

October 2018

Amity School District/4306
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Amity School District/4306

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Amity School District/4306

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Amity School District -- #4306

October 2018

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Executive Summary

Milliman has prepared this report for Amity School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Amity School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Amity School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(23.74%)	(23.74%)	(23.74%)
Net pension contribution rate	8.23%	2.84%	7.47%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	8.29%	2.84%	7.47%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Amity School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$9,563,383	\$11,127,918
Allocated pooled OPSRP UAL	616,071	674,902
Side account	8,068,611	7,768,185
Net unfunded pension actuarial accrued liability	2,110,843	4,034,635
Combined valuation payroll	4,088,301	3,920,154
Net pension UAL as a percentage of payroll	52%	103%
Calculated Side Account Rate Relief	(23.74%)	(22.03%)
Allocated Pooled RHIA UAL	(\$46,845)	(\$534)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$7,768,185	\$7,768,185
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(855,154)	(855,154)
5. Side account earnings during 2017		1,156,080	1,156,080
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$8,068,611	\$8,068,611

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$8,068,611	\$7,768,185
Side Account 2	0	0
Side Account 3	0	0
Total	\$8,068,611	\$7,768,185

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$8,068,611	\$7,768,185
2. Combined valuation payroll	4,088,301	3,920,154
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(23.74%)	(22.03%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Baker School District #5J/3003
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

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Baker School District #5J/3003

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Baker School District #5J/3003

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No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Baker School District #5J -- #3003

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Baker School District #5J to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Baker School District #5J.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Baker School District #5J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(11.99%)	(11.99%)	(11.99%)
Net pension contribution rate	19.98%	14.59%	19.22%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	20.04%	14.59%	19.22%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Baker School District #5J

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$22,070,997	\$26,550,431
Allocated pooled OPSRP UAL	1,421,808	1,610,269
Side account	9,401,681	9,096,034
Net unfunded pension actuarial accrued liability	14,091,124	19,064,666
Combined valuation payroll	9,435,248	9,353,212
Net pension UAL as a percentage of payroll	149%	204%
Calculated Side Account Rate Relief	(11.99%)	(10.81%)
Allocated Pooled RHIA UAL	(\$108,111)	(\$1,274)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$9,096,034	\$9,096,034
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(1,036,824)	(1,036,824)
5. Side account earnings during 2017		1,342,971	1,342,971
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$9,401,681	\$9,401,681

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$9,401,681	\$9,096,034
Side Account 2	0	0
Side Account 3	0	0
Total	\$9,401,681	\$9,096,034

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$9,401,681	\$9,096,034
2. Combined valuation payroll	9,435,248	9,353,212
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(11.99%)	(10.81%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Banks School District/4035
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Banks School District/4035

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Banks School District/4035

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Banks School District -- #4035

October 2018

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Executive Summary

Milliman has prepared this report for Banks School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Banks School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Banks School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(5.12%)	(5.12%)	(5.12%)
Net pension contribution rate	26.85%	21.46%	26.09%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	26.91%	21.46%	26.09%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Banks School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$11,772,801	\$12,596,342
Allocated pooled OPSRP UAL	758,401	763,961
Side account	2,143,174	2,082,679
Net unfunded pension actuarial accrued liability	10,388,028	11,277,624
Combined valuation payroll	5,032,817	4,437,452
Net pension UAL as a percentage of payroll	206%	254%
Calculated Side Account Rate Relief	(5.12%)	(5.22%)
Allocated Pooled RHIA UAL	(\$57,667)	(\$604)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$2,082,679	\$2,082,679
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(244,616)	(244,616)
5. Side account earnings during 2017		305,611	305,611
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$2,143,174	\$2,143,174

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$2,143,174	\$2,082,679
Side Account 2	0	0
Side Account 3	0	0
Total	\$2,143,174	\$2,082,679

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$2,143,174	\$2,082,679
2. Combined valuation payroll	5,032,817	4,437,452
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(5.12%)	(5.22%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Beaverton School District/4062
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Beaverton School District/4062

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Beaverton School District/4062

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Beaverton School District -- #4062

October 2018

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Executive Summary

Milliman has prepared this report for Beaverton School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Beaverton School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Beaverton School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(9.17%)	(9.17%)	(9.17%)
Net pension contribution rate	22.80%	17.41%	22.04%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	22.86%	17.41%	22.04%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

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Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

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Executive Summary

Principal Valuation Results

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District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Beaverton School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$609,501,655	\$694,801,051
Allocated pooled OPSRP UAL	39,263,943	42,139,313
Side account	222,089,784	215,471,158
Net unfunded pension actuarial accrued liability	426,675,814	521,469,206
Combined valuation payroll	260,559,105	244,765,202
Net pension UAL as a percentage of payroll	164%	213%
Calculated Side Account Rate Relief	(9.17%)	(8.86%)
Allocated Pooled RHIA UAL	(\$2,985,537)	(\$33,327)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
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Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$215,471,158	\$215,471,158
2. Deposits during 2017			
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2017		(25,053,663)	(25,053,663)
5. Side account earnings during 2017		31,673,289	31,673,289
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$222,089,784	\$222,089,784

