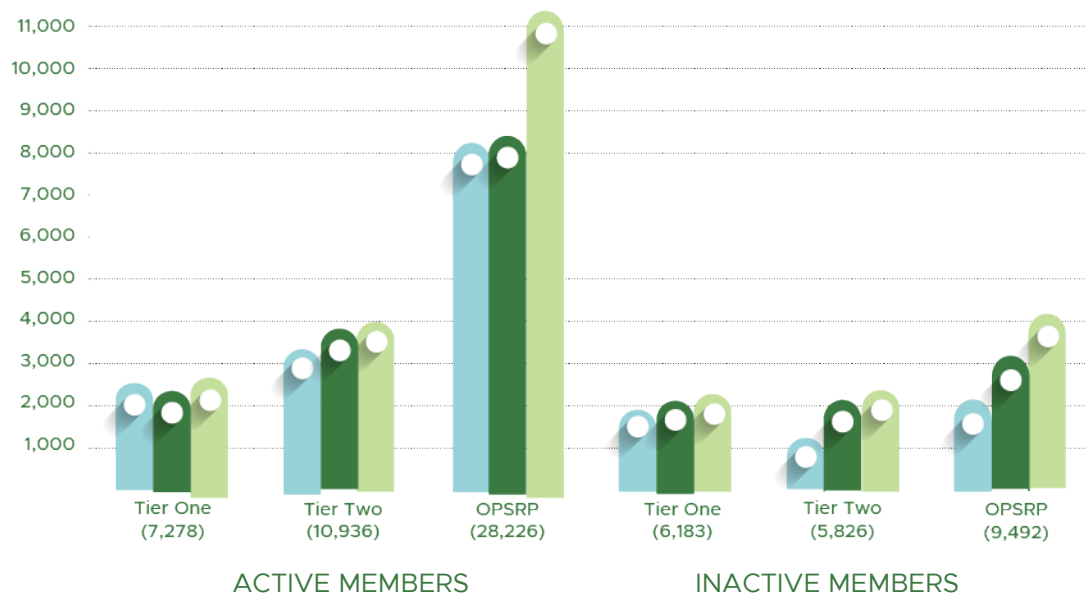
State government — State agencies, universities (except Oregon Health and Science University, or OHSU), judges
Local government — Cities, counties, special districts, community colleges, and OHSU
Active — Currently working for a PERS-participating employer
Inactive — Not retired; not currently working for a PERS-participating employer

CURRENT RETIREES BY MEMBERSHIP GROUP AS OF DEC. 31, 2022



Information provided by Milliman

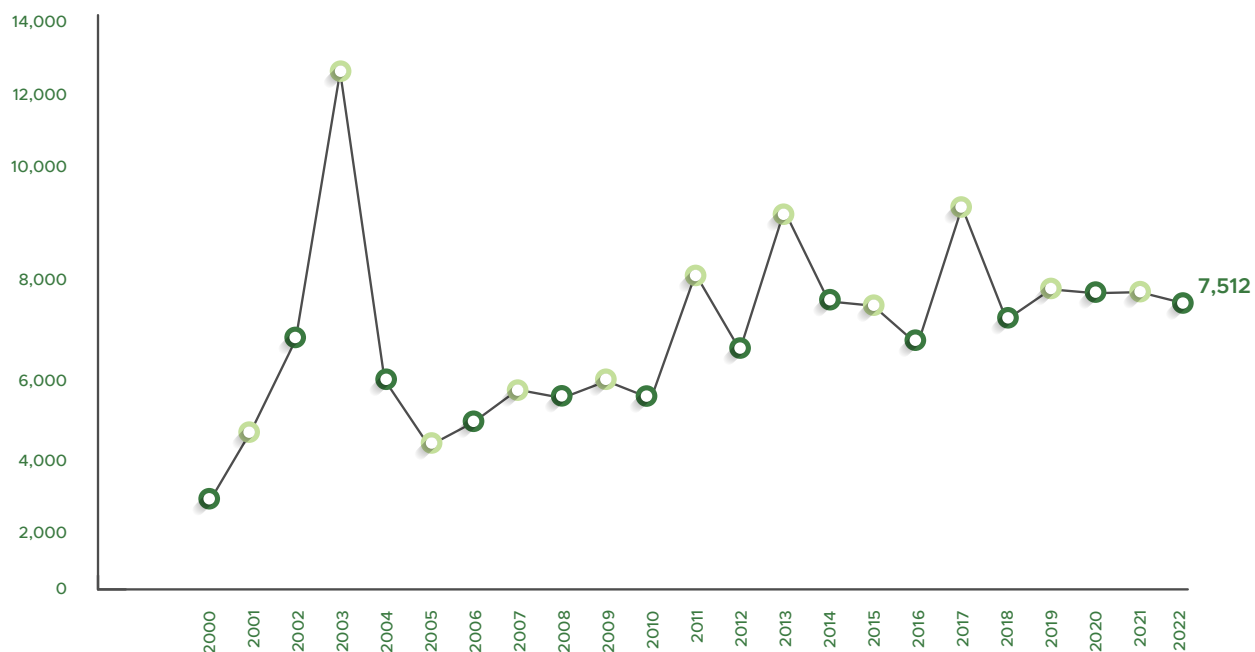
MEMBERS ELIGIBLE TO RETIRE (AS OF JUNE 30, 2023)



67,941 MEMBERS ELIGIBLE TO RETIRE BY AGE OR SERVICE

- State government
- Local government
- School districts

RETIREMENTS BY CALENDAR YEAR (TIER ONE, TIER TWO, OPSRP)



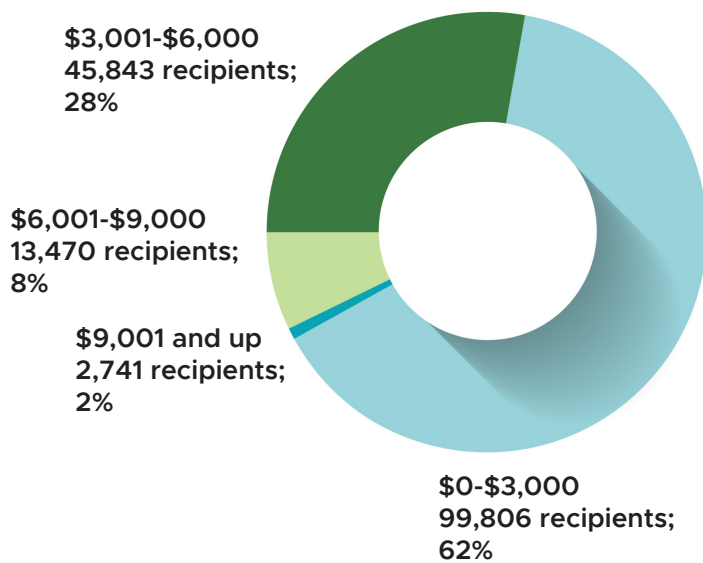
Note: Spikes in retirements are generally related to legislative conversations about PERS.

System
Benefits

02

MONTHLY BENEFIT PAYMENT AMOUNTS AS OF JANUARY 2023

Based on 161,860 monthly benefit payments totaling \$461.4 million for the month of January 2023 (includes alternate payees and survivors; excludes lump-sum and unit payments). Benefit payment amounts include compounded annual cost-of-living adjustments (COLA) and other post-retirement benefit adjustments.



- Average annual benefit: \$34,204.
- Median annual benefit: \$27,156.



More than 75% of PERS beneficiaries receive payments of less than \$4,500 a month, and fewer than 1% make more than \$10,000 a month.

Monthly Benefit (\$)	Number of Benefit Payees	Percent of Benefits Paid
0-500	16,743	1.13%
501-1,000	21,993	3.56%
1,001-1,500	18,596	5.02%
1,501-2,000	15,964	6.04%
2,001-2,500	14,067	6.85%
2,501-3,000	12,443	7.40%
Subtotal	99,806	
% of total	61.66%	30.00%

continued on page 10

System Benefits

continued from page 9

Monthly Benefit (\$)	Number of Retirees	Percent of Benefits Paid
3,001-3,500	10,500	7.39%
3,501-4,000	9,198	7.47%
4,001-4,500	7,997	7.36%
4,501-5,000	6,868	7.06%
5,001-5,500	6,097	6.93%
5,501-6,000	5,183	6.45%
Subtotal	45,843	
% of total	28.32%	42.66%

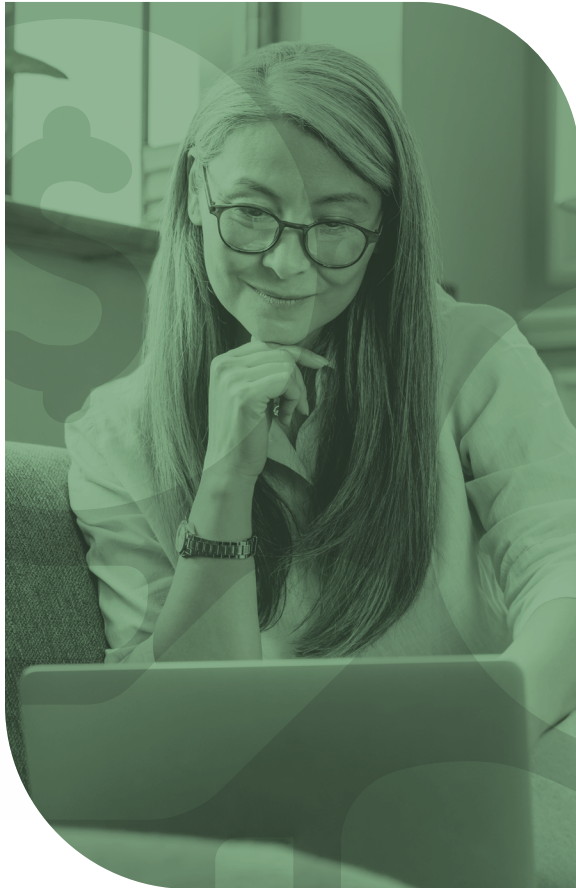
Monthly Benefit (\$)	Number of Retirees	Percent of Benefits Paid
6,001-6,500	4,016	5.43%
6,501-7,000	3,159	4.62%
7,001-7,500	2,408	3.78%
7,501-8,000	1,701	2.85%
8,001-8,500	1,243	2.22%
8,501-9,000	943	1.79%
Subtotal	13,470	
% of total	8.32%	20.69%

Monthly Benefit (\$)	Number of Retirees	Percent of Benefits Paid
9,001-10,000	1,157	2.37%
10,001-11,000	644	1.46%
11,001-12,000	345	0.86%
12,001-13,000	207	0.56%
13,001-14,000	113	0.33%
14,001 and up	275	1.09%
Subtotal	2,741	
% of total	1.69%	6.67%



TIER ONE/TIER TWO PENSION BENEFIT PAYMENT OPTIONS SELECTED IN CALENDAR YEAR 2022

At retirement, Tier One and Tier Two members have 13 different options for how to receive their pension benefit payments. All monthly retirement pension benefits are paid to the retiree or beneficiary for life. The option a member chooses will affect the amount of the monthly pension benefit payment. An option that includes a beneficiary payment will produce a lower monthly pension benefit payment. Benefit payments are based on an actuarial equivalent of the member's and/or the beneficiary's life expectancy.



Option (definitions below) Calendar Year 2022	Quantity	Percent
1	1,236	25.08
Refund Annuity	298	6.05
15-Year Certain	253	5.13
2	1,010	20.50
2A	1,268	25.73
3	135	2.74
3A	302	6.13
Lump-Sum 1	24	0.49
Lump-Sum 2	21	0.43
Lump-Sum 2A	32	0.65
Lump-Sum 3	4	0.08
Lump-Sum 3A	4	0.08
Total Lump Sum	272	5.52
AS Refund*	69	1.40
Total	4,928	100.0%

Option 1 (nonrefund): This option is paid for the member's lifetime. No benefit of any kind is paid to anyone after the member dies.

Refund Annuity Option: This option is paid for the member's lifetime. When the member dies, the designated beneficiary receives a lump-sum refund of the amount remaining in the member's account, if any.

15-Year Certain Option: This option is paid for the member's lifetime. If the member dies before receiving 180 monthly payments (15 years), the beneficiary is entitled to receive the remainder of the 180 monthly payments. Once the member has received 180 payments, no benefit is payable to the beneficiary.

Survivorship Options (Option 2, Option 2A, Option 3, and Option 3A): Under any of the survivorship options, the member may name only one beneficiary who must be a living person. The monthly benefit payment is paid to the member until their death, and then paid to the beneficiary if then living (under Options 2 and 2A, at the same base amount as the member; under Option 3 and 3A, at 1/2 the base amount of the member).

Lump-Sum Options (Lump-Sum Option 1, Lump-Sum Option 2, Lump-Sum Option 2A, Lump-Sum Option 3, and Lump-Sum Option 3A): These options provide a lump-sum payment of the member's account balance plus a lifetime monthly pension from the employer's contributions. The lifetime monthly pension options are the same as those for the nonrefund and survivorship options described above.

Total Lump Sum: The balance of the member's account and a matching amount funded by employers' contributions are paid out in total; there is no ongoing monthly benefit.

AS Refund*: A one-time payment based on an actuarial calculation if the Option 1 benefit is less than \$200 per month.

Disability retirements are not included.

TIER ONE/TIER TWO MEMBERS HIRED BEFORE AUGUST 29, 2003

At retirement, PERS uses three methods to calculate a Tier One monthly benefit amount and two methods to calculate a Tier Two monthly benefit amount. Members receive the highest monthly benefit that results from these calculations.

Full Formula Method

(77% of benefits in 2022)

For General Service members: $1.67\% \times \text{years of service credit} \times \text{final average salary}$

For Police and Firefighter members: $2\% \times \text{years of service credit} \times \text{final average salary}$

Formula Plus Annuity Method

(0.0% of benefits in 2022)

Tier One only, available to those who made contributions before August 21, 1981. This benefit uses a formula similar to the Full Formula Method to compute the employer portion of the benefit.

For General Service members: $1\% \times \text{years of service credit} \times \text{final average salary}$

For legislators and Police and Firefighter members: $1.35\% \times \text{years of service credit} \times \text{final average salary}$

The total of the calculation will be added to an annuity payment based on member account balance and life expectancy.

Money Match

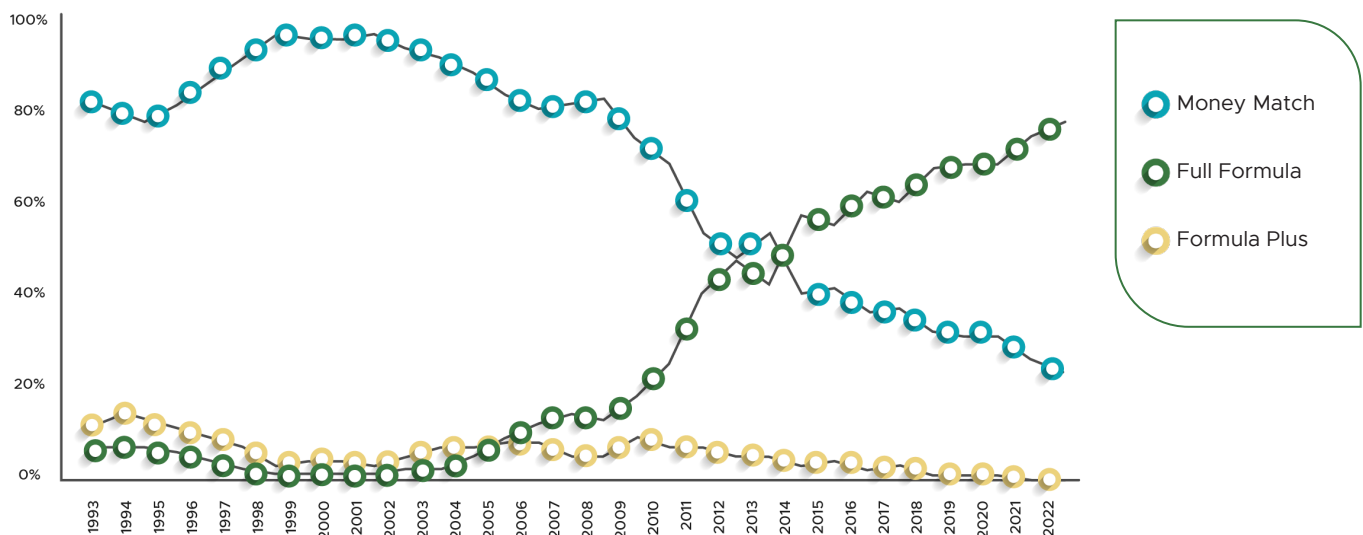
(23% of benefits in 2022)

The employer matches the member account balance by an equal amount. From that total, a monthly payment amount is then calculated based on life expectancy.



Reforms to the system have dropped the Money Match formula usage to 23%, down from a high of 96% in 2001.

PERCENT OF RETIREMENTS



Note: Prior editions used a more narrow calculation to show formula usage for 30-year retirees. We have expanded this to include all Tier One/Tier Two retirements.

