

November 2017

Salem-Keizer Public Schools/3735
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Salem-Keizer Public Schools/3735

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Salem-Keizer Public Schools/3735

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Salem-Keizer Public Schools -- #3735

November 2017

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Executive Summary

Milliman has prepared this report for Salem-Keizer Public Schools to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Salem-Keizer Public Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Salem-Keizer Public Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(10.19%)	(10.19%)	(10.19%)
Net pension contribution rate	22.91%	17.36%	22.09%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	23.40%	17.78%	22.51%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Salem-Keizer Public Schools

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$674,420,488	\$581,919,293
Allocated pooled OPSRP UAL	40,903,243	31,716,623
Side account	231,509,888	242,130,970
Net unfunded pension actuarial accrued liability	483,813,843	371,504,946
Combined valuation payroll	237,585,517	223,098,924
Net pension UAL as a percentage of payroll	204%	167%
Calculated Side Account Rate Relief	(10.19%)	(10.82%)
Allocated Pooled RHIA UAL	(\$32,349)	\$1,083,292

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$242,130,970	\$242,130,970
2. Deposits during 2016		N/A	
3. Administrative expenses		(3,000)	(3,000)
4. Amount transferred to employer reserves during 2016		(27,100,737)	(27,100,737)
5. Side account earnings during 2016		16,482,655	16,482,655
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$231,509,888	\$231,509,888

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$114,853,760	\$120,896,944
Side Account 2	69,519,738	73,215,933
Side Account 3	47,136,390	48,018,093
Total	\$231,509,888	\$242,130,970

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, 2016	December 31, 2015
1. Total side account	\$231,509,888	\$242,130,970
2. Combined valuation payroll	237,585,517	223,098,924
3. Average amortization factor	9.553	10.023
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(10.19%)	(10.82%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Santiam Canyon School District/3665
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

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November 2017
Santiam Canyon School District/3665

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Santiam Canyon School District/3665

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Santiam Canyon School District -- #3665

November 2017

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Executive Summary

Milliman has prepared this report for Santiam Canyon School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Santiam Canyon School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Santiam Canyon School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(16.79%)	(16.79%)	(16.79%)
Net pension contribution rate	16.31%	10.76%	15.49%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	16.80%	11.18%	15.91%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Santiam Canyon School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$8,290,967	\$6,686,874
Allocated pooled OPSRP UAL	502,843	364,458
Side account	4,409,861	4,634,876
Net unfunded pension actuarial accrued liability	4,383,949	2,416,456
Combined valuation payroll	2,920,750	2,563,645
Net pension UAL as a percentage of payroll	150%	94%
Calculated Side Account Rate Relief	(16.79%)	(19.02%)
Allocated Pooled RHIA UAL	(\$398)	\$12,448

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$4,634,876	\$4,634,876
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(537,306)	(537,306)
5. Side account earnings during 2016		313,291	313,291
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$4,409,861	\$4,409,861

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$4,409,861	\$4,634,876
Side Account 2	0	0
Side Account 3	0	0
Total	\$4,409,861	\$4,634,876

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, 2016	December 31, 2015
1. Total side account	\$4,409,861	\$4,634,876
2. Combined valuation payroll	2,920,750	2,563,645
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(16.79%)	(19.02%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

School Districts/3000
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
School Districts/3000

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.

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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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
School Districts/3000

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

School Districts -- #3000

November 2017

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Executive Summary

Milliman has prepared this report for School Districts to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to School Districts.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for School Districts

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	0.00%	0.00%	0.00%
Net pension contribution rate	33.10%	27.55%	32.28%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	33.59%	27.97%	32.70%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

School Districts

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	N/A	N/A
Allocated pooled OPSRP UAL	N/A	N/A
Side account	N/A	N/A
Net unfunded pension actuarial accrued liability	N/A	N/A
Combined valuation payroll	N/A	N/A
Net pension UAL as a percentage of payroll	N/A	N/A
Calculated Side Account Rate Relief	N/A	N/A
Allocated Pooled RHIA UAL	N/A	N/A

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A		
2. Deposits during 2016		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2016			
5. Side account earnings during 2016			
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)			

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1		
Side Account 2		
Side Account 3		
Total	\$0	\$0

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, 2016	December 31, 2015
1. Total side account	\$0	\$0
2. Combined valuation payroll	0	0
3. Average amortization factor	0.000	0.000
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	0.00%	0.00%

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Seaside Schools/3187
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Seaside Schools/3187