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$146,901,765	\$144,280,936
Side Account 2	75,188,018	71,190,222
Side Account 3	0	0
Total	\$222,089,784	\$215,471,158

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$222,089,784	\$215,471,158
2. Combined valuation payroll	260,559,105	244,765,202
3. Average amortization factor	9.291	9.937
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(9.17%)	(8.86%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Bend-La Pine Public Schools/3291
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018

Bend-La Pine Public Schools/3291

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Bend-La Pine Public Schools/3291

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Bend-La Pine Public Schools -- #3291

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Bend-La Pine Public Schools to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Bend-La Pine Public Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Bend-La Pine Public Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(9.27%)	(9.27%)	(9.27%)
Net pension contribution rate	22.70%	17.31%	21.94%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	22.76%	17.31%	21.94%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Bend-La Pine Public Schools

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$213,513,810	\$247,478,077
Allocated pooled OPSRP UAL	13,754,506	15,009,413
Side account	70,381,718	69,155,708
Net unfunded pension actuarial accrued liability	156,886,598	193,331,782
Combined valuation payroll	91,276,155	87,181,822
Net pension UAL as a percentage of payroll	172%	222%
Calculated Side Account Rate Relief	(9.27%)	(8.82%)
Allocated Pooled RHIA UAL	(\$1,045,860)	(\$11,871)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$69,155,708	\$69,155,708
2. Deposits during 2017			
3. Administrative expenses		(1,500)	(1,500)
4. Amount transferred to employer reserves during 2017		(8,896,168)	(8,896,168)
5. Side account earnings during 2017		10,123,678	10,123,678
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$70,381,718	\$70,381,718

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$40,980,023	\$40,266,705
Side Account 2	24,827,314	24,392,164
Side Account 3	4,574,381	4,496,840
Total	\$70,381,718	\$69,155,708

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$70,381,718	\$69,155,708
2. Combined valuation payroll	91,276,155	87,181,822
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(9.27%)	(8.82%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Brookings-Harbor School District #17C/3283
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Brookings-Harbor School District #17C/3283

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Brookings-Harbor School District #17C/3283

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Brookings-Harbor School District #17C -- #3283

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Brookings-Harbor School District #17C to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Brookings-Harbor School District #17C.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Brookings-Harbor School District #17C

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(17.20%)	(17.20%)	(17.20%)
Net pension contribution rate	14.77%	9.38%	14.01%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	14.83%	9.38%	14.01%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Brookings-Harbor School District #17C

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$18,218,037	\$21,791,886
Allocated pooled OPSRP UAL	1,173,601	1,321,666
Side account	11,136,151	11,054,585
Net unfunded pension actuarial accrued liability	8,255,487	12,058,967
Combined valuation payroll	7,788,126	7,676,867
Net pension UAL as a percentage of payroll	106%	157%
Calculated Side Account Rate Relief	(17.20%)	(16.02%)
Allocated Pooled RHIA UAL	(\$89,238)	(\$1,045)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$11,054,585	\$11,054,585
2. Deposits during 2017			
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2017		(1,531,748)	(1,531,748)
5. Side account earnings during 2017		1,614,314	1,614,314
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$11,136,151	\$11,136,151

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$6,964,671	\$6,915,027
Side Account 2	4,171,480	4,139,558
Side Account 3	0	0
Total	\$11,136,151	\$11,054,585

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$11,136,151	\$11,054,585
2. Combined valuation payroll	7,788,126	7,676,867
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(17.20%)	(16.02%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

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The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

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The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Canby School District/4333
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Canby School District/4333

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Canby School District/4333

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Canby School District -- #4333

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Canby School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Canby School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Canby School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(20.57%)	(20.57%)	(20.57%)
Net pension contribution rate	11.40%	6.01%	10.64%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	11.46%	6.01%	10.64%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Canby School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$58,764,182	\$70,370,769
Allocated pooled OPSRP UAL	3,785,574	4,267,950
Side account	42,946,743	41,910,738
Net unfunded pension actuarial accrued liability	19,603,013	32,727,981
Combined valuation payroll	25,121,413	24,790,284
Net pension UAL as a percentage of payroll	78%	132%
Calculated Side Account Rate Relief	(20.57%)	(18.80%)
Allocated Pooled RHIA UAL	(\$287,846)	(\$3,375)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$41,910,738	\$41,910,738
2. Deposits during 2017			
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2017		(5,125,920)	(5,125,920)
5. Side account earnings during 2017		6,162,925	6,162,925
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$42,946,743	\$42,946,743

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$18,914,563	\$18,455,755
Side Account 2	24,032,180	23,454,983
Side Account 3	0	0
Total	\$42,946,743	\$41,910,738

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$42,946,743	\$41,910,738
2. Combined valuation payroll	25,121,413	24,790,284
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(20.57%)	(18.80%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

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A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

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The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Cascade School District #5/4334
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Cascade School District #5/4334

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Cascade School District #5/4334

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Cascade School District #5 -- #4334