OREGON PUBLIC SERVICE RETIREMENT PLAN (OPSRP) MEMBERS (HIRED AFTER AUGUST 28, 2003)

At retirement, all OPSRP members who are vested and eligible to retire can receive a monthly pension benefit for life. The pension benefit is calculated using the following formulas:

For General Service members: $1.5\% \times \text{years of total retirement credit} \times \text{final average salary}$

For Police and Firefighter Members: $1.8\% \times \text{years of total retirement credit} \times \text{final average salary}$

OPSRP PENSION BENEFIT PAYMENT OPTIONS SELECTED IN CALENDAR YEAR 2022

At retirement, OPSRP members have five different options for how to receive their pension benefit payments. All monthly pension retirement benefits are paid to the retiree or beneficiary for life. The option a member chooses will affect the amount of the monthly pension benefit payment. An option that includes a beneficiary payment will produce a lower monthly pension benefit payment. Benefit payments are based on an actuarial equivalent of the member's or the beneficiary's life expectancy.

Option (definitions below) Calendar Year 2022	Quantity	Percent
Single Life Option	948	42.76
Full-Survivorship Option	477	21.52
Full-Survivorship Increase Option	279	12.58
Half-Survivorship Option	81	3.65
Half-Survivorship Increase Option	67	3.02
Cash Out Lump Sum	365	16.46
Total	2,217	100

Single Life Option: This option is paid for the member's lifetime. No benefit of any kind is paid to anyone after the member dies.

Full-Survivorship Option: This benefit is paid monthly for the member's lifetime. After the member dies, his or her surviving beneficiary will receive, for life, the monthly benefit the member was receiving at the time of the member's death. Payments are actuarially reduced to provide the same monthly benefit amount to the member for life and to the member's beneficiary for his or her lifetime.

Full-Survivorship Increase Option: Same as the Full-Survivorship Option, but if the member's beneficiary dies before the member, or if the member's beneficiary is his or her spouse and they are divorced after retirement, the member will receive the higher-paying Single Life Option benefit for the remainder of the member's lifetime.

Half-Survivorship Option: This benefit is paid monthly for the member's lifetime. After the member dies, his or her surviving beneficiary will receive, for life, one-half of the monthly benefit the member was receiving at the time of the member's death.

Half-Survivorship Increase Option: Same as the Half-Survivorship Option, but if the member's beneficiary dies before the member, or if the member's beneficiary is his or her spouse and they are divorced after retirement, the member will receive the higher-paying Single Life Option benefit for the remainder of the member's lifetime.

Cash Out Lump Sum: If an OPSRP member's monthly pension benefit is less than \$200, the member will receive a one-time lump-sum payment that represents the actuarial equivalent of the present value of the pension.

Disability retirements are not included.

2023 REPLACEMENT RATIO STUDY (BASED ON 2022 RETIREMENTS)

Summary of findings

PERS uses a replacement ratio, the percentage of a member's final average salary, to show pension benefits as a percentage of pay. The 2023 PERS Replacement Ratio Study gives an overview of this. The population consists of 124,267 Tier One/Tier Two retirements from January 1990 through December 2022 and covers retired members who selected comparable monthly benefit options. The techniques used in the 2023 study are generally consistent with the techniques used in previous studies.

The calculations do not include federal Social Security benefits that a retiree may be eligible for based on the retiree's work history and do not include Individual Account Program (IAP) benefits the retiree may be receiving. The calculations do include the effects of the *Strunk/City of Eugene* benefit adjustments, which will generally impact retirements that occurred during 2000-04 and reduce the reported replacement ratios for those periods by several percentage points.

CHARACTERISTICS OF THE RETIRED MEMBERS IN THE RRS POPULATION¹



For all retirees from **1990-2022**, the average monthly retirement benefit at time of retirement was **\$2,515 per month**, or about **\$30,180 annually**.



For those retirees in the most recent year (**2022**), the average monthly retirement benefit was **\$3,474 per month**, or about **\$41,688 annually**.

Average age at retirement for applicable 2022 retirees: 61 years old

Average years of service at retirement for applicable 2022 retirees: 27 years of service

For all retirees from 1990-2022, there were 5.6% who received annual benefits more than 100% of final average salary. The average years of service for this group was 31 years. For 2022 retirees, 0.7% received annual benefits more than 100% of final average salary. The average years of service for this group was 37 years.



Average public employee salaries at retirement

- For all retirees from 1990-2022, the final average salary at retirement was \$58,320 annually.
- For 2022 retirees, the final average salary at retirement was \$93,092 annually.

Average salary replacement ratio (see chart on following page)

- For all retirees from 1990 through 2022, the average annual retirement benefit equaled 51% of final average salary at the time of retirement.
- For 2022 retirees, the average annual retirement benefit equaled 44% of final average salary.
- For all retirees from 1990-2022, there were 5.6% who received annual benefits more than 100% of final average salary. The average years of service for this group was 31 years.
- For 2022 retirees, 0.7% received annual benefits more than 100% of final average salary. The average years of service for this group was 37 years.

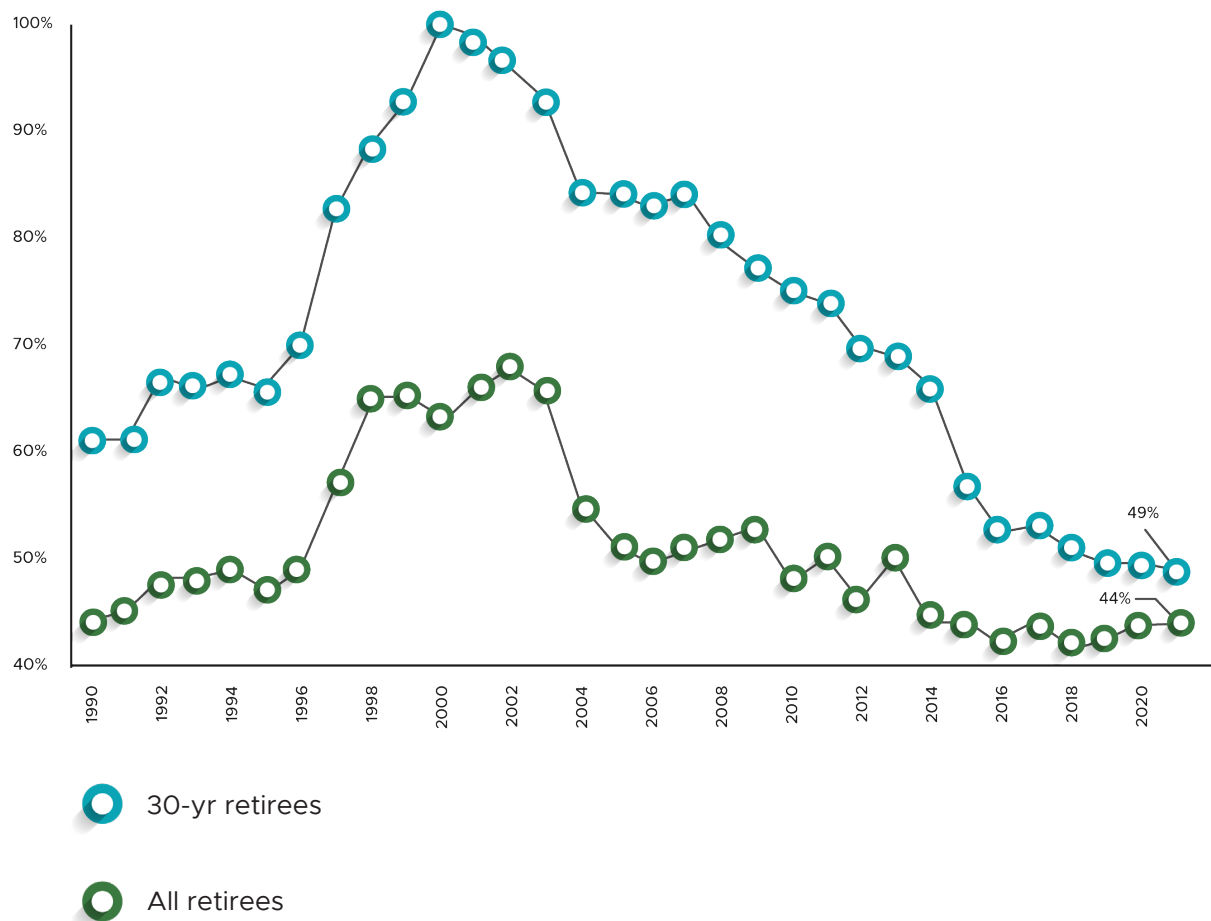
For members who retired with at least 30 years of service credit

- From 1990-2022, the average retirement benefit for 30-year members equaled 74% of final average salary, and the average monthly benefit was \$3,756 per month.
- The average replacement ratio for 30-year members peaked at 100% of final average salary in 2000 and their average monthly benefit was \$4,200 per month.
- For 2022 only, the average retirement benefit for 30-year members equaled 50% of final average salary, and the average monthly benefit was \$4,276 per month.
- From 1990-2022, 10.2% of retirees had 30 years of service.
- In 2022, 10.4% of retirees had 30 years of service.

¹The exclusions and other factors applied to this population are explained in Appendix B on page 50. Generally, these exclusions remove about 35% of members who retire in a given year. Replacement Ratio Summary of Findings are found in Appendix F on page 60.

TIER ONE/TIER TWO REPLACEMENT RATIO TRENDS (DATA FROM PERS REPLACEMENT RATIO STUDY)

Average replacement ratios based on high three years salary



INDIVIDUAL ACCOUNT PROGRAM (IAP)

All PERS members actively employed since 2004 have an Individual Account Program (IAP) account-based benefit. A portion of members' salary, whether paid by the member or their employer, is placed into the IAP. Senate Bill (SB) 1049 (2019) requires that members earning more than the current monthly salary threshold have a portion of their 6% IAP contributions redirected to an Employee Pension Stability Account (EPSA). At retirement, the payment members receive from the IAP is based on their account balance — contributions plus investment earnings or losses over time.



AVERAGE IAP ACCOUNT BALANCES AND DISTRIBUTIONS TO RETIRED MEMBERS, WITHDRAWALS, AND DECEASED MEMBERS

Year (as of December 31)	Total IAP Account Balance After Earnings Crediting (\$M)	# of Accounts	Average IAP Account Balance (\$)	# of Payees
2004	423.4	162,119	2,611	2
2005	928.9	181,055	5,130	4,131
2006	1,396.8	197,491	7,072	6,557
2007	2,120.5	210,133	10,091	6,705
2008	1,851.2	218,192	8,484	8,624
2009	2,742.8	231,256	11,847	7,727
2010	3,536.9	236,265	14,970	8,695
2011	3,939.7	238,062	16,549	11,479
2012	4,855.1	240,637	20,176	14,728
2013	5,127.3	242,516	21,142	14,994
2014	6,001.1	245,768	24,821	15,118
2015	6,906.1	255,896	26,988	15,644
2016	7,634.7	262,096	29,129	16,213
2017	8,960.4	269,812	33,210	16,866
2018	9,015.2	276,739	32,577	17,597
2019	10,391.9	285,293	36,425	17,983
2020	11,230.1	292,983	38,330	17,633
2021	12,997.8	298,397	43,559	17,034
2022	12,411.5	315,783	39,304	18,784



IAP TARGET-DATE FUND VALUES (AS OF JUNE 30, 2023)

Starting January 1, 2018, all PERS members became invested in age-based target-date funds in an effort by the Oregon Investment Council to reduce investment risk and volatility as members age. Retired members receiving installment payments are invested in the retirement installments fund.

The Retirement Allocation Fund is a target date fund designed to provide current income needs as well as preservation of capital. Members born in 1957 or earlier are enrolled in this fund for their IAP account.

Target-date Fund	Number of Accounts	Total Account Balance
Retirement Installment Fund	9,144	\$401,769,515
Retirement Allocation Fund	19,516	\$603,048,773
2025 Born between 1958 and 1962	25,201	\$1,322,508,875
2030 Born between 1963 and 1967	33,025	\$1,983,898,585
2035 Born between 1968 and 1972	41,258	\$2,485,782,805
2040 Born between 1973 and 1977	43,304	\$2,284,322,177
2045 Born between 1978 and 1982	46,257	\$1,749,920,478
2050 Born between 1983 and 1987	41,888	\$978,296,018
2055 Born between 1988 and 1992	33,922	\$442,326,786
2060 Born between 1993 and 1997	22,886	\$146,906,008
2065 Born in 1998 or after	9,081	\$36,856,041

RETIRED TIER ONE, TIER TWO, AND OPSRP MEMBERS WHO WORKED IN A PERS-PARTICIPATING POSITION IN 2022, CATEGORIZED BY EMPLOYER GROUP

After PERS members begin receiving a PERS retirement benefit, they may choose to return to work for a PERS-participating employer.

Prior to the passage of SB 1049 (2019), most PERS members had restrictions on the number of hours they could work in a calendar year without stopping their pension benefit payments. Tier One, Tier Two, and OPSRP retirees were subject to specific hour limitations and exceptions.

From January 1, 2020, through December 31, 2034, most* retirees may work for a PERS-participating employer for an unlimited number of hours while continuing to receive their pension benefit.



ALL RETIRED MEMBERS WORKING AFTER RETIREMENT

Annual Hours	State	Local Government	School Districts	Total
<200	467	981	1,914	3,362
200-400	325	492	809	1,626
401-600	244	340	575	1,159
601-800	187	233	483	903
801-1,039	195	240	489	924
<1,039	356	716	845	1,917
Totals	1,774	3,002	5,115	9,891

*If a member retired earlier than normal retirement age, they must have a complete break in all PERS-participating employment for at least six months in order to be eligible for unlimited retiree hours under SB 1049. Otherwise, the existing Tier One/Tier Two and OPSRP limits of working fewer than 1,040 and 600 hours per year, respectively, apply.

OTHER PERS PROGRAMS



Oregon Savings Growth Plan (OSGP) 457(b) deferred compensation

The Oregon Savings Growth Plan (OSGP) is a 457(b) deferred compensation plan that provides many public employees a convenient way to save for retirement. Enrollment is available to all state of Oregon employees upon hire as well as local government and school district employees whose employers have adopted the plan.

OSGP lets participants save for retirement on a pretax or after-tax basis through payroll deductions. Participants can save as little as 1% of their pay up to \$23,000 in calendar year 2024 (\$30,500 if age 50 or older).

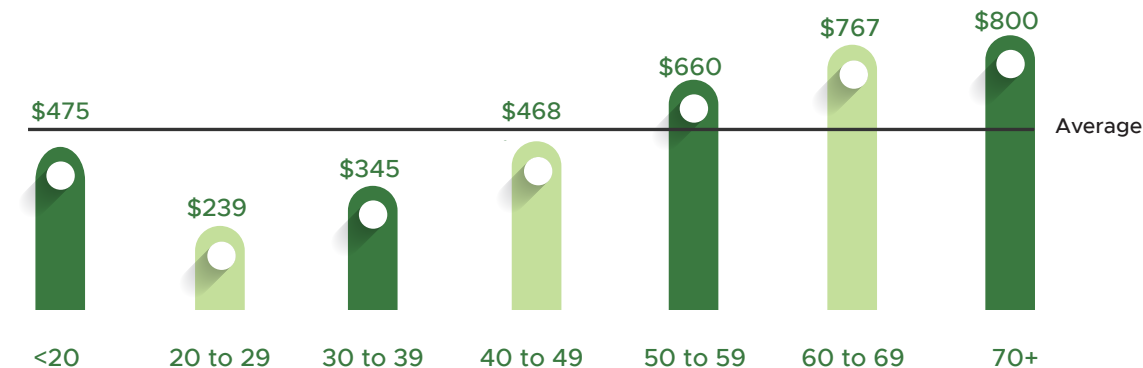
Participation (as of June 30, 2023)

- 38,154 total participants
 - 31,567 participants are state government employees (includes universities, higher education, and miscellaneous state agencies).