October 2018

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Executive Summary

Milliman has prepared this report for Cascade School District #5 to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Cascade School District #5.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Cascade School District #5

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(17.70%)	(17.70%)	(17.70%)
Net pension contribution rate	14.27%	8.88%	13.51%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	14.33%	8.88%	13.51%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Cascade School District #5

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$26,166,703	\$29,795,939
Allocated pooled OPSRP UAL	1,685,652	1,807,108
Side account	16,454,331	15,967,499
Net unfunded pension actuarial accrued liability	11,398,024	15,635,548
Combined valuation payroll	11,186,143	10,496,543
Net pension UAL as a percentage of payroll	102%	149%
Calculated Side Account Rate Relief	(17.70%)	(16.91%)
Allocated Pooled RHIA UAL	(\$128,173)	(\$1,429)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$15,967,499	\$15,967,499
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(1,857,906)	(1,857,906)
5. Side account earnings during 2017		2,345,237	2,345,237
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$16,454,331	\$16,454,331

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$16,454,331	\$15,967,499
Side Account 2	0	0
Side Account 3	0	0
Total	\$16,454,331	\$15,967,499

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$16,454,331	\$15,967,499
2. Combined valuation payroll	11,186,143	10,496,543
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(17.70%)	(16.91%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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October 2018

Central School District #13J/3859
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

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If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

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- A summary of principal valuation results.

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- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Central School District #13J/3859

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Central School District #13J/3859

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Central School District #13J -- #3859

October 2018

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Executive Summary

Milliman has prepared this report for Central School District #13J to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Central School District #13J.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Central School District #13J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(14.76%)	(14.76%)	(14.76%)
Net pension contribution rate	17.21%	11.82%	16.45%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	17.27%	11.82%	16.45%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Central School District #13J

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$40,350,091	\$47,983,787
Allocated pooled OPSRP UAL	2,599,343	2,910,191
Side account	21,164,790	20,877,521
Net unfunded pension actuarial accrued liability	21,784,644	30,016,457
Combined valuation payroll	17,249,475	16,903,776
Net pension UAL as a percentage of payroll	126%	178%
Calculated Side Account Rate Relief	(14.76%)	(13.73%)
Allocated Pooled RHIA UAL	(\$197,648)	(\$2,302)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$20,877,521	\$20,877,521
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(2,752,342)	(2,752,342)
5. Side account earnings during 2017		3,040,110	3,040,110
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$21,164,790	\$21,164,790

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$21,164,790	\$20,877,521
Side Account 2	0	0
Side Account 3	0	0
Total	\$21,164,790	\$20,877,521

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$21,164,790	\$20,877,521
2. Combined valuation payroll	17,249,475	16,903,776
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(14.76%)	(13.73%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Clackamas Education Service District/4259
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Clackamas Education Service District/4259

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Clackamas Education Service District/4259

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Clackamas Education Service District -- #4259

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Clackamas Education Service District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Clackamas Education Service District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Clackamas Education Service District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(13.04%)	(13.04%)	(13.04%)
Net pension contribution rate	18.93%	13.54%	18.17%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	18.99%	13.54%	18.17%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Clackamas Education Service District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$34,822,523	\$41,274,717
Allocated pooled OPSRP UAL	2,243,258	2,503,290
Side account	16,138,646	15,511,005
Net unfunded pension actuarial accrued liability	20,927,135	28,267,002
Combined valuation payroll	14,886,466	14,540,298
Net pension UAL as a percentage of payroll	141%	194%
Calculated Side Account Rate Relief	(13.04%)	(11.86%)
Allocated Pooled RHIA UAL	(\$170,572)	(\$1,980)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$15,511,005	\$15,511,005
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(1,678,615)	(1,678,615)
5. Side account earnings during 2017		2,306,755	2,306,755
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$16,138,646	\$16,138,646

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$16,138,646	\$15,511,005
Side Account 2	0	0
Side Account 3	0	0
Total	\$16,138,646	\$15,511,005

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$16,138,646	\$15,511,005
2. Combined valuation payroll	14,886,466	14,540,298
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(13.04%)	(11.86%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Clatsop County School District #1C/3179
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Clatsop County School District #1C/3179

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Clatsop County School District #1C/3179

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Clatsop County School District #1C -- #3179

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Clatsop County School District #1C to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Clatsop County School District #1C.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Clatsop County School District #1C

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(25.92%)	(25.92%)	(25.92%)
Net pension contribution rate	6.05%	0.66%	5.29%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	6.11%	0.66%	5.29%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Clatsop County School District #1C

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$24,363,639	\$28,112,255
Allocated pooled OPSRP UAL	1,569,499	1,704,993
Side account	22,442,234	21,214,105
Net unfunded pension actuarial accrued liability	3,490,904	8,603,143
Combined valuation payroll	10,415,342	9,903,413
Net pension UAL as a percentage of payroll	34%	87%
Calculated Side Account Rate Relief	(25.92%)	(23.82%)
Allocated Pooled RHIA UAL	(\$119,341)	(\$1,348)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$21,214,105	\$21,214,105
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(1,958,386)	(1,958,386)
5. Side account earnings during 2017		3,187,014	3,187,014
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$22,442,234	\$22,442,234

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$22,442,234	\$21,214,105
Side Account 2	0	0
Side Account 3	0	0
Total	\$22,442,234	\$21,214,105

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$22,442,234	\$21,214,105
2. Combined valuation payroll	10,415,342	9,903,413
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(25.92%)	(23.82%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Coos Bay School District #9/3242
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Coos Bay School District #9/3242

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Coos Bay School District #9/3242

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Coos Bay School District #9 -- #3242

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Coos Bay School District #9 to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Coos Bay School District #9.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Coos Bay School District #9

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(7.17%)	(7.17%)	(7.17%)
Net pension contribution rate	24.80%	19.41%	24.04%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	24.86%	19.41%	24.04%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Coos Bay School District #9

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$32,534,967	\$36,840,100
Allocated pooled OPSRP UAL	2,095,894	2,234,332
Side account	8,289,314	8,039,203
Net unfunded pension actuarial accrued liability	26,341,547	31,035,229
Combined valuation payroll	13,908,546	12,978,067
Net pension UAL as a percentage of payroll	189%	239%
Calculated Side Account Rate Relief	(7.17%)	(6.89%)
Allocated Pooled RHIA UAL	(\$159,367)	(\$1,767)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$8,039,203	\$8,039,203
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(943,786)	(943,786)
5. Side account earnings during 2017		1,194,396	1,194,396
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$8,289,314	\$8,289,314

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$8,289,314	\$8,039,203
Side Account 2	0	0
Side Account 3	0	0
Total	\$8,289,314	\$8,039,203

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$8,289,314	\$8,039,203
2. Combined valuation payroll	13,908,546	12,978,067
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(7.17%)	(6.89%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Corvallis School District #509J/3039
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Corvallis School District #509J/3039

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Corvallis School District #509J/3039

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Corvallis School District #509J -- #3039

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Corvallis School District #509J to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Corvallis School District #509J.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Corvallis School District #509J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(13.26%)	(13.26%)	(13.26%)
Net pension contribution rate	18.71%	13.32%	17.95%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	18.77%	13.32%	17.95%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Corvallis School District #509J

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$81,125,874	\$97,700,889
Allocated pooled OPSRP UAL	5,226,108	5,925,507
Side account	39,494,014	35,427,862
Net unfunded pension actuarial accrued liability	46,857,968	68,198,534
Combined valuation payroll	34,680,931	34,418,166
Net pension UAL as a percentage of payroll	135%	198%
Calculated Side Account Rate Relief	(13.26%)	(11.22%)
Allocated Pooled RHIA UAL	(\$397,381)	(\$4,686)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$35,427,862	\$35,427,862
2. Deposits during 2017		3,000,000	3,000,000
3. Administrative expenses		(1,500)	(1,500)
4. Amount transferred to employer reserves during 2017		(4,157,054)	(4,157,054)
5. Side account earnings during 2017		5,224,706	5,224,706
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$39,494,014	\$39,494,014

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$26,670,755	\$25,962,267
Side Account 2	3,779,583	3,675,316
Side Account 3	9,043,676	5,790,278
Total	\$39,494,014	\$35,427,862

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$39,494,014	\$35,427,862
2. Combined valuation payroll	34,680,931	34,418,166
3. Average amortization factor	8.585	9.183
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(13.26%)	(11.22%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

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The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Creswell School District #40/3502
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Creswell School District #40/3502

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Creswell School District #40/3502

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Creswell School District #40 -- #3502

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Creswell School District #40 to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Creswell School District #40.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Creswell School District #40

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(5.21%)	(5.21%)	(5.21%)
Net pension contribution rate	26.76%	21.37%	26.00%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	26.82%	21.37%	26.00%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Creswell School District #40

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$14,834,851	\$18,083,011
Allocated pooled OPSRP UAL	955,657	1,096,725
Side account	2,748,513	2,646,959
Net unfunded pension actuarial accrued liability	13,041,995	16,532,777
Combined valuation payroll	6,341,830	6,370,301
Net pension UAL as a percentage of payroll	206%	260%
Calculated Side Account Rate Relief	(5.21%)	(4.62%)
Allocated Pooled RHIA UAL	(\$72,666)	(\$867)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$2,646,959	\$2,646,959
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(287,434)	(287,434)
5. Side account earnings during 2017		389,488	389,488
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$2,748,513	\$2,748,513

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$2,748,513	\$2,646,959
Side Account 2	0	0
Side Account 3	0	0
Total	\$2,748,513	\$2,646,959

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$2,748,513	\$2,646,959
2. Combined valuation payroll	6,341,830	6,370,301
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(5.21%)	(4.62%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

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Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

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A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

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Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Crook County School District/3274
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Crook County School District/3274

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Crook County School District/3274

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Crook County School District -- #3274