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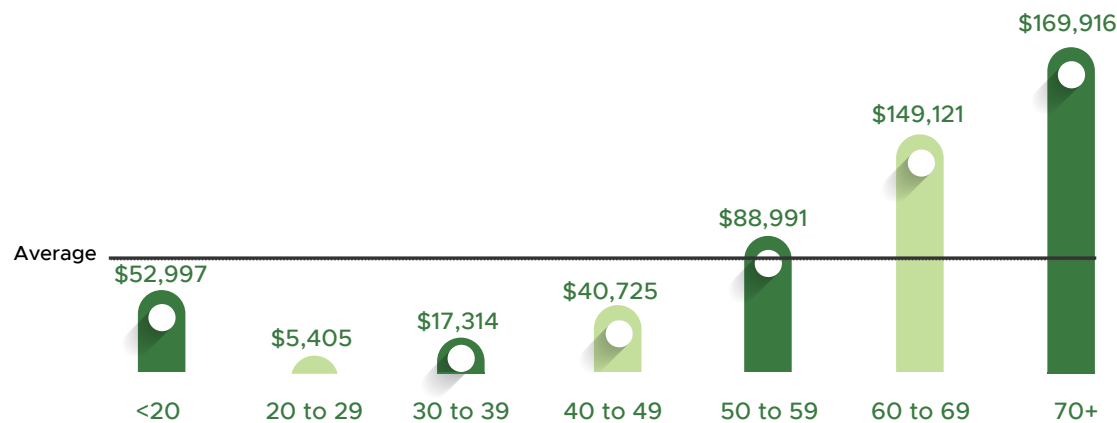
AVERAGE SAVINGS RATE BY AGE GROUP



Data as of June 30, 2023

Average contribution amount: \$536/month

AVERAGE SAVINGS BALANCE BY AGE GROUP



Data as of June 30, 2023

Total plan assets: \$3.2 billion
Average account balance: \$74,924

PERS RETIREE HEALTH INSURANCE PROGRAM INFORMATION



The PERS Health Insurance Program (PHIP) offers medical and dental insurance plans to eligible Tier One, Tier Two, and OPSRP retirees, their spouses, and dependents. Upon retirement, these insurance options become a choice available to all PERS retirees. While primarily serving our Medicare-eligible (age 65 and older) population, PHIP also offers insurance coverage options for those who are not yet Medicare-eligible.

PERS administers two statutory trust funds for PHIP that provide premium subsidies for eligible Tier One and Tier Two retirees or surviving spouses. These trusts are known as the Retirement Health Insurance Account (RHIA), serving all qualifying PERS Medicare-eligible retirees, and the Retiree Health Insurance Premium Account (RHIPA), serving qualifying state government non-Medicare retirees. Both trusts are funded from employer contributions on an actuarial basis.

PROGRAM ENROLLMENT (AS OF JUNE 30, 2023)

Medical Plans (five plans offered)	Totals	Medicare	Non-Medicare
Total covered lives	53,113	52,013	1,100
Retirees (or surviving spouses)	43,584	42,887	697
Spouses/dependents	9,529	9,126	403
Average age of enrolled retirees	76.59	77.03	56.40
Dental enrollment (two plans offered)	36,753	35,934	819

STATUTORY HEALTH INSURANCE PREMIUM SUBSIDIES

Retirees receiving RHIA (trust fund held by PERS*)	40,666
Retirees receiving RHIPA (trust fund held by PERS**)	522
RHIA monthly payment total	\$2,439,960
RHIPA monthly payment total	\$232,796

*The RHIA subsidy is \$60 per month for Medicare-eligible retirees.

**The RHIPA subsidy is for state of Oregon non-Medicare retirees only and varies depending on the employee's years of state service, from \$237.45 (eight years) to \$474.90 (30+ years) per month for plan year 2022.

Employer rates (effective July 1, 2023): RHIA: 0.00%; RHIPA (state government only): 0.00%

Unfunded actuarial liability (as of December 31, 2022): -\$375 million (RHIA); -\$45 million (RHIPA)

HISTORY OF KEY PERS BENEFITS ENHANCEMENTS, CAPS, AND REDUCTIONS

Supplementary Payments

Action: Annual supplementary payments of 0.25% to all benefit recipients (up to \$150) through 2019. Second annual supplementary payment of 0.25% through 2019 if benefit is \$20,000 or less annually.

Affected: Tier One

Investment Risk Allocation

Action: Decreased assumed earnings rate from 8.0% to 7.75%.

Affected: Tier One

Cost-of-Living Adjustment

Action: Annual COLA of up to 2% restored for service time accrued before October 1, 2013. COLA for service time after that date uses a lower rate. Service time accrued in both periods is "blended."

Affected: All

Investment Risk Allocation

Action: Decreased assumed earnings rate from 7.50% to 7.20%.

Affected: Tier One

Administrative

Note: Senate Bill (SB) 1049 made substantial changes to benefit administration, details of which can be found on our SB 1049 webpage.

Benefit Calculation/Formula

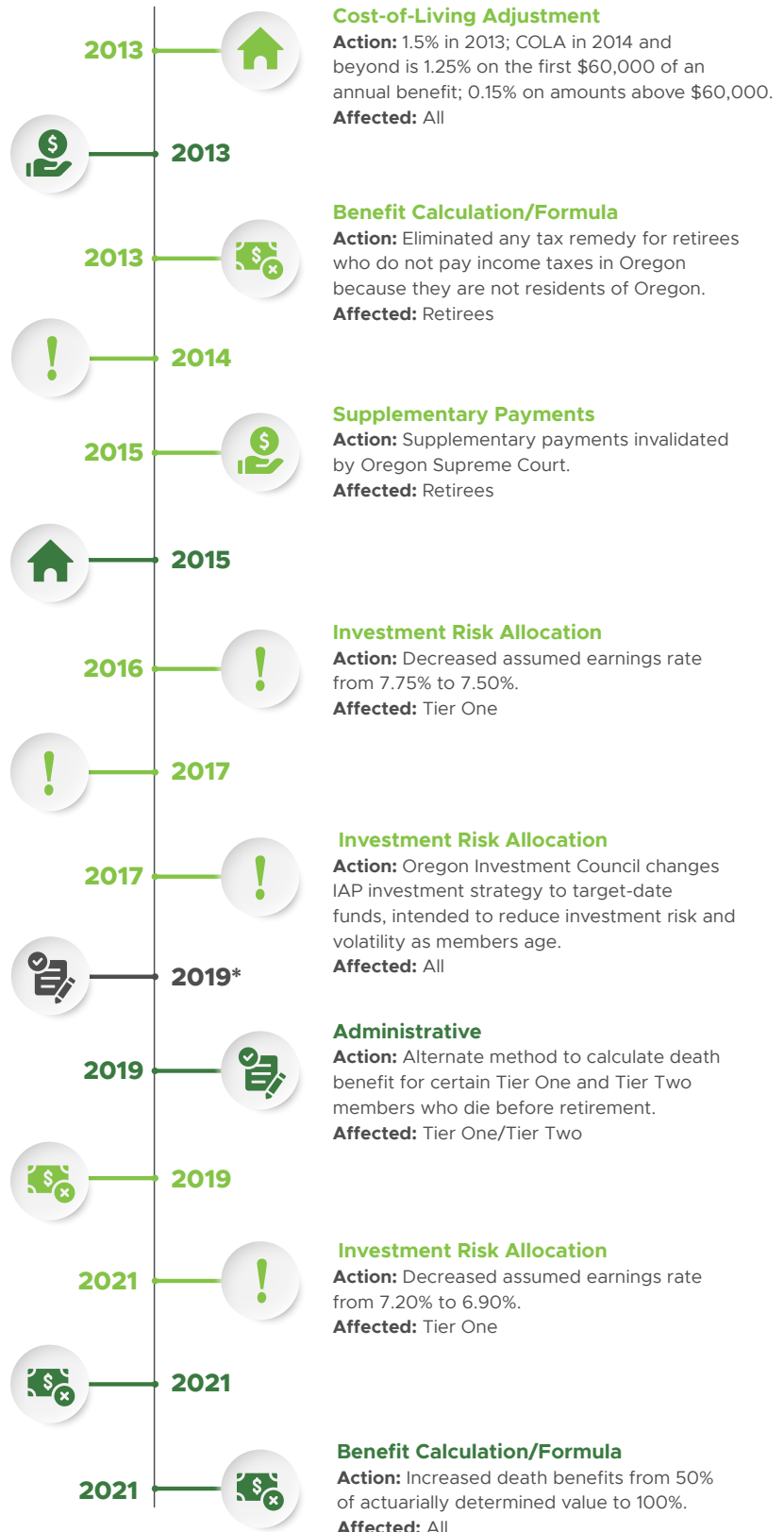
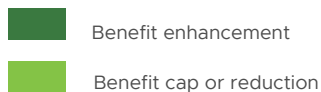
Action: Reduces member contributions to IAP. Establishes limit on salary used for benefit calculations.

Affected: All

Benefit Calculation/Formula

Action: Changed definition of salary to include income that is or would be taxable under Oregon state income tax.

Affected: OPSRP



*Neither enhancement nor reduction.

See Appendix E or a further history of key legislative changes to PERS.

System
Funding Level
and Status

03

THE PERS FUNDING EQUATION

At the end of each calendar year, the PERS actuaries calculate the system's funded status using the following basic equation:

$$B = C + E$$

BENEFITS CONTRIBUTIONS EARNINGS

Present value of earned benefits (set by Oregon Legislature)

Employer and member funds to pay pension benefits (set by PERS Board)

Future returns on invested funds (managed by Oregon Investment Council and Oregon State Treasury)

Every two years, the PERS Board adjusts contribution rates so that, over time, contributions will be sufficient to fund the benefits earned, if earnings follow assumptions.

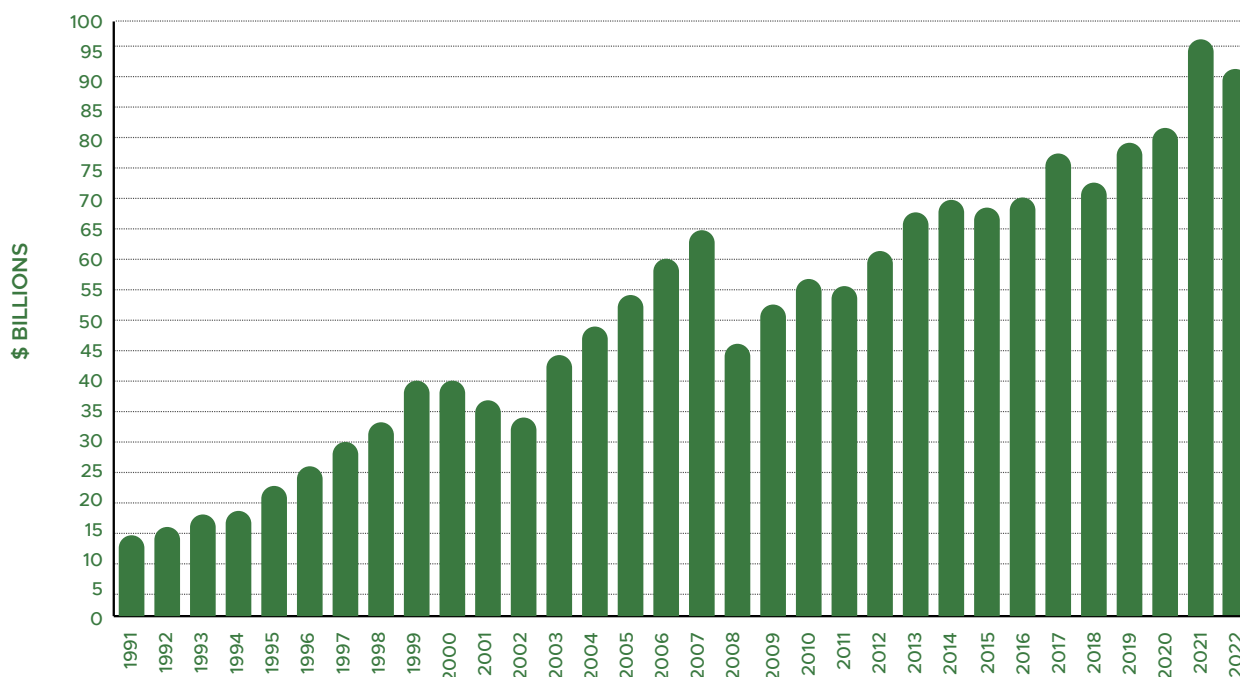
FUNDED STATUS (AS OF DECEMBER 31, 2022)

The Oregon Public Employees Retirement Fund (OPERF or the PERS Fund) is invested under the oversight and direction of the Oregon Investment Council, with staff support from the Investment Division of Oregon State Treasury.

As of December 31, 2022, PERS was 73% funded (79%, including employer side accounts). Side accounts hold deposits from PERS employers of pension obligation bond proceeds and other lump-sum deposits that are amortized to offset that employer's contribution.

As of December 31, 2022, the unfunded actuarial liability (UAL) was \$28 billion (\$21.8 billion, including side accounts). The UAL fluctuates based on various factors, including investment returns, board reserving policies, statutory plan design changes, and litigation outcomes.

PERS FUND VALUE (CALENDAR YEARS ENDING DECEMBER 31)



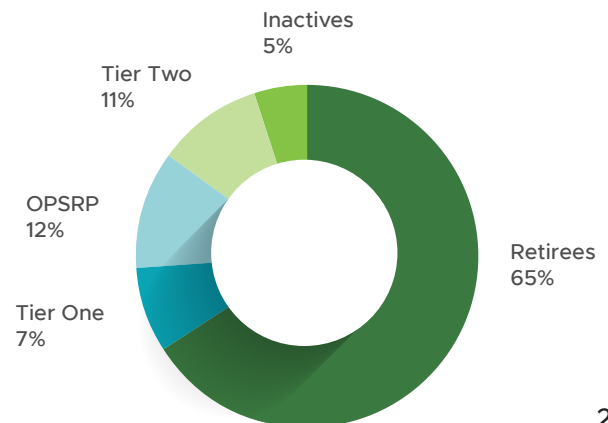
UNFUNDED ACTUARIAL LIABILITY (UAL) HISTORY AND FUNDED RATIO¹

Valuation ² Date	With Side Accounts ³ (starting in 2002)		Without Side Accounts	
	UAL (\$M)	Funded Ratio (%)	UAL (\$M)	Funded Ratio (%)
2000	1,545	96.4	1,545	96.4
2001	-2,031	105.4	-2,031	105.4
2002	3,204	92.0	3,983	89.9
2003	1,751	96.1	6,227	86.0
2004	2,122	95.6	7,678	84.0
2005	-1,751	104.0	4,919	91.0
2006	-5,019	109.7	2,229	95.7
2007	-6,120	111.5	1,538	97.1
2008	10,998	80.0	16,133	70.4
2009	8,108	86.0	13,598	76.0
2010 ⁴	7,700	87.0	13,300	78.0
2011	11,030	82.0	16,255	73.0
2012 ⁵	5,600	91.0	11,100	82.0
2013	2,600	96.0	8,500	86.0
2014 ⁶	12,100	84.0	18,000	76.0
2015	16,200	79.0	21,800	71.0
2016	19,911	75.4	25,300	68.8
2017 ⁷	16,700	80.0	22,300	73.0
2018	21,800	75.0	27,000	69.0
2019	19,100	79.0	24,600	72.0
2020	22,900	76.0	28,000	71.0
2021	13,400	86.0	20,000	80.0
2022	21,800	79.0	28,000	73.0

1. Includes RHIA/RHIPA.
2. 2000-03 UALs were calculated using actuarial value of assets (AVA) based on year-to-year changes in asset values smoothed over four-year periods. All other UALs since 1997 were calculated using an AVA based on fair market value.
3. The official PERS valuation UAL and funded ratio are based on accepted actuarial standards and methodologies. These methodologies are subject to review and revision every two years. A negative UAL amount represents a surplus.
4. 2010 and after includes the OPSRP pension plan; 2000-09 reflects only Tier One/Tier Two.
5. Includes liability reductions from Senate Bills 822 and 861 and board-adopted actuarial assumptions/methods from the 2012 Experience Study.
6. Includes the Moro decision and board-adopted actuarial assumptions/methods from the 2014 Experience Study.
7. Includes board-adopted actuarial assumptions and methods from prior year experience studies.

ACTUARIAL ACCRUED LIABILITIES (AS OF DECEMBER 31, 2022)

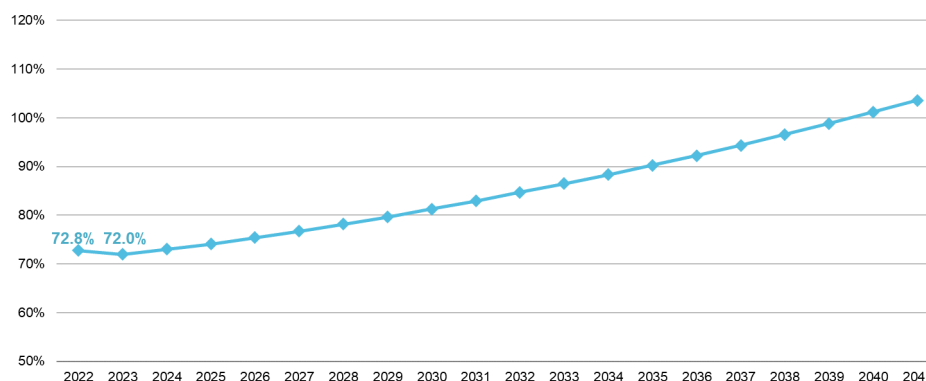
About 70% of PERS' total accrued liability is for members who are no longer working in PERS-covered employment (65% retirees and 5% inactives).