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Crook County School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Crook County School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Crook County School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(22.46%)	(22.46%)	(22.46%)
Net pension contribution rate	9.51%	4.12%	8.75%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	9.57%	4.12%	8.75%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Crook County School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$34,219,619	\$40,733,458
Allocated pooled OPSRP UAL	2,204,419	2,470,463
Side account	27,299,429	26,658,112
Net unfunded pension actuarial accrued liability	9,124,609	16,545,809
Combined valuation payroll	14,628,727	14,349,623
Net pension UAL as a percentage of payroll	62%	115%
Calculated Side Account Rate Relief	(22.46%)	(20.65%)
Allocated Pooled RHIA UAL	(\$167,619)	(\$1,954)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$26,658,112	\$26,658,112
2. Deposits during 2017			
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2017		(3,300,394)	(3,300,394)
5. Side account earnings during 2017		3,942,710	3,942,710
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$27,299,429	\$27,299,429

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$11,800,945	\$11,544,103
Side Account 2	15,498,484	15,114,010
Side Account 3	0	0
Total	\$27,299,429	\$26,658,112

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$27,299,429	\$26,658,112
2. Combined valuation payroll	14,628,727	14,349,623
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(22.46%)	(20.65%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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October 2018

David Douglas School District/3843
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

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If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
David Douglas School District/3843

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
David Douglas School District/3843

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

David Douglas School District -- #3843

October 2018

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Executive Summary

Milliman has prepared this report for David Douglas School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to David Douglas School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for David Douglas School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(3.58%)	(3.58%)	(3.58%)
Net pension contribution rate	28.39%	23.00%	27.63%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	28.45%	23.00%	27.63%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

David Douglas School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$174,273,201	\$207,632,898
Allocated pooled OPSRP UAL	11,226,636	12,592,824
Side account	22,158,246	21,738,903
Net unfunded pension actuarial accrued liability	163,341,591	198,486,819
Combined valuation payroll	74,500,978	73,145,123
Net pension UAL as a percentage of payroll	219%	271%
Calculated Side Account Rate Relief	(3.58%)	(3.30%)
Allocated Pooled RHIA UAL	(\$853,647)	(\$9,959)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$21,738,903	\$21,738,903
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(2,763,977)	(2,763,977)
5. Side account earnings during 2017		3,183,820	3,183,820
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$22,158,246	\$22,158,246

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$22,158,246	\$21,738,903
Side Account 2	0	0
Side Account 3	0	0
Total	\$22,158,246	\$21,738,903

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$22,158,246	\$21,738,903
2. Combined valuation payroll	74,500,978	73,145,123
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(3.58%)	(3.30%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Dayton Public Schools/4291
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Dayton Public Schools/4291

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Dayton Public Schools/4291

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Dayton Public Schools -- #4291

October 2018

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Executive Summary

Milliman has prepared this report for Dayton Public Schools to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Dayton Public Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Dayton Public Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(19.10%)	(19.10%)	(19.10%)
Net pension contribution rate	12.87%	7.48%	12.11%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	12.93%	7.48%	12.11%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Dayton Public Schools

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$12,096,771	\$13,950,279
Allocated pooled OPSRP UAL	779,271	846,077
Side account	8,209,660	7,942,986
Net unfunded pension actuarial accrued liability	4,666,382	6,853,370
Combined valuation payroll	5,171,313	4,914,418
Net pension UAL as a percentage of payroll	90%	139%
Calculated Side Account Rate Relief	(19.10%)	(17.97%)
Allocated Pooled RHIA UAL	(\$59,254)	(\$669)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$7,942,986	\$7,942,986
2. Deposits during 2017			
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2017		(913,558)	(913,558)
5. Side account earnings during 2017		1,181,232	1,181,232
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$8,209,660	\$8,209,660

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$3,488,379	\$3,374,470
Side Account 2	4,721,281	4,568,515
Side Account 3	0	0
Total	\$8,209,660	\$7,942,986

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$8,209,660	\$7,942,986
2. Combined valuation payroll	5,171,313	4,914,418
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(19.10%)	(17.97%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Douglas Education Service District/4237
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Douglas Education Service District/4237

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Douglas Education Service District/4237

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Douglas Education Service District -- #4237

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Douglas Education Service District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Douglas Education Service District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Douglas Education Service District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(4.87%)	(4.87%)	(4.87%)
Net pension contribution rate	27.10%	21.71%	26.34%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	27.16%	21.71%	26.34%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

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Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Douglas Education Service District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$24,237,783	\$28,315,297
Allocated pooled OPSRP UAL	1,561,392	1,717,308
Side account	4,193,212	4,086,567
Net unfunded pension actuarial accrued liability	21,605,963	25,946,038
Combined valuation payroll	10,361,539	9,974,941
Net pension UAL as a percentage of payroll	209%	260%
Calculated Side Account Rate Relief	(4.87%)	(4.56%)
Allocated Pooled RHIA UAL	(\$118,725)	(\$1,358)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$4,086,567	\$4,086,567
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(494,053)	(494,053)
5. Side account earnings during 2017		601,198	601,198
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$4,193,212	\$4,193,212

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$4,193,212	\$4,086,567
Side Account 2	0	0
Side Account 3	0	0
Total	\$4,193,212	\$4,086,567

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$4,193,212	\$4,086,567
2. Combined valuation payroll	10,361,539	9,974,941
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(4.87%)	(4.56%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Echo School District/3927
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Echo School District/3927

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Echo School District/3927

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Echo School District -- #3927

October 2018

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Executive Summary

Milliman has prepared this report for Echo School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Echo School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Echo School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(10.61%)	(10.61%)	(10.61%)
Net pension contribution rate	21.36%	15.97%	20.60%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	21.42%	15.97%	20.60%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Echo School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$4,381,753	\$4,471,277
Allocated pooled OPSRP UAL	282,271	271,181
Side account	1,652,332	1,623,610
Net unfunded pension actuarial accrued liability	3,011,692	3,118,848
Combined valuation payroll	1,873,179	1,575,146
Net pension UAL as a percentage of payroll	161%	198%
Calculated Side Account Rate Relief	(10.61%)	(11.46%)
Allocated Pooled RHIA UAL	(\$21,463)	(\$214)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$1,623,610	\$1,623,610
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(208,275)	(208,275)
5. Side account earnings during 2017		237,497	237,497
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$1,652,332	\$1,652,332

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$1,652,332	\$1,623,610
Side Account 2	0	0
Side Account 3	0	0
Total	\$1,652,332	\$1,623,610

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$1,652,332	\$1,623,610
2. Combined valuation payroll	1,873,179	1,575,146
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(10.61%)	(11.46%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Estacada School District #108/4323
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Estacada School District #108/4323

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Estacada School District #108/4323

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Estacada School District #108 -- #4323

October 2018

Milliman

This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

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Executive Summary

Milliman has prepared this report for Estacada School District #108 to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Estacada School District #108.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Estacada School District #108

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(13.55%)	(13.55%)	(13.55%)
Net pension contribution rate	18.42%	13.03%	17.66%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	18.48%	13.03%	17.66%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Estacada School District #108

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$22,974,521	\$27,884,573
Allocated pooled OPSRP UAL	1,480,013	1,691,184
Side account	11,061,765	10,731,240
Net unfunded pension actuarial accrued liability	13,392,769	18,844,517
Combined valuation payroll	9,821,500	9,823,205
Net pension UAL as a percentage of payroll	136%	192%
Calculated Side Account Rate Relief	(13.55%)	(12.15%)
Allocated Pooled RHIA UAL	(\$112,537)	(\$1,338)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$10,731,240	\$10,731,240
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(1,264,382)	(1,264,382)
5. Side account earnings during 2017		1,595,407	1,595,407
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$11,061,765	\$11,061,765

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$11,061,765	\$10,731,240
Side Account 2	0	0
Side Account 3	0	0
Total	\$11,061,765	\$10,731,240

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$11,061,765	\$10,731,240
2. Combined valuation payroll	9,821,500	9,823,205
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(13.55%)	(12.15%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

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The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

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The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Eugene School District 4J/3473
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Eugene School District 4J/3473

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Eugene School District 4J/3473

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Eugene School District 4J -- #3473

October 2018

Milliman

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Executive Summary

Milliman has prepared this report for Eugene School District 4J to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Eugene School District 4J.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Eugene School District 4J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(5.87%)	(5.87%)	(5.87%)
Net pension contribution rate	26.10%	20.71%	25.34%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	26.16%	20.71%	25.34%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Eugene School District 4J

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$219,651,767	\$257,557,125
Allocated pooled OPSRP UAL	14,149,911	15,620,702
Side account	45,795,970	44,684,535
Net unfunded pension actuarial accrued liability	188,005,708	228,493,292
Combined valuation payroll	93,900,102	90,732,479
Net pension UAL as a percentage of payroll	200%	252%
Calculated Side Account Rate Relief	(5.87%)	(5.48%)
Allocated Pooled RHIA UAL	(\$1,075,925)	(\$12,354)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$44,684,535	\$44,684,535
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(5,462,436)	(5,462,436)
5. Side account earnings during 2017		6,574,371	6,574,371
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$45,795,970	\$45,795,970

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$45,795,970	\$44,684,535
Side Account 2	0	0
Side Account 3	0	0
Total	\$45,795,970	\$44,684,535

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$45,795,970	\$44,684,535
2. Combined valuation payroll	93,900,102	90,732,479
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(5.87%)	(5.48%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

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Actuarial Gain or (Loss)

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Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

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A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

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Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

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The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Falls City School District/3887
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Falls City School District/3887

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Falls City School District/3887

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Falls City School District -- #3887

October 2018

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Executive Summary

Milliman has prepared this report for Falls City School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Falls City School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Falls City School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(22.55%)	(22.55%)	(22.55%)
Net pension contribution rate	9.42%	4.03%	8.66%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	9.48%	4.03%	8.66%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Falls City School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$2,711,480	\$2,768,412
Allocated pooled OPSRP UAL	174,673	167,903
Side account	2,172,453	2,107,941
Net unfunded pension actuarial accrued liability	713,700	828,374
Combined valuation payroll	1,159,145	975,259
Net pension UAL as a percentage of payroll	62%	85%
Calculated Side Account Rate Relief	(22.55%)	(24.03%)
Allocated Pooled RHIA UAL	(\$13,282)	(\$133)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$2,107,941	\$2,107,941
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(249,158)	(249,158)
5. Side account earnings during 2017		314,170	314,170
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$2,172,453	\$2,172,453