PROJECTED SYSTEM-FUNDED STATUS (INCLUDING SIDE ACCOUNTS)

System Funded Status (Excluding Side Accounts)

Steady 6.9% return scenario



- 2023 funded status decreases due to estimated year-end 2023 investment returns
- In steady +6.9% return scenario, funded status projected to reach 100% in 2040

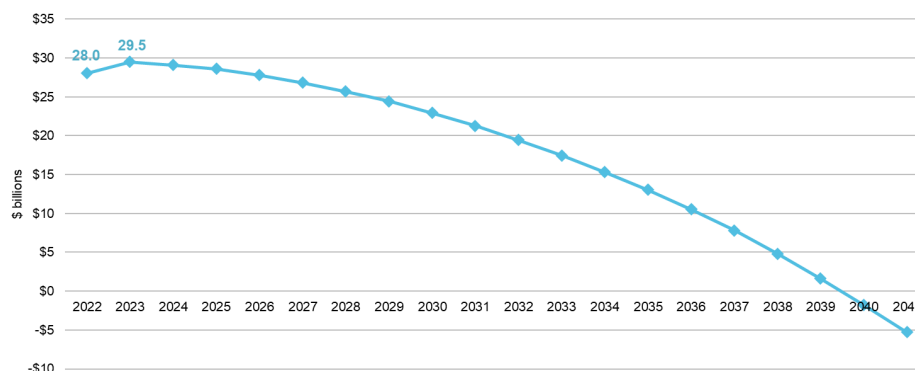


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PROJECTED UAL (UNFUNDED ACTUARIAL LIABILITY) EXCLUDING SIDE ACCOUNTS

UAL (Unfunded Actuarial Liability) Excluding Side Accounts

Steady 6.9% return scenario



- 2023 UAL increases due to estimated year-end 2023 investment returns
- At steady +6.9% returns, UAL remains relatively level for a couple years before declining to below \$0 at year-end 2040



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System
Revenue

04

MEMBER AND EMPLOYER CONTRIBUTIONS AND INVESTMENT INCOME FOR CALENDAR YEARS

Year	Member Contributions (\$M)	Employer Contributions (\$M)	Amortization of Employer Side Accounts (\$M)*	Total Employer (\$M)	Net Investment and Other Income (\$M)
1995	287	427	N/A	427	4,110
1996	296	463	N/A	463	4,358
1997	291	473	N/A	473	4,582
1998	318	488	N/A	488	3,978
1999	347	577	N/A	577	7,463
2000	359	654	N/A	654	143
2001	385	689	N/A	689	-2,708
2002	398	725	8	733	-3,460
2003	405	582	97	679	8,866
2004	371**	408	278	686	5,933
2005	434	504	357	861	6,179
2006	456	637	474	1,111	8,163
2007	468	633	466	1,099	5,808
2008	484	669	541	1,210	-17,235
2009	515	561	540	1,101	8,053
2010	502	435	558	993	6,444
2011	510	627	509	1,136	1,935
2012	513	915	443	1,358	7,859
2013	561	942	448	1,390	9,458
2014	524	994	472	1,466	4,819
2015	611	1,185	542	1,727	1,380
2016	610	1,021	628	1,649	4,840
2017	628	1,241	653	1,894	10,663
2018	649	1,808	663	2,471	166
2019	698	2,062	739	2,802	9,936
2020	707	2,108	815	2,923	5,996
2021	773	2,569	893	3,462	16,644
2022	813	2,019	993	2,832	-2,169

*PERS' methodology to track amortization of side accounts began in 2002. Side accounts hold deposits by employers of pension obligation bond proceeds and other lump-sum payments that are amortized to offset that employer's PERS contributions.

**Since January 1, 2004, member contributions have been placed in the Individual Account Program (IAP) instead of the legacy Tier One/Tier Two member accounts.

FINAL 2022 CREDITING AND RESERVING (ALL DOLLAR AMOUNTS IN MILLIONS)

Reserve / Account	Balance Before 2022 Crediting	Final 2022 Crediting	Final Ending Reserve Balance	Crediting Rates
Tier One Member Regular Accounts	2,238.8	154.5	2,393.3	6.90%
Tier One Rate Guarantee Reserve	960.7	(215.7)	745.0	N/A
Tier Two Member Regular Accounts	1,056.5	(20.2)	1,036.3	-1.91%
Benefits-in-force Reserve	18,799.4	(359.7)	18,439.7	-1.91%
Employer Reserves	42,938.8	(866.6)	42,072.2	-2.01%
Tier One/Two Employee Pension Stability Account	221.1	(3.9)	217.2	-1.91%
OPSRP Pension	11,098.3	(212.0)	10,886.3	-1.91%
OPSRP Employee Pension Stability Account	177.8	(3.1)	174.7	-1.91%
IAP Accounts, as a whole	12,904.1	(551.6)	12,352.5	-4.27%
*UAL Lump-sum Payment Side Accounts	6,314.7	(116.6)	6,198.1	Various
Contingency Reserve	50.0	-	50.0	N/A
Total	\$96,760.2	-\$2,194.9	\$94,565.3	



Tier One Rate Guarantee Reserve: This reserve is used to credit the assumed rate on Tier One member regular accounts in years when the fund earns below the assumed rate and to hold excess earnings from the years when the fund earns more than the assumed rate (currently 6.9%).

Benefits-In-Force Reserve: This reserve is used to pay retired members' benefits and annuities. It is funded by earnings and fund transfers from member accounts and employer reserves associated with retirements processed during a calendar year.

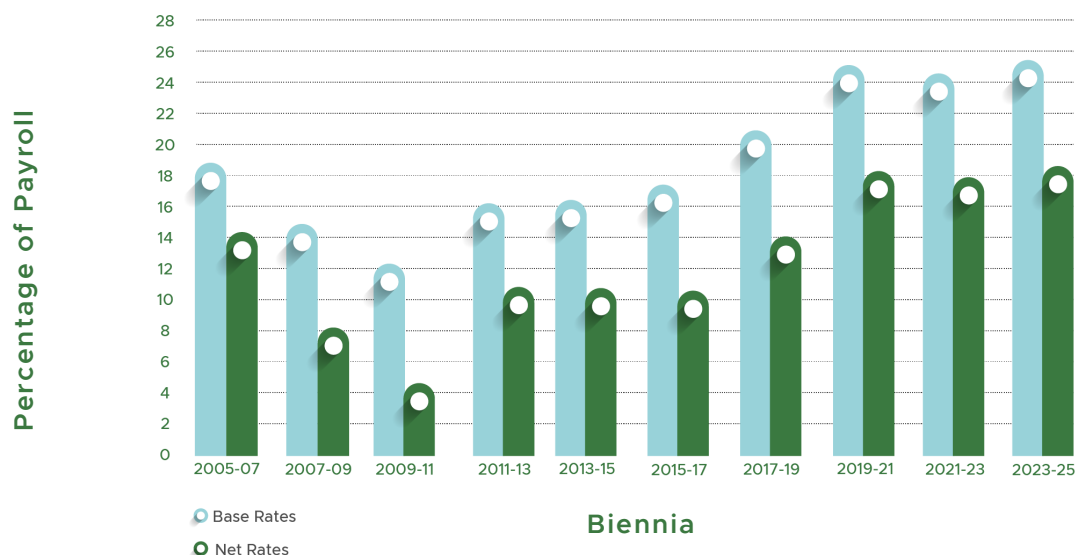
Employer Reserves: Funds from these reserves are moved to the Benefits-In-Force Reserve when a benefit is due to a member.

*Side account earnings rates for lump sums on deposit vary depending on when the deposit was made within the calendar year and are not affected by board reserving or crediting decisions.

Contingency Reserve: This reserve can be used for any purpose the board determines is appropriate so long as the use of the funds furthers the trust's purpose. It is funded in years that investment income exceeds the assumed rate (currently 6.9%). The reserve is capped at \$50 million.



SYSTEM-WIDE AVERAGE EMPLOYER CONTRIBUTION RATES AS A PERCENT OF COVERED SALARY (NET RATES INCLUDE SIDE ACCOUNT OFFSETS)



- Base rates are system-wide average employer contribution rates without side account offsets.
- Net rates are system-wide average employer contribution rates including.
- Excludes member contributions and RHIA/RHIPA healthcare contributions.
- Includes Tier One, Tier Two, and OPSRP.
- Rates for 2023-25 reflect actuarial assumptions adopted by the PERS Board in 2020 and investment returns for 2020 and 2021. The rates also include the effects of the member redirect offset from Senate Bill 1049 (2019).

2025-27 EMPLOYER CONTRIBUTION RATE INCREASE PROJECTIONS (2022 VALUATION DATA)

(\$ millions)	Projected 2025-27 Payroll*	(A) Projected 2025-27 Contribution	Projected 2025-27 Payroll*	(B) Projected 2025-27 Total Contribution**	(B) - (A) Projected Contribution Increase
State Agencies	\$8,360	\$1,820	\$9,395	\$2,160	\$340
School Districts	\$8,860	\$1,530	\$10,210	\$2,020	\$490
All Others	\$9,910	\$2,210	\$11,040	\$2,680	\$470
Total	\$27,130	\$5,560	\$30,645	\$6,860	\$1,300

*Assumes total payroll grows at 3.40% annually based on December 31, 2022, active member census. The collared net rate applied to this payroll reflects the projected change over time in payroll composition as new OPSRP members are hired to replace retiring Tier One/Tier Two members.

EMPLOYER SIDE ACCOUNTS

When an employer makes a lump-sum payment to prepay its pension obligations, the money is placed in a “side account.” This account reduces the paying employer’s pension contribution rates.

Administrative costs for side accounts are limited by statute. PERS assesses \$1,500 per side account in the first year and \$500 annually thereafter, regardless of the size of the side account.

As of December 31, 2022, 227 employers have side accounts. Of these, 83 employers have multiple side accounts: six counties, seven cities, seven special districts, seven community colleges, and 56 school districts. Additionally, four state agencies each have their own side accounts in addition to the State Government Side Account.

Employer Type	Number with Side Accounts
Independent Locals (not a member of a pool)	16
State Government (all, including universities)	5
Pooled Counties	15
Pooled Cities	26
Pooled Special Districts	23
Community Colleges	17
Special Districts	125

As of December 31, 2022, side account assets totaled \$6.20 billion.

Side Accounts by Employer Type as of December 31, 2022

Employer Type	Balance (\$M)
Independent	398.2
State Government	1,259.2
Pooled Counties	257.7
Pooled Cities	64.6
Pooled Special Districts	216.9
Community Colleges	725.9
Special Districts	3,279.2

Side accounts established prior to December 31, 2009, are amortized through December 31, 2027. For side accounts established after this date, the fixed amortization period ends 18 years after the first rate-setting valuation following its creation. However, with the adoption of Senate Bill (SB) 1566 by the 2017 Oregon Legislature, employers making a lump-sum payment of at least \$10 million dollars now have the option of selecting a shorter amortization schedule of six years, 10 years, 16 years, or 20 years for new side accounts. Using this option does not affect the amortization period of the employer’s UAL.

Side account rate offsets are recalculated every two years, taking into consideration how much of the side account has been used, what earnings have been credited, and changes to the individual employer’s payroll.

SIDE ACCOUNT EARNINGS

Side accounts are invested in the PERS Fund and receive the fund's actual earnings or losses. These earnings or losses are posted to side accounts at the end of each year.

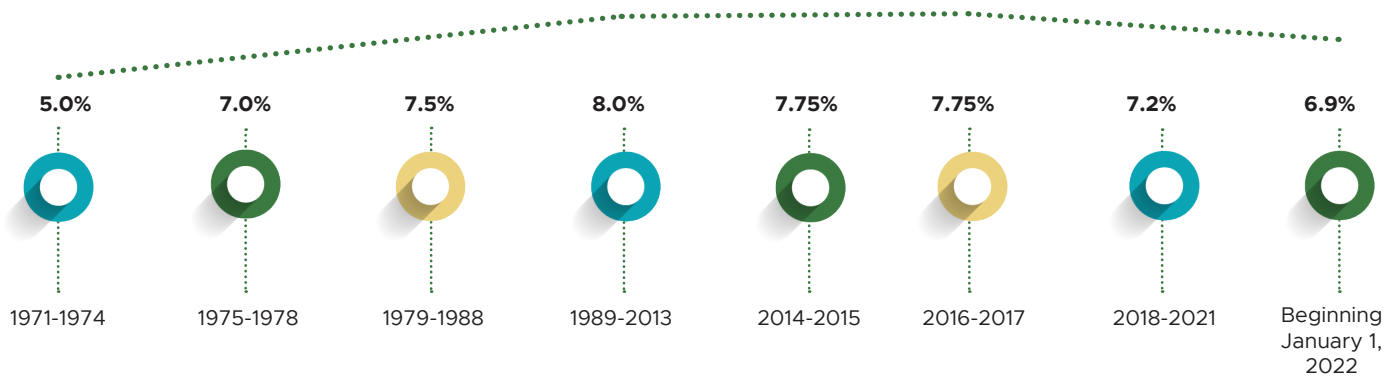
Average Side Account Earnings 2007 to 2022

Calendar Year	Average Earnings/Loss
2007	10.22%
2008	-27.83%
2009	19.52%
2010	13.13%
2011	2.96%
2012	15.39%
2013	16.67%
2014	7.79%
2015	2.25%
2016	7.65%
2017	16.71%
2018	0.56%
2019	13.92%
2020	7.18%
2021	18.93%
2022	-1.85%

ASSUMED EARNINGS RATE AND HISTORICAL EARNINGS CREDITING

In determining plan funding, the actuary must project future earnings of the PERS Fund. This is called the “assumed earnings rate.”

HISTORICAL ASSUMED EARNINGS RATES



Year	OPERF Earnings (%)	Distributions (%)			
		Tier One	Tier Two	Variable Account	IAP
2001	-7.17	8.00	-6.66	-11.19	
2002	-8.93	8.00	-8.93	-21.51	
2003	23.79	8.00	22.00	34.68	
2004	13.80	8.00	13.27	13.00	12.77
2005	13.04	8.00	18.31*	8.29	12.80
2006	15.57	8.00	15.45	15.61	14.98
2007	10.22	7.97**	9.47	1.75	9.46
2008	-26.96	8.00	-27.18	-43.71	-26.75
2009	19.41	8.00	19.12	37.57	18.47

continued on page 34

continued from page 33

Year	OPERF Earnings (%)	Distributions (%)			
		Tier One	Tier Two	Variable Account	IAP
2010	12.62	8.00	12.44	15.17	12.13
2011	2.22	8.00	2.21	-7.80	2.15
2012	14.29	8.00	14.68	18.43	14.09
2013	15.59	8.00	15.62	25.74	15.59
2014	7.29	7.75	7.24	4.29	7.05
2015	2.11	7.75	1.87	-1.61	1.85
2016	6.88	7.50	7.15	8.76	7.13
2017	15.39	7.50	15.23	26.48	14.72
2018	0.48	7.20	0.23	-10.03	—
2019	13.56	7.20	13.27	28.80	—
2020	7.66	7.20	7.18	11.77	—
2021	20.05	7.20	20.14	18.88	—
2022	-1.55	6.90	-1.91	-21.52	—

OPERF Earnings for calendar years 2008-21 have been clarified to reflect Performance and Holdings data as published by Oregon State Treasury.

*Tier Two regular account crediting, based solely on earnings, was 13.74%. However, the PERS Board deployed \$9 million from the Capital Preservation Reserve and \$17 million from the Contingency Reserve that was added to Tier Two earnings. As a result, Tier Two was credited with a total of 18.31%. The dollars allocated from the reserves were originally withheld from Tier Two regular account earnings.

**After crediting Tier One accounts with the assumed rate of 8%, member attorney fees in the *Strunk* case were deducted by order of the Oregon Supreme Court, resulting in an effective crediting rate of 7.97%.

TIER ONE/TIER TWO EARNINGS CREDITING

Before January 1, 2004, Tier One/Tier Two member contributions were made to member accounts used to pay for part of their pension. These accounts continue to accrue annual earnings and losses until the member retires. Tier One member accounts receive the assumed earnings rate on an annual basis.