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$2,172,453	\$2,107,941
Side Account 2	0	0
Side Account 3	0	0
Total	\$2,172,453	\$2,107,941

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$2,172,453	\$2,107,941
2. Combined valuation payroll	1,159,145	975,259
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(22.55%)	(24.03%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

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The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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October 2018

Fern Ridge School District/3494
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Fern Ridge School District/3494

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Fern Ridge School District/3494

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Fern Ridge School District -- #3494

October 2018

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Executive Summary

Milliman has prepared this report for Fern Ridge School District to:

- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Fern Ridge School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Fern Ridge School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(13.89%)	(13.89%)	(13.89%)
Net pension contribution rate	18.08%	12.69%	17.32%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	18.14%	12.69%	17.32%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Fern Ridge School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$14,989,655	\$17,511,941
Allocated pooled OPSRP UAL	965,630	1,062,090
Side account	7,399,245	7,253,341
Net unfunded pension actuarial accrued liability	8,556,040	11,320,690
Combined valuation payroll	6,408,007	6,169,124
Net pension UAL as a percentage of payroll	134%	184%
Calculated Side Account Rate Relief	(13.89%)	(13.07%)
Allocated Pooled RHIA UAL	(\$73,424)	(\$840)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$7,253,341	\$7,253,341
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(918,672)	(918,672)
5. Side account earnings during 2017		1,065,076	1,065,076
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$7,399,245	\$7,399,245

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$7,399,245	\$7,253,341
Side Account 2	0	0
Side Account 3	0	0
Total	\$7,399,245	\$7,253,341

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$7,399,245	\$7,253,341
2. Combined valuation payroll	6,408,007	6,169,124
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(13.89%)	(13.07%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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This work product was prepared solely for Oregon Public Employees Retirement System for the purposes stated herein, and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

October 2018

Forest Grove School District/4313
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2017. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2019. Information to assist you in preparing your required financial reporting disclosures under Statement 68 and Statement 75 of the Governmental Accounting Standards Board (GASB) will be provided separately by PERS and is not included in this report.

This report reflects the benefit provisions in effect as of December 31, 2017. The full development of the valuation results for the Tier 1/Tier 2 School District Pool, OPSRP, and the Retiree Health Insurance Account (RHIA) can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/Financials/Actuarial-Financial-Information.aspx.



October 2018
Forest Grove School District/4313

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in July 2017.

The actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2019 to June 2021 for System employers. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and with our understanding of the System benefit provisions described in the appendixes of this report. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



October 2018
Forest Grove School District/4313

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

No third party recipient of this report should rely upon Milliman's work contained herein. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the System. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Larrabee'.

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read 'Scott Preppernau'.

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary



ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Forest Grove School District -- #4313

October 2018

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Executive Summary

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- Provide summary December 31, 2017 valuation results for the Tier 1/Tier 2 School District Pool, Oregon Public Service Retirement Plan (OPSRP), and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2019 through June 30, 2021, and
- Provide employer-specific information on side accounts as of December 31, 2017.

This report summarizes the valuation results for the School District Pool, OPSRP, and RHIA. The full development of these results can be found in the December 31, 2017 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Forest Grove School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2019 through June 30, 2021 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2019 for Forest Grove School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	13.79%	8.40%	13.03%
Tier 1/Tier 2 UAL rate ¹	16.73%	16.73%	16.73%
OPSRP UAL rate	1.45%	1.45%	1.45%
Side account rate relief ²	(7.83%)	(7.83%)	(7.83%)
Net pension contribution rate	24.14%	18.75%	23.38%
Retiree Healthcare			
Normal cost rate	0.06%	0.00%	0.00%
UAL rate	0.00%	0.00%	0.00%
Net retiree healthcare rate	0.06%	0.00%	0.00%
Total net employer contribution rate	24.20%	18.75%	23.38%

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

¹ Includes Multnomah Fire District #10 rate.

² The side account rate relief shown may be reduced for each individual payroll such that the net pension contribution rate for that payroll does not go below 0.00%.

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2021 to June 2023 Biennium

The rate collar limits changes in contribution rates for the rate pool, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates for the School District Pool first effective as of July 1, 2021, which will depend on the funded status as of December 31, 2019. If the Pool's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the Pool's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. The rates shown are before any adjustment for side account rate offsets.

For comparison, the Pool's funded status as of December 31, 2017 is 74%.

Funded Status as of December 31, 2019	70% to 130%	Under 60% or Over 140%
2019-2021 Tier 1/Tier 2 Normal Cost + Tier 1/Tier 2 UAL Rate	30.52%	30.52%
Minimum 2021-2023 Rate	24.42%	18.32%
Maximum 2021-2023 Rate	36.62%	42.72%

For individual school districts, the School District Pool rate is adjusted for any rate relief provided by a side account rate offset.

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Retiree Healthcare

In June 2015, the GASB issued Statement 75, which replaced GASB 45 and governs employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting the Retiree Health Insurance Account (RHIA) under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

District-specific valuation results are only shown for districts with a side account as valuation results for districts without a side account are fully summarized by the School District Pool results, which are shown on the next page.

Forest Grove School District

	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Allocated pooled T1/T2 UAL	\$82,198,757	\$95,324,772
Allocated pooled OPSRP UAL	5,295,223	5,781,397
Side account	22,871,151	22,358,652
Net unfunded pension actuarial accrued liability	64,622,829	78,747,517
Combined valuation payroll	35,139,584	33,581,105
Net pension UAL as a percentage of payroll	184%	235%
Calculated Side Account Rate Relief	(7.83%)	(7.40%)
Allocated Pooled RHIA UAL	(\$402,636)	(\$4,572)

In the above exhibit, UAL amounts for the various pools (School District Tier 1/Tier 2 Pension, OPSRP, and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. This allocation differs from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

School District Pool

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$199.0	\$215.1
Tier 1/Tier 2 valuation payroll	1,443.7	1,532.7
Normal cost rate	13.79%	14.04%
Actuarial accrued liability	\$29,677.4	\$29,152.2
Actuarial asset value	21,924.7	19,952.9
Unfunded actuarial accrued liability	7,752.7	9,199.2
Funded status	74%	68%
Combined valuation payroll	\$3,314.2	\$3,240.7
UAL as a percentage of payroll	234%	284%
UAL rate (includes Multnomah Fire District #10)	16.73%	17.50%
Tier 1/Tier 2 Active Members		
▪ Count	23,753	26,180
▪ Average Age	52.8	52.6
▪ Average Service	19.7	19.2
▪ Average Valuation Payroll	\$60,781	\$58,545
Tier 1/Tier 2 Dormant Members		
▪ Count	12,003	12,865
▪ Average Age	56.1	55.8
▪ Average Monthly Benefit	\$1,004	\$993
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	67,545	65,696
▪ Average Age	72.4	72.2
▪ Average Monthly Benefit	\$2,236	\$2,191

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
General service normal cost	\$435.7	\$402.9
OPSRP general service valuation payroll	5,187.5	4,746.4
General service normal cost rate	8.40%	8.49%
Police and fire normal cost	\$86.6	\$80.6
OPSRP police and fire valuation payroll	664.5	609.4
Police and fire normal cost rate	13.03%	13.22%
Actuarial accrued liability	\$5,634.7	\$4,717.0
Actuarial asset value	4,116.5	3,021.4
Unfunded actuarial accrued liability	1,518.2	1,695.6
Funded status	73%	64%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	15%	17%
UAL rate	1.45%	1.56%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2017	December 31, 2016
Normal cost	\$2.5	\$3.0
Tier 1 / Tier 2 valuation payroll	4,246.9	4,516.7
Normal cost rate	0.06%	0.07%
Actuarial accrued liability	\$437.6	\$463.7
Actuarial asset value	553.3	465.0
Unfunded actuarial accrued liability	(115.7)	(1.3)
Funded status	126%	100%
Combined valuation payroll	\$10,098.9	\$9,872.6
UAL as a percentage of payroll	(1%)	0%
UAL rate	0.00%	0.42%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2016	N/A	\$22,358,652	\$22,358,652
2. Deposits during 2017			
3. Administrative expenses		(500)	(500)
4. Amount transferred to employer reserves during 2017		(2,780,131)	(2,780,131)
5. Side account earnings during 2017		3,293,129	3,293,129
6. Side account as of December 31, 2017 (1. + 2. + 3. + 4. + 5.)		\$22,871,151	\$22,871,151

Side Account Information

Side Account Balances

	December 31, 2017	December 31, 2016
Side Account 1	\$22,871,151	\$22,358,652
Side Account 2	0	0
Side Account 3	0	0
Total	\$22,871,151	\$22,358,652

Development of Side Account Rate

The rate relief attributable to an employer’s side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2017	December 31, 2016
1. Total side account	\$22,871,151	\$22,358,652
2. Combined valuation payroll	35,139,584	33,581,105
3. Average amortization factor	8.312	8.994
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(7.83%)	(7.40%)

¹ For employers with more than one side account, the total side account rate is determined by calculating the rate on each side account separately and adding the rates together.

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2017 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

<i>Actuarial cost method</i>	Entry Age Normal.
<i>Amortization Method</i>	<p>The UAL is amortized as a level percentage of combined payroll.</p> <p>The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period.</p> <p>The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period.</p> <p>All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.</p>
<i>Asset valuation method</i>	Market value of assets, excluding reserves.
<i>Contribution rate stabilization method (rate collar)</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.</p>

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

<i>Net investment return</i>	7.20% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.20% compounded annually on members' regular account balances.</p> <p>7.20% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.5% in 2018 to 4.2% in 2093.
<i>Administrative Expenses</i>	<p>\$6.5 million added to OPSRP normal cost.</p> <p>\$37.5 million added to Tier 1/Tier 2 normal cost.</p>

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2016 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2016 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date 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 an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

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

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.



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