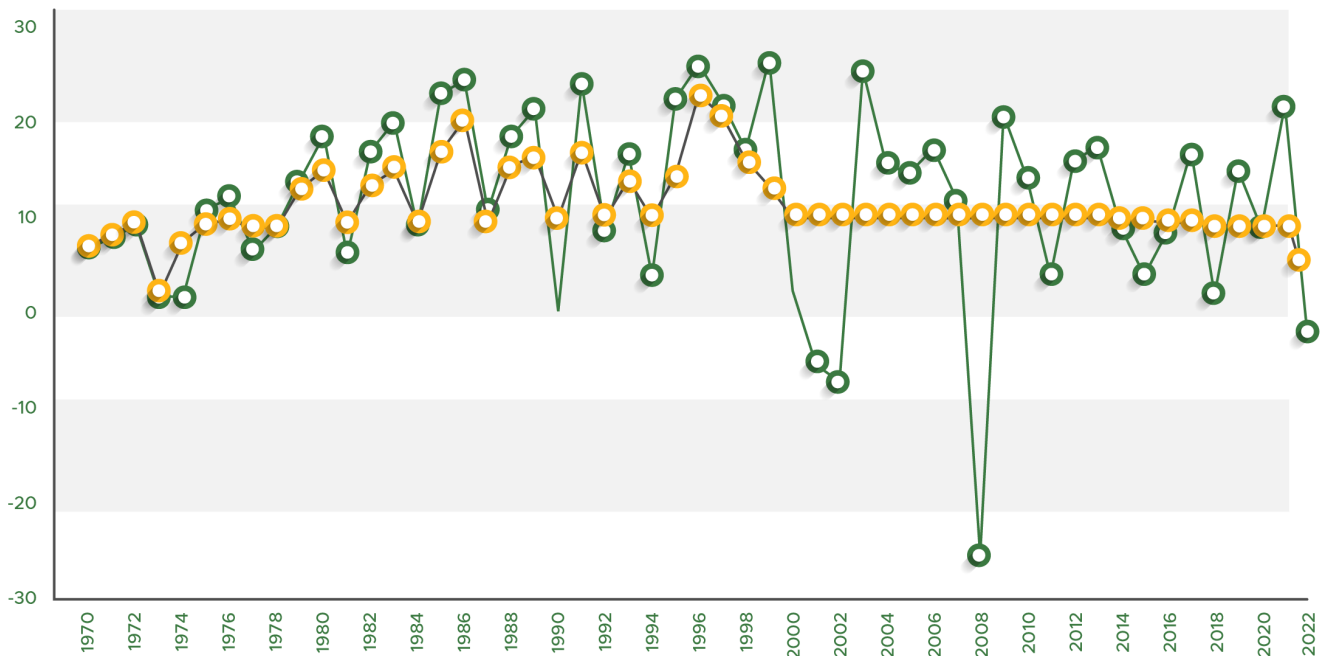
REGULAR ACCOUNT EARNINGS AVAILABLE FOR CREDITING AND ACTUAL DISTRIBUTIONS TO TIER ONE MEMBER REGULAR ACCOUNTS, BASED ON 2022 EARNINGS



OPERF returns (average return 1970 to 2022)



Tier One crediting (average crediting 1970 to 2022)



continued on page 36

continued from page 35

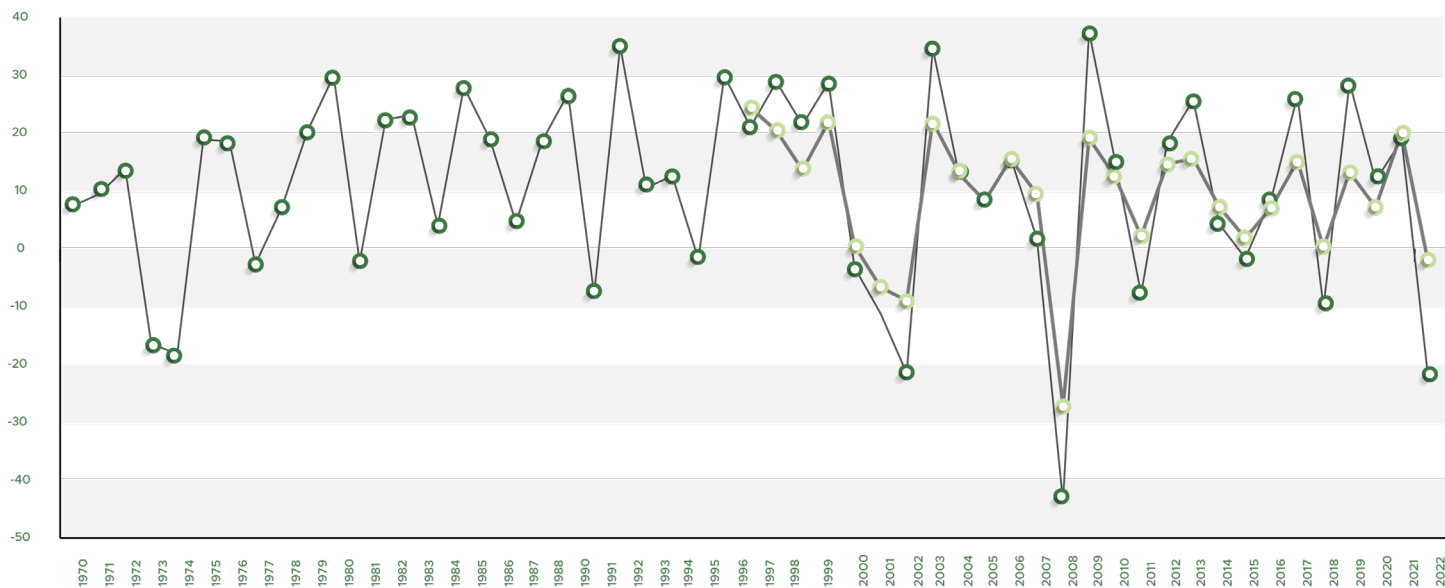
ACTUAL DISTRIBUTIONS TO TIER TWO MEMBER REGULAR ACCOUNTS AND TO TIER ONE/TIER TWO MEMBER VARIABLE ACCOUNTS (INVESTED IN AN EQUITY-ONLY PORTFOLIO), BASED ON 2022 EARNINGS



Tier Two crediting (average crediting 1996 to 2022)



Variable crediting (average crediting 1970 to 2022)



**Economic Impact
of PERS Monthly
Benefit Payments
in 2022**

05

ECONOMIC IMPACT OF PERS IN 2022



PERS benefits
paid to Oregonians

\$4.60 billion*



Total increase in
Oregon economic output

\$4.89 billion**



Oregon
jobs supported

30,818**



Wages of
Oregon jobs supported

\$1.46 billion**



Taxes paid by
PERS retirees in Oregon

\$281.2 million***

* From PERS internal systems.

** Data derived from calculations based on factors provided by the US Department of Commerce's Bureau of Economic Analysis.

*** Data provided by the Department of Revenue.

**MONEY FOR PERS RETIREMENT COMES FROM THREE SOURCES
(1970-2022)**

1

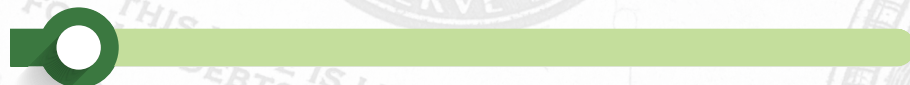
**Employer
Contributions**



22.7%
\$39.54 B*

2

**Member
Contributions**



4.0%
\$6.95 B*

3

**Investment
Income**



73.4%
\$128.06 B*

*B = billion

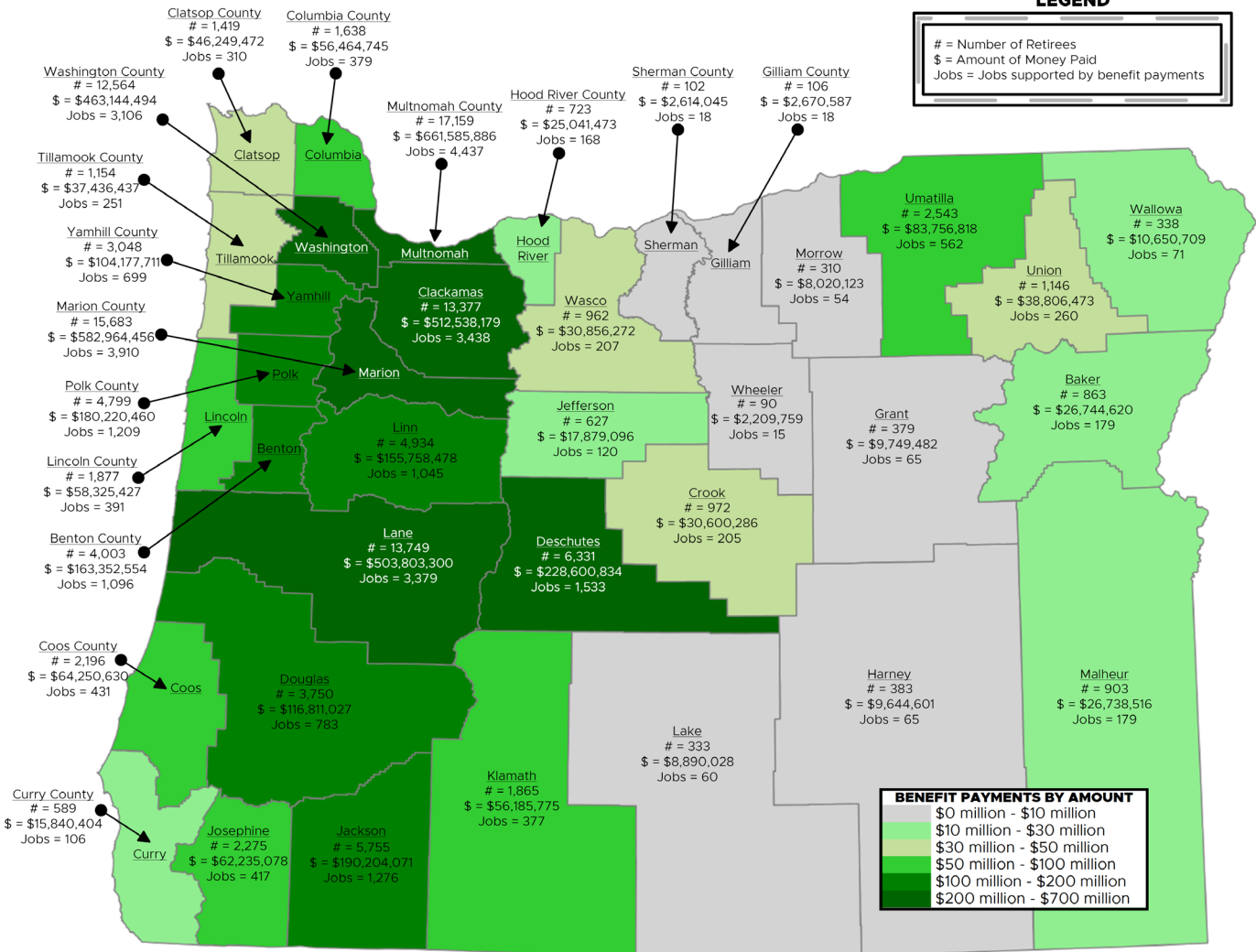
Source:
Oregon PERS Annual
Comprehensive Financial Report
(1970-2022)

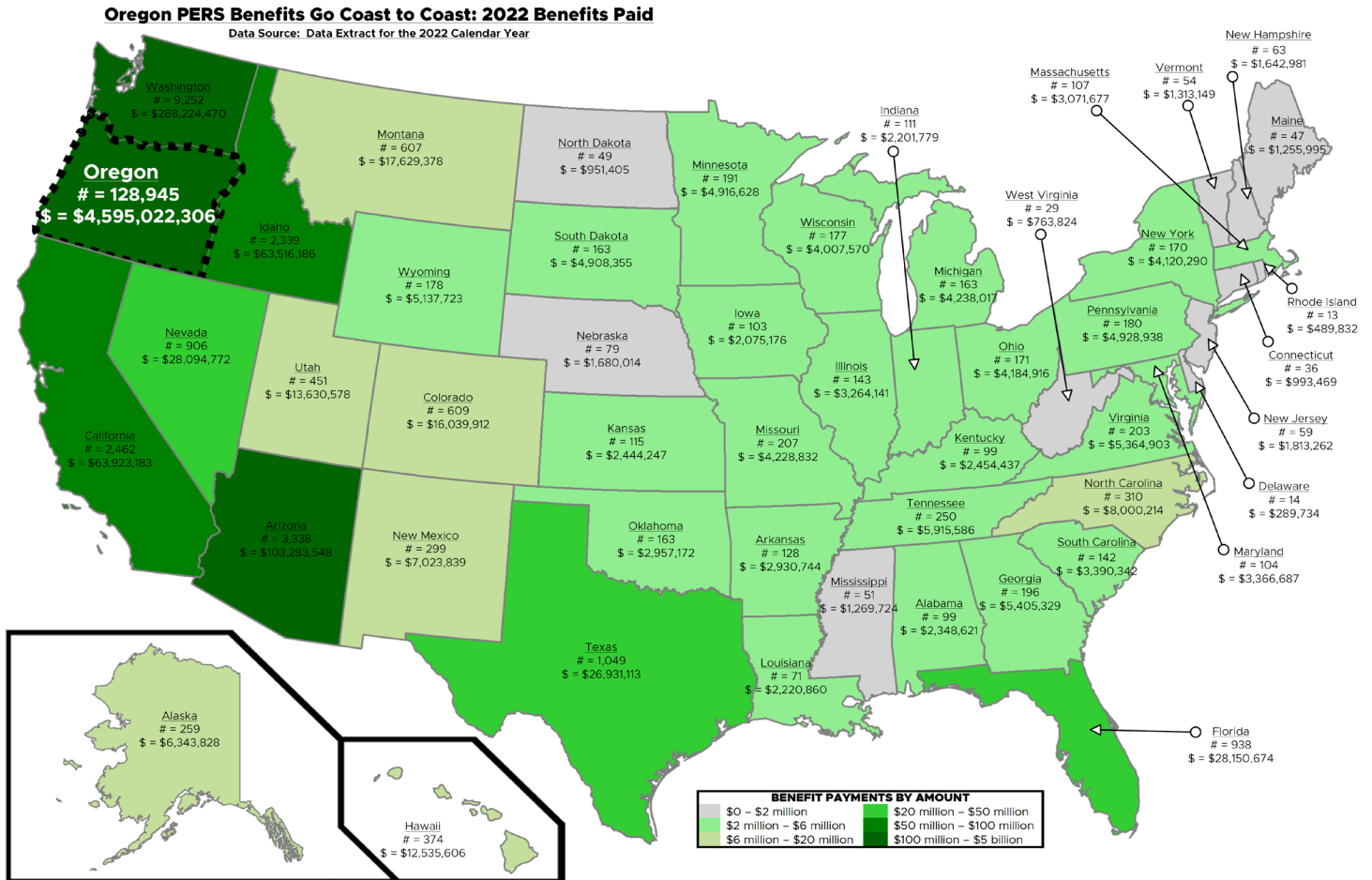
PERS Annual Benefit Payments in Oregon by County

Data Source: Data Extract for the 2022 Calendar Year

LEGEND

= Number of Retirees
\$ = Amount of Money Paid
Jobs = Jobs supported by benefit payments





Pension System
Terms

05

GLOSSARY OF PENSION TERMS

Actuarial Accrued liability (AAL): The net present value of projected future benefits allocated to service already completed in accordance with the actuarial cost method.

Actuarial asset value: The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with a smoothing method.

Actuarial assumptions: Assumptions as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement, retirement, and rates of investment earnings. Actual experience will vary from assumption, and at times the variance will be substantial.

Actuarial cost method: A technique used by actuaries to allocate the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial liability (UAL). Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Base employer contribution rates: Consists of the normal cost rate plus the UAL rate. This is paid by a combination of employer contributions and side account transfers. Base rates do not reflect the effects of side account rate offsets.

Combined valuation payroll: Projected payroll for the calendar year following the valuation date for Tier One, Tier Two, and Oregon Public Service Retirement Plan (OPSRP) active members. This payroll is used to calculate UAL rates.

Funded ratio or funded status: The actuarial value of assets expressed as a percentage of the accrued liability.

Individual Account Program (IAP): An account-based benefit that contains member contributions made on or after January 1, 2004.

Net employer contribution rates: The rate funded by employer contributions, consisting of the base employer contribution rate minus the effect of side account rate offsets.

Normal cost: The annual cost assigned to the current year under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

Oregon Public Service Retirement Plan (OPSRP): The pension plan covering members hired after August 28, 2003.

Rate collar: A methodology that limits the maximum allowable period-to-period change in employer contribution rates. The width of the rate collar is determined by the current contribution rate and funded status.

Side accounts: Side accounts are established for employers who make supplemental payments (a lump-sum payment in excess of the required employer contribution). For State and Local Government Rate Pool (SLGRP) employers, this supplemental payment is first applied toward the employer's transition liability, if any, with the remainder going into a side account. Side accounts are treated as prepaid contributions. Employer contribution rates are first determined excluding side accounts (base employer contribution rate). Then, an amortized portion of the side account is used to offset the contribution otherwise required for each individual employer that has a side account (net employer contribution rate). While side accounts are excluded from valuation assets in determining contribution rates for pools and nonpooled employers, side accounts are included in valuation assets for financial reporting purposes such as the reporting of funded status.

Total liability: The net present value of all projected future benefits attributable to all anticipated service (past and future) for current active and inactive members.

Tier One: The pension program covering members hired before January 1, 1996.

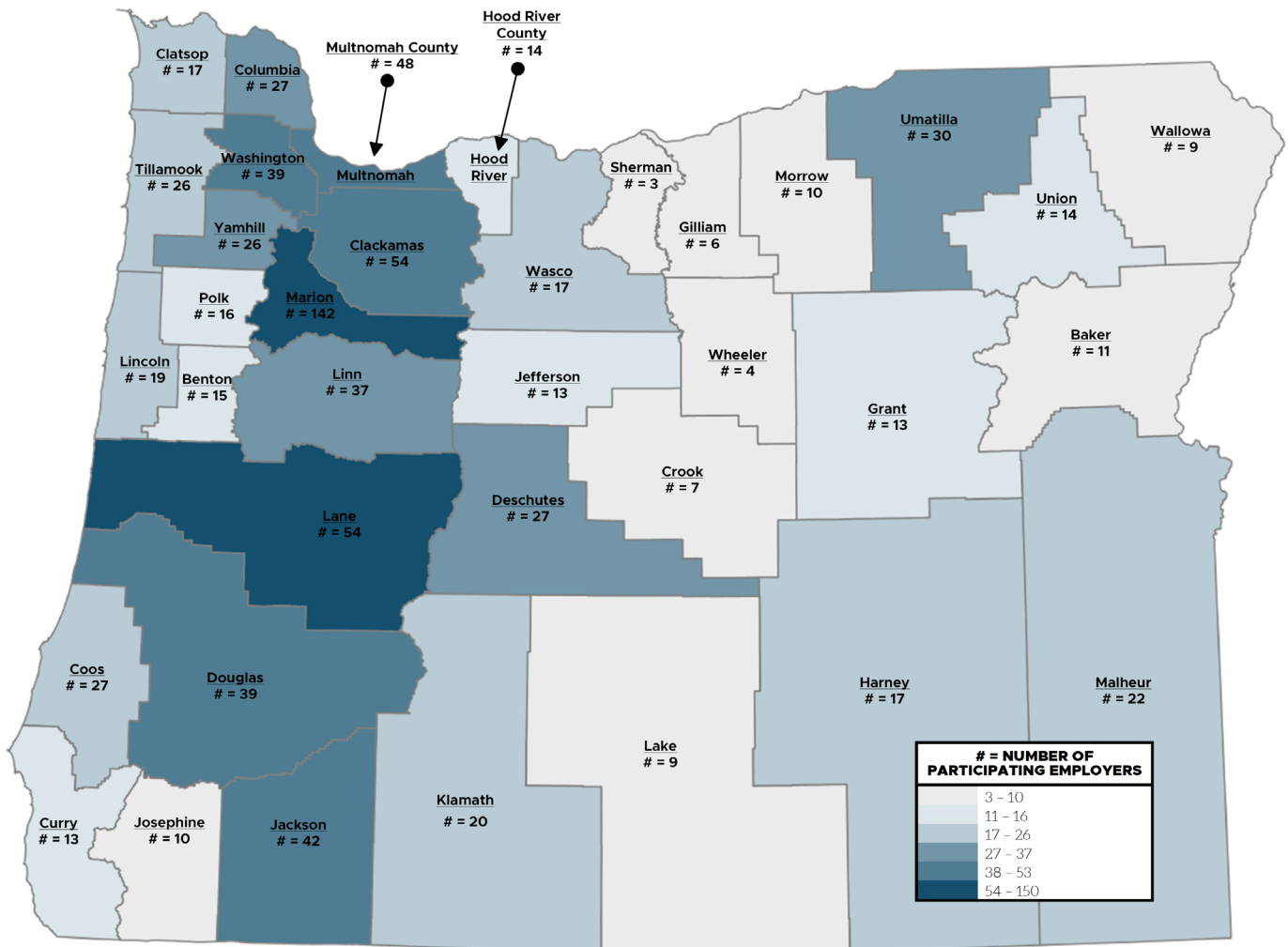
Tier Two: The pension program covering members hired from January 1, 1996, through August 28, 2003.

Unfunded actuarial liability (UAL): The excess of the actuarial accrued liability over the actuarial value of assets. The UAL is amortized over a fixed period of time to determine the UAL rate component of employer contribution rates.

**Appendix A:
PERS-Participating
Employers**

06

PERS-PARTICIPATING EMPLOYERS AS OF FISCAL YEAR ENDING JUNE 30, 2023, BY MAILING ADDRESS



PERS-PARTICIPATING EMPLOYERS BY COUNTY, ACCORDING TO MAILING ADDRESS (897)

Baker (11)

Baker City, City of
Baker County
Baker County Library District
Baker School District #5J
Baker Valley Irrigation District
Baker Web Academy
Burnt River High School
Burnt River Irrigation District
Huntington School District #16J
Huntington, City of
Pine-Eagle School District #61

Benton (15)

Adair RFPD
Adair Village, City of
Alsea School
Benton County
Corvallis School District #509J
Corvallis, City of
Kings Valley Charter School
Monroe Fire Department
Monroe School District #1J
Monroe, City of
Muddy Creek Charter School
Oregon State University
Philomath Fire Department
Philomath School District #17J
Philomath, City of

Clackamas (54)

Alliance Charter Academy
Canby Fire District
Canby School District
Canby Utility Board
Canby, City of
Cascade Heights Public Charter School
City County Insurance Services
Clackamas Community College
Clackamas County
Clackamas County ESD
Clackamas County Fair
Clackamas County Fire District 1
Clackamas County Vector Control District
Clackamas Middle College
Clackamas River Water
Clackamas River Water Providers
Clackamas Web Academy
Colton Fire Department
Colton School District #53
Estacada Cemetery Maintenance District
Estacada Fire Department
Estacada School District #108
Estacada, City of
Gladstone School District #115
Gladstone, City of
Happy Valley, City of
Harmony Academy
Hoodland Fire District #74
Housing Authority of Clackamas County
Lake Oswego School District
Lake Oswego, City of
Milwaukie, City of
Molalla RFPD #73

Molalla River Academy
Molalla River School District
Molalla, City of
Mulino Water District #23
North Clackamas County Water Commission
North Clackamas School District #12
Oak Lodge Water Services District
Oregon City School District #62
Oregon City, City of
Oregon Trail School District #46
Renaissance Public Academy
Sandy Fire Department
Sandy, City of
South Fork Water Board
Springwater Environmental Sciences School
Summit Learning Charter
Sunrise Water Authority
Three Rivers Charter School
West Linn School District
West Linn, City of
Wilsonville, City of

Clatsop (17)

Arch Cape Water/Sanitary District
Astoria, City of
Cannon Beach Academy
Cannon Beach RFPD
Cannon Beach, City of
Clatsop Community College
Clatsop County
Clatsop County School District #1C
Gearhart, City of
Jewell School District #8
Knappa School District #4
Knappa Svensen Burnside RFPD
Port of Astoria
Seaside Schools
Warrenton, City of
Warrenton-Hammond School District
Wickiup Water District

Columbia (27)

Clatskanie Library District
Clatskanie People's Utility District
Clatskanie RFPD
Clatskanie School District #6J
Clatskanie, City of
Columbia City, City of
Columbia County
Columbia County 911 Communications District
Columbia Drainage Vector Control District
Columbia River Fire and Rescue
Columbia River People's Utility District
Greater St. Helens Aquatic District
Mist-Birkenfeld RFPD
Port of Columbia County
Rainier Cemetery District
Rainier School District #13
Rainier, City of
Scappoose Public Library
Scappoose RFPD
Scappoose School District

Scappoose, City of
South Columbia Family School
St. Helens School District #502
St. Helens, City of
Vernonia Fire
Vernonia School District
Vernonia, City of

Coos (27)

Bandon School District
Bandon, City of
Central Coos Fire and Rescue
Charleston RFPD
Coos Bay School District #9
Coos Bay, City of
Coos County
Coos County Airport District
Coquille School District #8
Coquille, City of
Lakeside Water District
Lakeside, City of
Millington RFPD
Myrtle Point School District #41
Myrtle Point, City of
North Bay RFPD
North Bend City Housing Authority
North Bend Public Schools
North Bend, City of
Oregon Dungeness Crab Commission
Oregon Virtual Academy
Port of Coos Bay
Powers School District
Powers, City of
South Coast ESD Region #7
Southwestern Oregon Community College
The Lighthouse School

Crook (7)

Crook County
Crook County RFPD 1
Crook County School District
Insight School of Oregon Painted Hills
Ochoco Irrigation District
Powell Butte Community Charter School
Prineville, City of

Curry (13)

Brookings, City of
Brookings-Harbor School District #17C
Central Curry School District #1
Chetco Community Public Library Board
Curry County
Curry Public Library
Gold Beach, City of
Harbor Water People's Utility District
Nesika Beach-Ophir Water District
Oregon Trawl Commission
Port Orford Public Library District
Port Orford, City of
Port Orford-Langlois School District #2CJ

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Deschutes (27)

Bend International School
Bend Parks and Recreation
Bend, City of
Bend-La Pine Schools
Black Butte Ranch Police
Black Butte Ranch RFPD
Central Oregon Community College
Central Oregon Intergovernmental Council
Central Oregon Irrigation District
Central Oregon Regional Housing Authority
Cloverdale RFPD
Deschutes County
Deschutes Public Library District
Desert Sky Montessori
High Desert Education Service District
Jefferson County Soil and Water Conservation District
La Pine RFPD
Oregon Family School
Redmond Area Parks and Recreation District
Redmond Fire and Rescue
Redmond Proficiency Academy
Redmond School District #2J
Redmond, City of
Sisters and Camp Sherman RFPD
Sisters School District
Sisters, City of
Sunriver Service District

Douglas (39)

Camas Valley School District #21
Canyonville, City of
Days Creek School District #15
Douglas County
Douglas County ESD
Douglas County Fire District #2
Douglas County Soil and Water Conservation District
Drain, City of
Elkton School District #34
Elkton, City of
Glendale School District #77
Glide Fire Department
Glide School District #12
Myrtle Creek, City of
North Douglas County Fire and EMS
North Douglas School District #22
Oakland School District
Oakland, City of
Reedsport School District
Reedsport, City of
Riddle School District
Riddle, City of
Roseburg Public Schools
Roseburg Urban Sanitary Authority
Roseburg, City of
South Umpqua School District
Sutherlin School District #130
Sutherlin Water Control District
Sutherlin, City of
The Phoenix School
Tri-City Water and Sanitary Authority
Umpqua Community College
Winchester Bay Sanitary District
Winston, City of
Winston-Dillard Fire District

Winston-Dillard Schools
Winston-Dillard Water District
Yoncalla School District #32
Yoncalla, City of

Gilliam (6)

Arlington Public Schools
Condon Admin. School District #25J
Condon, City of
Gilliam County
Gilliam County Fire Services
North Central ESD

Grant (13)

Canyon City, Town of
Dayville School District #16J
Grant County
Grant County Emergency Communications Agency
Grant County ESD
John Day School District
John Day, City of
Long Creek Schools
Monument School District #8
Mount Vernon, City of
Oregon Connections Academy at Prairie City
Prairie City School District #4
Prairie City, City of

Harney (17)

Burns, City of
Crane Elementary School
Crane Union High School
Diamond School District #7
Double O School District
Drewsey School
Frenchglen School District
Harney County
Harney County School District #3
Harney ESD Region #17
Harney Hospital
High Desert Parks and Recreation District
Hines, City of
Pine Creek School
Silvies River Web Academy
South Harney School District #33
Suntex School District

Hood River (14)

Cascade Locks, City of
Crystal Springs Water District
East Fork Irrigation District
Farmers Irrigation District
Hood River County
Hood River County School District
Hood River, City of
Ice Fountain Water District
Odell Sanitary District
Parkdale Fire District
Port of Cascade Locks
Port of Hood River
West Side Fire District
Wy'East Fire District

Jackson (42)

Applegate Valley RFPD #9
Armadillo Technical Institute
Ashland Parks Commission
Ashland Public Schools

Ashland, City of
Butte Falls School District
Butte Falls, Town of
Central Point School District #6
Central Point, City of
Crater Lake Charter Academy
Eagle Point School District #9
Eagle Point, City of
Evans Valley Fire District #6
Gold Hill, City of
Housing Authority of Jackson County
Jackson County
Jackson County Fire District #3
Jackson County Fire District #4
Jackson County Fire District #5
Jackson County Vector Control
Jacksonville, City of
Logos Public Charter School
Madrone Trail Public Charter School
Medford Irrigation District
Medford School District #549C
Medford Water Commission
Medford, City of
Phoenix, City of
Phoenix-Talent School District #4
Pinehurst School
Prospect School District
River's Edge Academy Charter School
Rogue River Fire District
Rogue River School District
Rogue River Valley Irrigation District
Rogue River, City of
Shady Cove, City of
Southern Oregon ESD
Southern Oregon University
Talent Irrigation District
Talent, City of
The Valley School of Southern Oregon

Jefferson (13)

Ashwood School
Black Butte School District
Crooked River Ranch RFPD
Culver School District #4
Culver, City of
Deschutes Valley Water District
Jefferson County
Jefferson County ESD
Jefferson County Library District
Lake Chinook Fire and Rescue District
Madras School District
Madras, City of
Metolius, City of

Josephine (10)

Cave Junction, City of
Grants Pass Irrigation District
Grants Pass School District
Grants Pass, City of
Illinois Valley Fire District
Josephine County
Rogue Community College
Sunny Wolf Charter School
Three Rivers School District
Woodland Charter School

Klamath (20)

Central Cascades Fire & EMS
Chiloquin, City of
Chiloquin-Agency Lake RFPD

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Crescent RFPD
EagleRidge High School
Horsefly Irrigation District
Keno RFPD
Klamath Community College
Klamath County
Klamath County Emergency Communications District
Klamath County Fire District #1
Klamath County School District
Klamath Falls City Schools
Klamath Falls, City of
Klamath Housing Authority
Klamath Vector Control District
Malin, City of
Merrill, City of
Oregon Institute of Technology
South Suburban Sanitary District

Lake (9)

Adel School District #21
Lake County
Lake County ESD
Lake County Library District
Lake County School District #7
Lakeview, Town of
North Lake School District #14
Paisley School District
Plush School District

Lane (54)

Bethel School District
Blachly School District
Coburg Community Charter School
Coburg RFPD
Coburg, City of
Cottage Grove, City of
Creswell School District #40
Creswell, City of
Crow-Applegate-Lorane School District #66
Dexter RFPD
Dunes City, City of
Eugene School District #4J
Eugene Water and Electric Board
Eugene, City of
Fern Ridge Community Library
Fern Ridge School District
Florence, City of
Junction City Fire Department
Junction City School District #69
Junction City, City of
Lane Community College
Lane Council of Governments
Lane County
Lane County ESD
Lane Fire Authority
Lane Regional Air Protection Agency
Lowell RFPD
Lowell School District
Lowell, City of
Mapleton School District
Mapleton Water District
Marcola School District #79
McKenzie Fire and Rescue
McKenzie School District
Mohawk Valley Fire
Oakridge School District
Oakridge, City of
Pleasant Hill Goshen Fire & Rescue

Pleasant Hill School District
Rainbow Water District
Ridgeline Montessori
Siuslaw Public Library
Siuslaw School District #97J
South Lane County Fire and Rescue
South Lane School District
Springfield School District #19
Springfield, City of
TEACH-NW
The Village School
University of Oregon
Veneta, City of
West Lane Technical Learning Center
Western Lane Fire and EMS Authority
Westfir, City of

Lincoln (19)

Central Oregon Coast Fire and Rescue District
Depoe Bay RFPD
Depoe Bay, City of
Eddyville Charter School
Lincoln City, City of
Lincoln County
Lincoln County School District
Newport, City of
North Lincoln Fire and Rescue District #1
Oregon Coast Community College
Port of Newport
Seal Rock RFPD
Seal Rock Water District
Siletz Valley School
Southwest Lincoln County Water District
Toledo, City of
Waldport, City of
Yachats RFPD
Yachats, City of

Linn (37)

Albany, City of
Brownsville RFPD
Central Linn School District #552C
Community Services Consortium
Greater Albany Public Schools #8J
Halsey, City of
Halsey-Shedd RFPD
Harrisburg Fire and Rescue
Harrisburg School District #7
Harrisburg, City of
Lebanon Aquatic District
Lebanon Community School District
Lebanon Fire District
Lebanon, City of
Linn County
Linn-Benton Community College
Linn-Benton Housing Authority
Linn-Benton-Lincoln ESD
Lourdes Charter School
Lyons Fire District
Lyons, City of
Mill City RFPD
Mill City, City of
Millersburg, City of
Oregon Cascades West Council of Governments
Oregon Charter Academy
Sand Ridge Charter School
Santiam Canyon School District

Scio Fire District
Scio School District #95C
Sweet Home Cemetery Maintenance District
Sweet Home Charter School
Sweet Home Fire and Ambulance District
Sweet Home School District #55
Sweet Home, City of
Tangent RFPD
Willamette Connections Academy

Malheur (22)

Adrian School District #61
Annex Elementary School
Arock School District #81
Four Rivers Community School
Harper School District #66
Jordan Valley School District #3
Jordan Valley, City of
Juntura Grade School
Malheur County
Malheur ESD Region #14
Nyssa Road Assessment District #2
Nyssa School District #26
Nyssa, City of
Ontario School District #8C
Ontario, City of
Owyhee Irrigation District
Rural Road Assessment District #3
Rural Road District #4
Treasure Valley Community College
Vale School District #84
Vale, City of
Valley View Cemetery Maintenance District

Marion (142)

Appraiser Certification and Licensure Board
Arock School District #81
Aumsville RFPD
Aumsville, City of
Aurora RFPD
Aurora, City of
Board of Accountancy
Board of Architect Examiners
Board of Chiropractic Examiners
Board of Examiners for Engineering and Land Surveying
Board of Geologist Examiners
Board of Optometry
Board of Parole and Post-Prison Supervision
Board of Pharmacy
Bureau of Labor and Industries
Cascade School District #5
Chemeketa Community College
Commission on Indian Services
Commission on Judicial Fitness and Disability
Construction Contractors Board
Department of Administrative Services
Department of Agriculture
Department of Aviation
Department of Consumer and Business Services
Department of Corrections
Department of Education
Department of Energy

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Department of Environmental Quality
 Department of Human Services
 Department of Justice
 Department of Land Conservation and Development
 Department of Military-Federal Employees
 Department of Revenue
 Department of State Lands
 Department of State Police
 Department of Transportation
 Department of Veterans' Affairs
 District Attorneys Department
 Eagle Charter School
 Employment Department
 Employment Relations Board
 Forestry Department
 Frontier Charter Academy
 Geology and Mineral Industries
 Gervais School District #1
 Gervais, City of
 Health Related Licensing Boards
 Higher Education Coordinating Commission
 Howard Street Charter School, Inc.
 Hubbard RFPD
 Hubbard, City of
 Idanha-Detroit RFPD
 Jefferson RFPD
 Jefferson School District #14CJ
 Jefferson, City of
 Judges PERS
 Judicial Department
 Keizer RFPD
 Keizer, City of
 Land Use Board of Appeals
 Landscape Contractors Board
 League of Oregon Cities
 Legislative Administration Committee
 Legislative Assembly
 Legislative Committees
 Legislative Fiscal Office
 Legislative Policy and Research Committee
 Long Term Care Ombudsman
 Marion Area Multi-Agency Emergency Telecom Center
 Marion County
 Marion County Fire District #1
 Marion County Housing Authority
 Mental Health Regulatory Agency
 Military Department
 Mount Angel Fire District
 Mount Angel School District #91
 Mount Angel, City of
 North Santiam School District #29J
 NorthWest Senior and Disability Services
 Office of Legislative Counsel
 Office of the Governor
 Office of the State Treasurer
 Oregon Advocacy Commissions Office
 Oregon Board of Dentistry
 Oregon Board of Massage Therapists
 Oregon Board of Medical Examiners
 Oregon Business Development Department
 Oregon Commission for the Blind
 Oregon Community College Association
 Oregon Corrections Enterprises

Oregon Criminal Justice Commission
 Oregon Department of Emergency Management
 Oregon Department of Fish and Wildlife
 Oregon Forest Resources Institute
 Oregon Government Ethics Commission
 Oregon Health Authority
 Oregon Hop Commission
 Oregon Housing and Community Services
 Oregon Liquor & Cannabis Commission
 Oregon Municipal Electric Utilities Association
 Oregon Parks and Recreation Department
 Oregon Patient Safety Commission
 Oregon Racing Commission
 Oregon School Boards Association
 Oregon State Board of Nursing
 Oregon State Library
 Oregon Watershed Enhancement Board
 Oregon Youth Authority
 Psychiatric Security Review Board
 Public Defense Services Commission
 Public Employees Retirement System
 Public Safety Standards and Training
 Public Utility Commission
 Real Estate Agency
 Salem Housing Authority
 Salem, City of
 Salem-Keizer Public Schools
 Secretary of State
 Silver Falls Library District
 Silver Falls School District
 Silverton RFPD #2
 Silverton, City of
 St. Paul School District
 State Accident Insurance Fund
 State Board of Clinical Social Workers
 State Board of Tax Practitioners
 State Lottery Commission
 State Marine Board
 Stayton RFPD
 Stayton, City of
 Sublimity RFPD
 Suburban East Salem Water District
 Teacher Standards and Practices Commission
 Travel Information Council
 Turner Fire District
 Turner, City of
 Valley Inquiry Charter School
 Water Resources Department
 Willamette ESD
 Woodburn Fire District
 Woodburn School District
 Woodburn, City of

Morrow (10)

Boardman RFPD
 Boardman, City of
 Community Counseling Solutions
 Heppner, City of
 Irrigon, City of
 Morrow County
 Morrow County Schools
 North Morrow Vector Control District
 Oregon Trail Library District
 West Extension Irrigation District

Multnomah (48)

Arthur Academy Charter School
 Centennial School District #28
 Center for Advanced Learning
 Corbett School District #39
 Corbett Water District
 David Douglas School District
 Fairview, City of
 Gresham, City of
 Gresham-Barlow School District #10
 HOLLA School
 Home Forward
 Kairos PDX
 Knova Learning Oregon
 Le Monde French Immersion Public Charter School
 Lewis and Clark Montessori Charter School
 Metro
 Metro East Web Academy
 Mount Hood Community College
 Multnomah County
 Multnomah County Drainage District
 Multnomah County RFPD #14
 Multnomah ESD
 Multnomah Learning Academy
 Oregon Beef Council
 Oregon Film and Video
 Oregon Health and Science University
 Oregon Potato Commission
 Oregon Tourism Commission
 Oregon Wheat Commission
 Parkrose School District
 Physical Therapist Licensing Board
 Port of Portland
 Portland Community College
 Portland Development Commission
 Portland Public Schools
 Portland State University
 Portland Village School
 Portland, City of
 Reynolds School District
 Riverdale School
 Rockwood Water People's Utility District
 Sauvie Island School
 The Cottonwood School of Civics and Science
 The Emerson School
 The Ivy School
 Troutdale, City of
 West Multnomah Soil and Water Conservation District
 Wood Village, City of

Polk (16)

Central School District #13J
 Dallas Community School
 Dallas School District
 Dallas, City of
 Falls City School District
 Falls City, City of
 Independence, City of
 Luckiamute Valley Charter School
 Monmouth, City of
 Perrydale School District #21
 Polk County
 Polk County Fire District #1
 Polk Soil and Water Conservation District
 Southwestern Polk County RFPD

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West Valley Housing Authority
Western Oregon University

Sherman (3)

Moro, City of
Sherman County
Sherman County School District

Tillamook (26)
Bay City, City of
Fairview Water District
Garibaldi, City of
Manzanita, City of
Neah-Kah-Nie School District
Nehalem Bay Fire and Rescue
Nehalem Bay Health District
Nehalem Bay Wastewater Agency
Neskowin Regional Sanitary Authority
Neskowin Regional Water District
Nestucca RFPD
Nestucca Valley School District #101
Netarts Water District
Netarts-Oceanside RFPD
Netarts-Oceanside Sanitary District
Port of Garibaldi
Port of Tillamook Bay
Rockaway Beach, City of
Tillamook Bay Community College
Tillamook County Emergency Communications District
Tillamook County Soil and Water Conservation District
Tillamook Fire District
Tillamook People's Utility District
Tillamook Public Schools
Tillamook, City of
Wheeler, City of

Umatilla (30)

Athena, City of
Athena-Weston School District #29RJ
Blue Mountain Community College
Echo School District
Echo, City of
Helix School District
Hermiston, City of
InterMountain ESD
Ione School District
Milton-Freewater Unified School District
Milton-Freewater, City of
Nixyaawii Community School
Pendleton School District #16R
Pendleton, City of
Pilot Rock School District #2R
Pilot Rock, City of
Port of Umatilla
Stanfield School District
Stanfield, City of
Ukiah School
Umatilla County
Umatilla County Fire District #1
Umatilla County Soil and Water District
Umatilla County Special Library District
Umatilla Fire Department
Umatilla School District #6R
Umatilla, City of
Umatilla-Morrow Radio and Data District
Wallowa County Region #18 ESD

Weston, City of

Union (14)
Cove School District
Eastern Oregon University
Elgin School District #23
Elgin, City of
Imbler RFPD
Imbler School District
Imbler, City of
La Grande Public Schools
La Grande, City of
North Powder School District
North Powder, City of
Northeast Oregon Housing Authority
Tri-County Cooperative Weed Management Area
Union County School District

Wallowa (9)

Enterprise School District #21
Enterprise, City of
Joseph School District #6
Joseph, City of
Troy School District #54
Wallowa County
Wallowa County Region #18 ESD
Wallowa School
Wallowa, City of

Wasco (17)

Columbia Gorge Community College
Columbia Gorge ESD
Dufur Schools
Dufur, City of
Maupin, City of
Mid-Columbia Center for Living
Mid-Columbia Fire and Rescue
Mosier Community School
Mosier Fire District
North Central Public Health District
North Wasco County Parks and Recreation
North Wasco County School District #21
Northern Oregon Corrections
Port of The Dalles
South Wasco County School District #1
Wasco County
Wasco County Soil and Water Conservation District

Washington (39)

Arco Iris Spanish Immersion Charter School
Banks Fire District #13
Banks School District
Banks, City of
Beaverton School District
Beaverton, City of
City View Charter School
Clean Water Services
Cornelius, City of
Durham, City of
Forest Grove Community School
Forest Grove School District
Forest Grove, City of
Gaston Public Schools
Gaston RFPD

Gaston, City of
Hillsboro School District #1J
Hillsboro, City of
Hope Chinese Charter School
King City, City of
Metropolitan Area Communication Commission
MITCH Charter School
North Plains, City of
Northwest Regional ESD
Oregon Dairy Products Commission
Oregon State Bar
Oregon State Bar Professional Liability Fund
Sherwood Charter School
Sherwood School District #88J
Sherwood, City of
Tigard, City of
Tigard-Tualatin School District #23J
Tualatin Valley Fire and Rescue
Tualatin Valley Irrigation District
Tualatin Valley Water District
Tualatin, City of
Washington County
Washington County Consolidated Communications Agency
West Slope Water District

Wheeler (4)

Fossil School District #21J
Fossil, City of
Mitchell School
Spray School District #1

Yamhill (26)

Amity Fire District
Amity School District
Amity, City of
Carlton, City of
Dayton Public Schools
Dayton, City of
Dundee, City of
Eola Hills Charter School
Lafayette, City of
McMinnville Schools
McMinnville Water and Light Department
McMinnville, City of
New Carlton Fire District
Newberg School District #29JT
Newberg, City of
Sheridan AllPrep Academy
Sheridan Fire District
Sheridan School District #48J
Sheridan, City of
Willamina School District #30J
Willamina, City of
Yamhill Communications Agency
Yamhill County
Yamhill Fire Protection District
Yamhill, City of
Yamhill-Carlton School District #1

Key Acronyms

RFPD = Rural Fire Protection District
ESD = Education Service District

Appendix B: Replacement Ratio Study Assumptions

REPLACEMENT RATIO STUDY EXCLUSIONS AND ASSUMPTIONS

The Replacement Ratio Study population consists of 124,267 Tier One/Tier Two retirements from January 1990 through December 2022 and covers retired members who selected comparable monthly benefit options. The techniques used in the 2023 PERS Replacement Ratio Study are generally consistent with the techniques used in previous studies.

The calculations do not include federal Social Security benefits that a retiree may be eligible for based on the retiree's work history and do not include Individual Account Program (IAP) benefits that retiree may be receiving. The calculations do include the effects of the *Strunk/City of Eugene* benefit adjustments, which will generally impact retirements occurring in 2000-04 and reduce the reported replacement ratios for those periods by up to several percentage points.

EXCLUSIONS

Job Class Exclusions

The study is limited to PERS plan retirees in the General Service and Police and Fire job classes from January 1990 through December 2022.

Job class 1 (General Service) includes job class 9 (School Teachers), and job class 2 includes only Police and Fire.

Excluded job classes are:

- Job class 3, Police and Fire Unit (able to buy service units)
- Job class 4, TIAA/CREF
- Job class 5, Judge Member
- Job class 6, Legislators
- Job class 7, TRFA
- Job class 8, Elected/Appointed Officials
- Job class A, A-Election

Beneficiaries and alternate payees were also excluded, as the inclusion of these populations would skew the results due to the wide range of payout scenarios related to death and divorce benefits.

Retirement Option Exclusions

Within job classes 1 and 2 additional records were excluded based upon retirement option. All lump sum benefit option were excluded due to the distorting effect of significant payouts at one time on replacement ratio results. These excluded retirement option codes are:

- L1 — Lump Sum Option 1: Refund of Account plus life annuity
- L2 — Lump Sum Option 2: Refund of Account Balance plus 100% J/S
- L3 — Lump Sum Option 3: Refund of Account Balance plus 50% J/S
- L7 — Total Lump Sum: Refund of employee and employer dollars
- L2A — Lump Sum Option 2A: Refund of Account Balance plus Pop-up or 100% J/S
- L3A — Lump Sum Option 3A: Refund of Account Balance plus Pop-up or 50% J/S

Other Exclusions

- Any record that fell outside the January 1990–December 2022 retirement date range.
- Any record that had a greater than one year gap between termination date and retirement date.
- Any record that fell within the January 1990–December 2022 retirement date range where the retiree selected a monthly benefit option but received a lump sum payment as provided under ORS 238.315.

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ASSUMPTIONS

For the purposes of this study, the following assumptions were used:

- Any account with a variable balance at the date of retirement was considered a variable account member.
- For final average salary (FAS), we used monthly FAS from the member's actual benefit calculation when available.
 - When monthly FAS from the actual benefit calculation could not be obtained, we used the average salary of the three high calendar years of a member's career. This definition of FAS may not match the definition under which the member's actual benefit was calculated.
- Monthly gross benefit amounts include House Bill (HB) 3349 (1995) and/or Senate Bill (SB) 656 (1991) benefits for qualifying retirees.

SPECIAL NOTES

The averages and percentages displayed on the Replacement Ratio sheets are based upon the respective actual source data. The calculations on each Replacement Ratio sheet are not directly derived from one another. For instance, if the Average Monthly Gross benefit column is divided by the Average Monthly Salary column, it will not equal the Average Replacement Ratio column because the Average Replacement Ratio is derived from the average of replacement ratios in the source data. This method avoids distortions resulting from averaging averages. This is also the case with the median calculations. This method of analyzing the data provides a more accurate picture of the actual dataset being used.

Records for members who retired in previous years and then returned to work only to retire again later will be counted in the year of original retirement and again in the year of the second retirement if both retirements are applicable to this study based on the above criteria. Adjusting the historical record in these scenarios would otherwise distort year-over-year results.

Records for members who have retired with both Class 1 (General Service) and Class 2 (Police and Fire) job segments had the General Service job segment removed. Removing these records avoids double counting salaries and members.

Approximately 3,340 records for members who retired after having a portion of their preretirement account balance awarded to an alternate payee, per a qualified domestic relations order, may reflect a reduced replacement ratio percentage in these results.

Appendix C: PERS Benefit Component Comparisons



PERS PENSION PLANS

The primary components and differences among the PERS Tier One and Tier Two programs, the Oregon Public Service Retirement Plan (OPSRP) pension program, and the Individual Account Program (IAP) are shown on the next page. Tier One covers members hired before January 1, 1996; Tier Two covers members hired between January 1, 1996, and August 28, 2003; and OPSRP covers members hired after August 28, 2003. The IAP is an account-based benefit that includes member contributions plus annual earnings and losses, made on and after January 1, 2004. Starting July 1, 2020, [Senate Bill \(SB\) 1049](#) (2019) requires that members earning more than the [current monthly salary threshold](#) have a portion of their 6% IAP contributions redirected to a new Employee Pension Stability Account (EPSA). The money in each member’s EPSA is used to pay for part of their future pension benefit.

PERS BENEFIT COMPONENT COMPARISON

	Tier One Pension	Tier Two Pension	OPSRP Pension	IAP
Normal retirement age	58 (or 30 yrs.) P&F: age 55 or 50 w/25 yrs.	60 (or 30 yrs.) P&F: age 55 or 50 w/25 yrs.	65 (58 w/30 yrs.) P&F: age 60 (see P&F 5-year requirement below) or 53 w/25 yrs.	Members retire from IAP when they retire from Tier One, Tier Two, or OPSRP
Early retirement	55 (50 for P&F)	55 (50 for P&F)	55. 50 w/5 years of continuous service in a P&F position immediately preceding effective retirement date.	Members retire from IAP when they retire from Tier One, Tier Two, or OPSRP
Regular account earnings	Guaranteed assumed rate annually (currently 6.9% as of 1/1/2022)	No guarantee; market returns	N/A; no account balance. Member contributions are held in the IAP account.	No guarantee; Target-Date Fund returns
Variable account earnings	Market returns on 100% global equity portfolio	Market returns on 100% global equity portfolio	N/A; no member account	N/A
Retirement calculation methods	Money Match, Full Formula, or Formula + Annuity (if eligible)	Money Match or Full Formula	Formula	Various account payout options or rollover
Full Formula benefit factor	1.67% general; 2.00% P&F	1.67% general; 2.00% P&F	1.50% general; 1.80% P&F	N/A
Formula + Annuity benefit factor	1.00% general; 1.35% P&F	N/A	N/A	N/A
Oregon state income tax remedy	Payable to eligible benefit recipients who pay Oregon state income tax because they reside in Oregon.	No tax remedy provided	No tax remedy provided	No tax remedy provided
IAP contributions are paid on lump-sum vacation payouts	Yes	Yes	No	Yes for Tier One and Tier Two; no for OPSRP
Lump-sum vacation payouts included in FAS	Yes	No	No	N/A
Unused sick leave included in FAS	Yes, if employer participates in the unused sick leave program	Yes, if employer participates in the unused sick leave program	No	N/A
Vesting	Active member in each of 5 calendar years	Active member in each of 5 calendar years	5 calendar years w/ at least 600 hours qualifying service or normal retirement age	Immediate upon receiving account contributions
COLA (after retirement)	Each pension plan offers up to 2% annually for service earned on or before October 1, 2013, and a blended COLA rate for subsequent service			N/A; no COLA provided

P&F = police and firefighters; FAS = final average salary; COLA = cost-of-living adjustment; N/A = not applicable

Note: PERS uses three methods to calculate Tier One retirement benefits: Full Formula, Formula + Annuity (for members who made contributions before August 21, 1981), and Money Match. PERS uses two methods to calculate Tier Two retirement benefits: Full Formula and Money Match. PERS uses the method (for which a member is eligible) that produces the highest benefit amount. OPSRP Pension Program benefits are based only on a formula method. "Beginning January 1, 2020, SB 1049 changed the definition of "salary" for PERS purposes and [created new limitations](#) on annual "subject salaries," which may affect how PERS calculates a member's pension and contributions. Beginning January 1, 2022, Senate Bill 111 changed the definition of "subject salary" for OPSRP members to include amounts that are or would be subject to Oregon state income tax.

**Appendix D:
Replacement Ratio
Summary
of Findings**

SUMMARY OF FINDINGS FROM PERS' TIER ONE/TIER TWO REPLACEMENT RATIO STUDY FOR 2022

Calendar Year	Retirees with 30 Years of Service		All Retirees in Study			Retirees with 31+ Years of Service
	# of Retirees in Study	Average Replacement Ratio Based on FAS	# of Retirees in Study	Average Replacement Ratio Based on FAS	% of Retirees Receiving >100% of FAS	# of Retirees in Study
1990	146	61%	1,866	44%	.0%	236
1991	217	61%	2,377	45%	.1%	261
1992	205	67%	2,432	48%	.5%	289
1993	289	66%	2,744	48%	.5%	319
1994	302	67%	3,298	49%	.3%	452
1995	304	66%	2,827	47%	1.0%	307
1996	281	70%	2,477	49%	1.4%	223
1997	295	83%	3,107	57%	7.5%	284
1998	465	89%	4,567	65%	12.0%	472
1999	548	93%	4,644	65%	14.0%	452
2000	273	100%	2,112	63%	15.8%	148
2001	391	99%	3,146	66%	16.5%	304
2002	670	96%	4,605	68%	17.4%	583
2003	942	93%	7,631	66%	14.4%	937
2004	471	84%	3,259	55%	5.5%	155
2005	393	84%	2,548	51%	4.4%	155
2006	347	83%	2,952	50%	4.3%	254
2007	372	84%	3,226	51%	4.9%	337
2008	417	80%	3,480	52%	5.0%	445
2009	432	77%	3,881	53%	6.2%	586
2010	414	75%	3,516	48%	4.3%	440
2011	464	74%	4,484	50%	5.3%	937
2012	272	70%	4,098	46%	4.3%	585
2013	389	69%	5,800	50%	5.6%	1,108
2014	262	66%	4,000	44%	2.8%	441
2015	430	57%	4,830	44%	2.6%	772
2016	324	52%	3,955	42%	2.0%	606
2017	423	53%	5,319	44%	1.5%	1089
2018	320	51%	3,642	42%	1.2%	549
2019	347	50%	4,004	42%	1.4%	758
2020	369	50%	3,926	44%	1.5%	799
2021	387	49%	3,992	44%	1.0%	844
2022	372	50%	3,588	44%	0.7%	777
Total/Avg	12,533	74%	122,333	51%	5.5%	16,904

**Appendix E:
History of
Key Benefit Enhancements**

HISTORY OF KEY BENEFIT ENHANCEMENTS

Year	Category	Action	Affected Members
1945	Administrative	The Public Employees Retirement System is signed into law and begins business July 1, 1946, as a money match retirement plan	All
1947	Retirement Age/Vesting	Requirement for employees to serve a six-month waiting period before becoming PERS members begins	All
1953	Administrative	By law, the PERS plan is terminated and immediately reopened the next day, allowing public employers to provide Social Security coverage	All
1967	Investment Risk Allocation	Legislature passes a bill that allows PERS to invest up to 10% of the retirement fund in common stock, creates the Oregon Investment Council, and establishes a defined benefit formula for employer-funded retirement benefits (formula plus annuity)	All
1969	Investment Risk Allocation	Participation in variable account program begins	All
1972	Cost-of-living adjustment (COLA)	Implemented <i>ad hoc</i> COLA increase (12% to 25% benefit increase)	Existing retirees
1972	Cost-of-living adjustment	Initiated an annual COLA with a 1.5% cap	All retirees
1973	Benefit Calculation/Formula	Increased Formula Plus Annuity pension factors (General Service: .67 to 1.00; Police and Fire: 0.92 to 1.35)	Tier One
1973	Cost-of-living adjustment	Annual COLA cap raised from 1.5% to 2%	All retirees
1973	Cost-of-living adjustment	Capped COLA at actual inflation rate or 2%, whichever is less	All retirees
1973	Final Average Salary	Added accrued sick leave to retirement benefit calculation for participating employers	Tier One/Tier Two
1974	Cost-of-living adjustment	Implemented <i>ad hoc</i> increase (0% to 25% benefit increase)	Existing retirees
1975	Investment Risk Allocation	Initiated member account assumed rate guarantee	Tier One
1975	Investment Risk Allocation	Increased assumed earnings rate from 5.5% to 7%	Tier One
1975	Investment Risk Allocation	Credited member regular accounts with more than the assumed earnings rate*	Tier One
1976	Investment Risk Allocation	Gain Loss Reserve established to “self-fund” assumed earnings rate crediting	Tier One
1979	Administrative	Employers allowed to “pick up” member 6% contribution	All
1979	Investment Risk Allocation	Increased assumed earnings rate from 7% to 7.5%	Tier One
1981	Benefit Calculation/Formula	Added Full Formula benefit calculation method	All
1981	Benefit Calculation/Formula	Consolidated member contributions from 1% to 7% salary-based sliding scale to universal 6%	All
1981	Benefit Calculation/Formula	Eliminated Formula Plus Annuity benefit calculation method	Tier One
1981	Cost-of-living adjustment	Implemented <i>ad hoc</i> COLA increase (4% to 11.4% benefit increase)	Existing retirees
1985	Cost-of-living adjustment	Implemented <i>ad hoc</i> COLA increase (3% to 7.28% benefit increase)	Existing retirees
1985	Benefit Calculation/Formula	Added benefit option to allow lump-sum payment of member account	All
1987	Benefit Calculation/Formula	Members allowed to purchase six-month waiting period	All
1987	Benefit Calculation/Formula	New retirement benefit payout options added	All
1989	Cost-of-living adjustment	Implemented <i>ad hoc</i> COLA increase (0% to 25% benefit increase)	Existing retirees
1989	Investment Risk Allocation	Increased assumed earnings rate from 7.5% to 8%	Tier One
1989	Retiree Health Benefits	Established Medicare and state employee pre-Medicare insurance premium subsidies	Tier One/Tier Two

*Tier One regular accounts were credited with earnings in excess of the assumed rate in the following years: 1975, 1976, 1979, 1980, 1982, 1983, 1985, 1986, 1988, 1989, 1991, 1993, 1995, 1996, 1997, 1998, and 1999. In all other years subsequent to 1975, these accounts were credited at the effective assumed rate.

Key: Benefit enhancement Benefit cap or reduction

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Year	Category	Action	Affected
1989	Retiree Health Benefits	Capped Medicare premium subsidy at \$60 per month	Tier One/Tier Two
1989	Retirement Age/Vesting	Added “30 years of service” retirement regardless of age	Tier One/Tier Two
1991	Benefit Calculation/Formula	Imposed state income tax on PERS benefits	All
1991	Benefit Calculation/Formula	Established service time-based state income tax offset benefit of between 1% to 4% (SB 656)	Tier One
1993	Administrative	Divorced spouses entitled to separate account from member’s	All
1995	Benefit Calculation/Formula	Established state income tax offset benefit for pre-1991 service time (HB 3349)	Tier One
1995	Benefit Calculation/Formula	Eliminated tax remedy for anyone hired after July 14, 1995	All new hires
1996	Final Average Salary	Excluded lump-sum vacation payouts from final average salary	Tier Two
1996	Investment Risk Allocation	Eliminated guaranteed return on regular accounts for new members	Tier Two
1996	Retirement Age/Vesting	Increased normal retirement age for new members from 58 to 60 (General Service)	Tier Two
1997	Administrative	Married members must provide proof of spousal consent for retirement option choice	All
1997	Administrative	Reemployed retirees can work up to 1,040 hours for a PERS-covered employer without loss of benefits (up from 600 hours)	All
1997	Benefit Calculation/Formula	Out-of-state teaching service and some military purchases allowed	All
1999	Benefit Calculation/Formula	Locked in existing actuarial equivalency factor tables	Tier One
2000	Investment Risk Allocation	Eliminated “Last Known Rate” member account crediting guarantee	Tier One
2003	Benefit Calculation/Formula	Decreased Full Formula benefit pension factor (General Service: 1.67 to 1.50; Police & Fire 2.00 to 1.80)	OPSRP
2003	Benefit Calculation/Formula	Eliminated Money Match benefit calculation method	OPSRP
2003	Benefit Calculation/Formula	Redirected member contributions to freeze Money Match (MM) benefit levels	Prospective MM retirees
2003	Benefit Calculation/Formula	Required regularly updated mortality assumptions and actuarial factors	All
2003	Cost-of-living adjustment	Pro-rated first year COLA	OPSRP
2003	Cost-of-living adjustment	Eliminated COLA “bank” carryover	OPSRP
2003	Final Average Salary	Eliminated lump-sum vacation payouts from subject salary	OPSRP
2003	Final Average Salary	Eliminated accumulated sick leave from final average salary	OPSRP
2003	Investment Risk Allocation	Required members to self-fund guaranteed return on member accounts	Tier One
2003	Investment Risk Allocation	Creates IAP to include all member contributions made on or after January 1, 2004, which receives actual returns with no guarantee	All
2003	Retiree Health Benefits	Eliminated post-retirement health insurance premium subsidies	OPSRP
2003	Retirement Age/Vesting	Increased normal retirement age from 60 to 65 (General Service) 55 to 60 (Police & Fire)	OPSRP
2003	Retirement Age/Vesting	Increased vesting from 5 years or age 50 to 5 years or age 65 (General Service) or age 60 (Police & Fire)	OPSRP
2005	Benefit Calculation/Formula	Adjusted member accounts and benefit payments to recapture 1999 earnings overcrediting	Tier One
2009	Retiree Health Benefits	Allowed OPSRP members to participate in PERS retiree health insurance pools without premium subsidy	OPSRP

Key: Benefit enhancement Benefit cap or reduction

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Year	Category	Action	Affected
2013	Cost-of-living adjustment	1.5% in 2013; COLA in 2014 and beyond is 1.25% on the first \$60,000 of an annual benefit; 0.15% on amounts above \$60,000	All
2013	Supplementary Payments	Annual supplementary payments of 0.25% to all benefit recipients (up to \$150) through 2019. Second annual supplementary payment of 0.25% through 2019 if benefit is \$20,000 or less annually	Retirees
2013	Benefit Calculation/Formula	Eliminated any tax remedy for retirees who do not pay income taxes in Oregon because they are not residents of Oregon	Tier One
2014	Investment Risk Allocation	Decreased assumed earnings rate from 8.0% to 7.75%	Tier One
2015	Supplementary Payments	Supplementary payments invalidated by Oregon Supreme Court	Retirees
2015	Cost-of-living adjustment	Annual COLA of up to 2% restored for service time accrued before October 1, 2013. COLA for service time after that date uses a lower rate. Service time accrued in both periods is “blended”	All
2016	Investment Risk Allocation	Decreased assumed earnings rate from 7.75% to 7.50%	Tier One
2017	Investment Risk Allocation	Decreased assumed earnings rate from 7.50% to 7.20%	Tier One
2017	Investment Risk Allocation	Oregon Investment Council changes IAP investment strategy to Target-Date Funds, intended to reduce investment risk and volatility as members age	All
2019	Administrative	Note: Senate Bill 1049 made substantial changes to benefit administration, details of which can be found on our SB 1049 webpage	All
2019	Administrative	Alternate method to calculate death benefit for certain Tier One/Tier Two members who die before retirement	Tier One/ Tier Two
2019	Benefit Calculation/Formula	Reduces member contributions to IAP. Establishes limit on salary used for benefit calculations	All
2021	Investment Risk Allocation	Decreased assumed earnings rate from 7.20% to 6.90%	Tier One
2021	Benefit Calculation/ Formula	Changed definition of salary to include income that is or would be taxable under Oregon state income tax	OPSRP
2021	Benefit Calculation/ Formula	Increased death benefits from 50% of actuarially determined value to 100%	All

Key: Benefit enhancement Benefit cap or reduction Neither enhancement nor reduction

Appendix F: Employer Contribution Rates

CONTRIBUTION RATE BY BIENNIUM

Valuation Year	Rate Effective Dates	Average Rate w/ Side Accounts (%)	Average Rate w/o Side Accounts (%)	Projected Biennium Payroll (\$M)
1975	Various	11.21	11.21	2,029.0
1977	Various	11.87	11.87	2,453.6
1979	Various	10.97	10.97	2,976.0
1982	Various	10.13	10.13	4,124.2
1985	Various	10.87	10.87	4,856.6
1987	Various	11.30	11.30	5,529.4
1989	Various	9.74	9.74	6,398.8
1991	Various	9.19	9.19	7,775.0
1993	Various	9.15	9.15	8,933.6
1995	Various	9.42	9.42	9,696.2
1997	Various	11.40	11.40	10,323.2
1999	7/1/01–6/30/03	10.74	10.74	11,353.2
2001	7/1/03–6/30/05	10.64	10.64	12,513.0
2003 ¹	7/1/05–6/30/07	14.47	18.89	12,497.0
2005 ²	7/1/07–6/30/09	8.22	15.01	13,584.0
2007	7/1/09–6/30/11	4.73	12.42	15,443.6
2009	7/1/11–6/30/13	10.80	16.30	17,024.0
2011 ³	7/1/13–6/30/15	10.80	16.50	17,200.0
2013	7/1/15–6/30/17	10.60	17.50	17,398.0
2015	7/1/17–6/30/19	14.23	20.85	20,200.0
2017	7/1/19–6/30/21	18.32	25.23	21,650.0
2019 ⁴	7/1/21–6/30/23	17.93	24.57	24,715.0
2021	7/1/23–6/30/25	18.61	24.57	27,130.0

1: December 31, 2003, rates were phased in. Actual rate paid averaged 10.58% with employer side accounts and 15.10% without employer side accounts.

2: Includes weighted average rate for Tier One/Tier Two and OPSRP beginning in 2005.

3: Includes liability reduction and rate deferral from Senate Bill 822 (2013).

4: Includes member redirect offset from Senate Bill 1049 (2019).

Appendix G: Historical Earnings Crediting

EARNINGS CREDITING BY YEAR

Year	OPERF Earnings (%)	Distributions (%)			
		Tier One	Tier Two	Variable Account	IAP
1970	5.09	5.09		7.47	
1971	6.27	6.27		9.47	
1972	7.46	7.46		13.87	
1973	0.00	0.00		-16.39	
1974	0.00	5.50		-18.16	
1975	9.19	7.50		18.94	
1976	10.38	7.75		18.58	
1977	4.79	7.00		-2.62	
1978	7.37	7.00		7.03	
1979	12.32	11.09		20.40	
1980	16.92	13.00		29.94	
1981	4.37	7.50		-2.25	
1982	15.31	11.50		22.39	
1983	18.37	13.00		23.12	
1984	7.33	7.50		4.00	

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Appendix G: Historic Earnings Crediting

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Year	OPERF Earnings (%)	Distributions (%)		
		Tier One	Tier Two	Variable Account IAP
1985	21.38	15.00		27.99
1986	22.70	18.37		18.98
1987	9.00	7.50		4.54
1988	16.86	13.50		18.62
1989	19.74	14.50		26.84
1990	-1.53	8.00		-7.84
1991	22.45	15.00		35.05
1992	6.94	8.00		10.54
1993	15.04	12.00		12.65
1994	2.16	8.00		-1.76
1995	20.78	12.50		29.92
1996	24.42	21.00	24.42	21.06
1997	20.42	18.70	20.42	28.87
1998	15.43	14.10	13.63	21.45
1999	24.89	11.33*	21.97	28.83
2000	0.63	8.00	0.54	-3.24

*The PERS Board originally credited these accounts at 20%. That allocation was later reduced to 11.33% to comply with subsequent court decisions and legislative findings.

OREGON PERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM