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Seaside Schools/3187

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Seaside Schools -- #3187

November 2017

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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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Seaside Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Seaside Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(10.02%)	(10.02%)	(10.02%)
Net pension contribution rate	23.08%	17.53%	22.26%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	23.57%	17.95%	22.68%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Seaside Schools

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$25,210,117	\$21,697,222
Allocated pooled OPSRP UAL	1,528,980	1,182,574
Side account	8,005,170	8,350,764
Net unfunded pension actuarial accrued liability	18,733,927	14,529,032
Combined valuation payroll	8,881,045	8,318,382
Net pension UAL as a percentage of payroll	211%	175%
Calculated Side Account Rate Relief	(10.02%)	(10.56%)
Allocated Pooled RHIA UAL	(\$1,209)	\$40,391

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$8,350,764	\$8,350,764
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(920,403)	(920,403)
5. Side account earnings during 2016		575,808	575,808
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$8,005,170	\$8,005,170

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$8,005,170	\$8,350,764
Side Account 2	0	0
Side Account 3	0	0
Total	\$8,005,170	\$8,350,764

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, 2016	December 31, 2015
1. Total side account	\$8,005,170	\$8,350,764
2. Combined valuation payroll	8,881,045	8,318,382
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(10.02%)	(10.56%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Sherwood School District #88J/4317
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Sherwood School District #88J/4317

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Sherwood School District #88J/4317

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Sherwood School District #88J -- #4317

November 2017

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Executive Summary

Milliman has prepared this report for Sherwood School District #88J to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Sherwood School District #88J.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Sherwood School District #88J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(4.51%)	(4.51%)	(4.51%)
Net pension contribution rate	28.59%	23.04%	27.77%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	29.08%	23.46%	28.19%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Sherwood School District #88J

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$72,684,666	\$63,378,151
Allocated pooled OPSRP UAL	4,408,286	3,454,329
Side account	10,386,980	10,917,713
Net unfunded pension actuarial accrued liability	66,705,972	55,914,767
Combined valuation payroll	25,605,426	24,298,210
Net pension UAL as a percentage of payroll	261%	230%
Calculated Side Account Rate Relief	(4.51%)	(4.73%)
Allocated Pooled RHIA UAL	(\$3,486)	\$117,984

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$10,917,713	\$10,917,713
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(1,265,511)	(1,265,511)
5. Side account earnings during 2016		736,779	736,779
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$10,386,980	\$10,386,980

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$6,874,245	\$7,225,941
Side Account 2	3,512,734	3,691,771
Side Account 3	0	0
Total	\$10,386,980	\$10,917,713

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, 2016	December 31, 2015
1. Total side account	\$10,386,980	\$10,917,713
2. Combined valuation payroll	25,605,426	24,298,210
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(4.51%)	(4.73%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Silver Falls School District/4270
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Silver Falls School District/4270

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Silver Falls School District/4270

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Silver Falls School District -- #4270

November 2017

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Executive Summary

Milliman has prepared this report for Silver Falls School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Silver Falls School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Silver Falls School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(9.64%)	(9.64%)	(9.64%)
Net pension contribution rate	23.46%	17.91%	22.64%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	23.95%	18.33%	23.06%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Silver Falls School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$53,808,047	\$46,894,288
Allocated pooled OPSRP UAL	3,263,429	2,555,902
Side account	16,438,891	17,296,064
Net unfunded pension actuarial accrued liability	40,632,585	32,154,126
Combined valuation payroll	18,955,552	17,978,550
Net pension UAL as a percentage of payroll	214%	179%
Calculated Side Account Rate Relief	(9.64%)	(10.12%)
Allocated Pooled RHIA UAL	(\$2,581)	\$87,298

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$17,296,064	\$17,296,064
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(2,025,140)	(2,025,140)
5. Side account earnings during 2016		1,169,966	1,169,966
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$16,438,891	\$16,438,891

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$13,753,987	\$14,471,211
Side Account 2	2,684,904	2,824,853
Side Account 3	0	0
Total	\$16,438,891	\$17,296,064

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, 2016	December 31, 2015
1. Total side account	\$16,438,891	\$17,296,064
2. Combined valuation payroll	18,955,552	17,978,550
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(9.64%)	(10.12%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Sisters School District/3296
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Sisters School District/3296

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Sisters School District/3296

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Sisters School District -- #3296

November 2017

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Executive Summary

Milliman has prepared this report for Sisters School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Sisters School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Sisters School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(18.37%)	(18.37%)	(18.37%)
Net pension contribution rate	14.73%	9.18%	13.91%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	15.22%	9.60%	14.33%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Sisters School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$16,374,301	\$14,587,684
Allocated pooled OPSRP UAL	993,093	795,079
Side account	9,530,083	9,855,462
Net unfunded pension actuarial accrued liability	7,837,311	5,527,301
Combined valuation payroll	5,768,355	5,592,694
Net pension UAL as a percentage of payroll	136%	99%
Calculated Side Account Rate Relief	(18.37%)	(18.54%)
Allocated Pooled RHIA UAL	(\$785)	\$27,156

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$9,855,462	\$9,855,462
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(996,545)	(996,545)
5. Side account earnings during 2016		672,166	672,166
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$9,530,083	\$9,530,083

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$9,530,083	\$9,855,462
Side Account 2	0	0
Side Account 3	0	0
Total	\$9,530,083	\$9,855,462

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, 2016	December 31, 2015
1. Total side account	\$9,530,083	\$9,855,462
2. Combined valuation payroll	5,768,355	5,592,694
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(18.37%)	(18.54%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Siuslaw School District #97J/3537
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Siuslaw School District #97J/3537

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Siuslaw School District #97J/3537

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Siuslaw School District #97J -- #3537

November 2017

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Executive Summary

Milliman has prepared this report for Siuslaw School District #97J to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Siuslaw School District #97J.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Siuslaw School District #97J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(12.50%)	(12.50%)	(12.50%)
Net pension contribution rate	20.60%	15.05%	19.78%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	21.09%	15.47%	20.20%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Siuslaw School District #97J

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$21,325,130	\$18,704,844
Allocated pooled OPSRP UAL	1,293,358	1,019,479
Side account	8,444,541	8,885,788
Net unfunded pension actuarial accrued liability	14,173,947	10,838,535
Combined valuation payroll	7,512,438	7,171,150
Net pension UAL as a percentage of payroll	189%	151%
Calculated Side Account Rate Relief	(12.50%)	(13.04%)
Allocated Pooled RHIA UAL	(\$1,023)	\$34,821

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$8,885,788	\$8,885,788
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(1,041,397)	(1,041,397)
5. Side account earnings during 2016		601,151	601,151
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$8,444,541	\$8,444,541

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$8,444,541	\$8,885,788
Side Account 2	0	0
Side Account 3	0	0
Total	\$8,444,541	\$8,885,788

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, 2016	December 31, 2015
1. Total side account	\$8,444,541	\$8,885,788
2. Combined valuation payroll	7,512,438	7,171,150
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(12.50%)	(13.04%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

South Lane School District/3506
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
South Lane School District/3506

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
South Lane School District/3506

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

South Lane School District -- #3506

November 2017

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Executive Summary

Milliman has prepared this report for South Lane School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to South Lane School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for South Lane School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(17.43%)	(17.43%)	(17.43%)
Net pension contribution rate	15.67%	10.12%	14.85%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	16.16%	10.54%	15.27%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

South Lane School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$44,590,252	\$40,052,381
Allocated pooled OPSRP UAL	2,704,375	2,182,994
Side account	24,627,406	25,698,502
Net unfunded pension actuarial accrued liability	22,667,221	16,536,873
Combined valuation payroll	15,708,298	15,355,468
Net pension UAL as a percentage of payroll	144%	108%
Calculated Side Account Rate Relief	(17.43%)	(17.61%)
Allocated Pooled RHIA UAL	(\$2,139)	\$74,561

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$25,698,502	\$25,698,502
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(2,816,598)	(2,816,598)
5. Side account earnings during 2016		1,746,501	1,746,501
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$24,627,406	\$24,627,406

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$24,627,406	\$25,698,502
Side Account 2	0	0
Side Account 3	0	0
Total	\$24,627,406	\$25,698,502

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, 2016	December 31, 2015
1. Total side account	\$24,627,406	\$25,698,502
2. Combined valuation payroll	15,708,298	15,355,468
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(17.43%)	(17.61%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

South Umpqua School District/3319
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
South Umpqua School District/3319

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
South Umpqua School District/3319

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

South Umpqua School District -- #3319

November 2017

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Executive Summary

Milliman has prepared this report for South Umpqua School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to South Umpqua School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for South Umpqua School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(28.98%)	(28.98%)	(28.98%)
Net pension contribution rate	4.12%	0.00%	3.30%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	4.61%	0.42%	3.72%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

South Umpqua School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$18,300,062	\$15,525,400
Allocated pooled OPSRP UAL	1,109,889	846,188
Side account	16,803,423	16,900,111
Net unfunded pension actuarial accrued liability	2,606,528	(528,523)
Combined valuation payroll	6,446,764	5,952,200
Net pension UAL as a percentage of payroll	40%	(9%)
Calculated Side Account Rate Relief	(28.98%)	(29.87%)
Allocated Pooled RHIA UAL	(\$878)	\$28,902

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$16,900,111	\$16,900,111
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(1,267,362)	(1,267,362)
5. Side account earnings during 2016		1,172,674	1,172,674
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$16,803,423	\$16,803,423

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$8,125,873	\$8,210,037
Side Account 2	8,677,550	8,690,074
Side Account 3	0	0
Total	\$16,803,423	\$16,900,111

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, 2016	December 31, 2015
1. Total side account	\$16,803,423	\$16,900,111
2. Combined valuation payroll	6,446,764	5,952,200
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(28.98%)	(29.87%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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 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.

November 2017

Springfield School District #19/3487
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Springfield School District #19/3487

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Springfield School District #19/3487

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Springfield School District #19 -- #3487

November 2017

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Executive Summary

Milliman has prepared this report for Springfield School District #19 to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Springfield School District #19.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Springfield School District #19

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(10.25%)	(10.25%)	(10.25%)
Net pension contribution rate	22.85%	17.30%	22.03%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	23.34%	17.72%	22.45%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Springfield School District #19

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$153,613,015	\$135,288,651
Allocated pooled OPSRP UAL	9,316,547	7,373,701
Side account	49,887,020	52,233,619
Net unfunded pension actuarial accrued liability	113,042,542	90,428,733
Combined valuation payroll	54,114,945	51,867,592
Net pension UAL as a percentage of payroll	209%	174%
Calculated Side Account Rate Relief	(10.25%)	(10.60%)
Allocated Pooled RHIA UAL	(\$7,368)	\$251,851

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$52,233,619	\$52,233,619
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(5,909,452)	(5,909,452)
5. Side account earnings during 2016		3,563,854	3,563,854
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$49,887,020	\$49,887,020

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$49,887,020	\$52,233,619
Side Account 2	0	0
Side Account 3	0	0
Total	\$49,887,020	\$52,233,619

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, 2016	December 31, 2015
1. Total side account	\$49,887,020	\$52,233,619
2. Combined valuation payroll	54,114,945	51,867,592
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(10.25%)	(10.60%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

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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.

November 2017

St Helens School District #502/4279
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
St Helens School District #502/4279

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
St Helens School District #502/4279

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

St Helens School District #502 -- #4279

November 2017

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Executive Summary

Milliman has prepared this report for St Helens School District #502 to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to St Helens School District #502.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for St Helens School District #502

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(21.34%)	(21.34%)	(21.34%)
Net pension contribution rate	11.76%	6.21%	10.94%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	12.25%	6.63%	11.36%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

St Helens School District #502

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$42,654,422	\$37,899,441
Allocated pooled OPSRP UAL	2,586,968	2,065,651
Side account	28,844,861	29,819,613
Net unfunded pension actuarial accrued liability	16,396,529	10,145,479
Combined valuation payroll	15,026,342	14,530,064
Net pension UAL as a percentage of payroll	109%	70%
Calculated Side Account Rate Relief	(21.34%)	(21.59%)
Allocated Pooled RHIA UAL	(\$2,046)	\$70,553

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$29,819,613	\$29,819,613
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(3,016,391)	(3,016,391)
5. Side account earnings during 2016		2,043,639	2,043,639
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$28,844,861	\$28,844,861

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$11,880,613	\$12,390,536
Side Account 2	16,964,248	17,429,076
Side Account 3	0	0
Total	\$28,844,861	\$29,819,613

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, 2016	December 31, 2015
1. Total side account	\$28,844,861	\$29,819,613
2. Combined valuation payroll	15,026,342	14,530,064
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(21.34%)	(21.59%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Stanfield School District/3942
Oregon Public Employees Retirement System

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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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

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November 2017
Stanfield School District/3942

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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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Stanfield School District/3942

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Stanfield School District -- #3942

November 2017

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Executive Summary

Milliman has prepared this report for Stanfield School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Stanfield School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Stanfield School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(16.53%)	(16.53%)	(16.53%)
Net pension contribution rate	16.57%	11.02%	15.75%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	17.06%	11.44%	16.17%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Stanfield School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$7,379,317	\$5,799,708
Allocated pooled OPSRP UAL	447,552	316,104
Side account	3,865,472	4,021,024
Net unfunded pension actuarial accrued liability	3,961,397	2,094,788
Combined valuation payroll	2,599,593	2,223,519
Net pension UAL as a percentage of payroll	152%	94%
Calculated Side Account Rate Relief	(16.53%)	(19.03%)
Allocated Pooled RHIA UAL	(\$354)	\$10,797

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$4,021,024	\$4,021,024
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(428,813)	(428,813)
5. Side account earnings during 2016		274,261	274,261
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$3,865,472	\$3,865,472

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$3,865,472	\$4,021,024
Side Account 2	0	0
Side Account 3	0	0
Total	\$3,865,472	\$4,021,024

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, 2016	December 31, 2015
1. Total side account	\$3,865,472	\$4,021,024
2. Combined valuation payroll	2,599,593	2,223,519
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(16.53%)	(19.03%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Sutherlin School District #130/3353
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Sutherlin School District #130/3353

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Sutherlin School District #130/3353

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Sutherlin School District #130 -- #3353

November 2017

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Executive Summary

Milliman has prepared this report for Sutherlin School District #130 to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Sutherlin School District #130.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Sutherlin School District #130

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(19.94%)	(19.94%)	(19.94%)
Net pension contribution rate	13.16%	7.61%	12.34%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	13.65%	8.03%	12.76%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Sutherlin School District #130

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$19,237,955	\$17,353,835
Allocated pooled OPSRP UAL	1,166,772	945,844
Side account	12,156,935	12,732,516
Net unfunded pension actuarial accrued liability	8,247,792	5,567,163
Combined valuation payroll	6,777,166	6,653,194
Net pension UAL as a percentage of payroll	122%	84%
Calculated Side Account Rate Relief	(19.94%)	(20.14%)
Allocated Pooled RHIA UAL	(\$923)	\$32,306

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$12,732,516	\$12,732,516
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(1,430,666)	(1,430,666)
5. Side account earnings during 2016		857,085	857,085
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$12,156,935	\$12,156,935

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$5,360,200	\$5,619,721
Side Account 2	6,796,735	7,112,795
Side Account 3	0	0
Total	\$12,156,935	\$12,732,516

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, 2016	December 31, 2015
1. Total side account	\$12,156,935	\$12,732,516
2. Combined valuation payroll	6,777,166	6,653,194
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(19.94%)	(20.14%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Sweet Home School District #55/3618
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Sweet Home School District #55/3618

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Sweet Home School District #55/3618

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
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ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Sweet Home School District #55 -- #3618

November 2017

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Executive Summary

Milliman has prepared this report for Sweet Home School District #55 to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
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- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Sweet Home School District #55.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Sweet Home School District #55

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(21.45%)	(21.45%)	(21.45%)
Net pension contribution rate	11.65%	6.10%	10.83%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	12.14%	6.52%	11.25%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Sweet Home School District #55

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$29,630,952	\$26,769,637
Allocated pooled OPSRP UAL	1,797,101	1,459,038
Side account	20,142,995	20,788,489
Net unfunded pension actuarial accrued liability	11,285,058	7,440,186
Combined valuation payroll	10,438,421	10,263,068
Net pension UAL as a percentage of payroll	108%	72%
Calculated Side Account Rate Relief	(21.45%)	(21.31%)
Allocated Pooled RHIA UAL	(\$1,421)	\$49,834

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$20,788,489	\$20,788,489
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(2,078,227)	(2,078,227)
5. Side account earnings during 2016		1,434,732	1,434,732
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$20,142,995	\$20,142,995

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$9,558,491	\$9,748,023
Side Account 2	10,584,504	11,040,466
Side Account 3	0	0
Total	\$20,142,995	\$20,788,489

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, 2016	December 31, 2015
1. Total side account	\$20,142,995	\$20,788,489
2. Combined valuation payroll	10,438,421	10,263,068
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(21.45%)	(21.31%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Three Rivers U J School District/4338
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Three Rivers U J School District/4338

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Three Rivers U J School District/4338

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Three Rivers U J School District -- #4338

November 2017

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Executive Summary

Milliman has prepared this report for Three Rivers U J School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Three Rivers U J School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Three Rivers U J School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(10.42%)	(10.42%)	(10.42%)
Net pension contribution rate	22.68%	17.13%	21.86%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	23.17%	17.55%	22.28%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Three Rivers U J School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$67,479,454	\$59,372,536
Allocated pooled OPSRP UAL	4,092,593	3,236,009
Side account	22,272,017	23,421,452
Net unfunded pension actuarial accrued liability	49,300,030	39,187,093
Combined valuation payroll	23,771,729	22,762,519
Net pension UAL as a percentage of payroll	207%	172%
Calculated Side Account Rate Relief	(10.42%)	(10.83%)
Allocated Pooled RHIA UAL	(\$3,237)	\$110,527

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$23,421,452	\$23,421,452
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(2,746,621)	(2,746,621)
5. Side account earnings during 2016		1,598,186	1,598,186
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$22,272,017	\$22,272,017

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$22,272,017	\$23,421,452
Side Account 2	0	0
Side Account 3	0	0
Total	\$22,272,017	\$23,421,452

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, 2016	December 31, 2015
1. Total side account	\$22,272,017	\$23,421,452
2. Combined valuation payroll	23,771,729	22,762,519
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(10.42%)	(10.83%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Tigard-Tualatin School District #23J/4316
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017

Tigard-Tualatin School District #23J/4316

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Tigard-Tualatin School District #23J/4316

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Tigard-Tualatin School District #23J -- #4316

November 2017

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Executive Summary

Milliman has prepared this report for Tigard-Tualatin School District #23J to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Tigard-Tualatin School District #23J.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Tigard-Tualatin School District #23J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(4.18%)	(4.18%)	(4.18%)
Net pension contribution rate	28.92%	23.37%	28.10%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	29.41%	23.79%	28.52%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Tigard-Tualatin School District #23J

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$186,533,682	\$156,589,840
Allocated pooled OPSRP UAL	11,313,168	8,534,690
Side account	24,718,478	25,756,178
Net unfunded pension actuarial accrued liability	173,128,372	139,368,352
Combined valuation payroll	65,712,270	60,034,141
Net pension UAL as a percentage of payroll	263%	232%
Calculated Side Account Rate Relief	(4.18%)	(4.51%)
Allocated Pooled RHIA UAL	(\$8,947)	\$291,505

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$25,756,178	\$25,756,178
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(2,791,101)	(2,791,101)
5. Side account earnings during 2016		1,754,401	1,754,401
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$24,718,478	\$24,718,478

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$24,718,478	\$25,756,178
Side Account 2	0	0
Side Account 3	0	0
Total	\$24,718,478	\$25,756,178

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, 2016	December 31, 2015
1. Total side account	\$24,718,478	\$25,756,178
2. Combined valuation payroll	65,712,270	60,034,141
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(4.18%)	(4.51%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Tillamook Public Schools/3902
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.

November 2017
Tillamook Public Schools/3902

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Tillamook Public Schools/3902

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Tillamook Public Schools -- #3902

November 2017

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Executive Summary

Milliman has prepared this report for Tillamook Public Schools to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Tillamook Public Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Tillamook Public Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(21.60%)	(21.60%)	(21.60%)
Net pension contribution rate	11.50%	5.95%	10.68%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	11.99%	6.37%	11.10%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Tillamook Public Schools

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$28,394,740	\$25,331,656
Allocated pooled OPSRP UAL	1,722,126	1,380,663
Side account	19,436,097	19,980,235
Net unfunded pension actuarial accrued liability	10,680,769	6,732,084
Combined valuation payroll	10,002,927	9,711,768
Net pension UAL as a percentage of payroll	107%	69%
Calculated Side Account Rate Relief	(21.60%)	(21.65%)
Allocated Pooled RHIA UAL	(\$1,362)	\$47,157

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$19,980,235	\$19,980,235
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(1,913,783)	(1,913,783)
5. Side account earnings during 2016		1,370,645	1,370,645
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$19,436,097	\$19,436,097

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$19,436,097	\$19,980,235
Side Account 2	0	0
Side Account 3	0	0
Total	\$19,436,097	\$19,980,235

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, 2016	December 31, 2015
1. Total side account	\$19,436,097	\$19,980,235
2. Combined valuation payroll	10,002,927	9,711,768
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(21.60%)	(21.65%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Umatilla School District #6R/3928
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Umatilla School District #6R/3928

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Umatilla School District #6R/3928

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Umatilla School District #6R -- #3928

November 2017

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Executive Summary

Milliman has prepared this report for Umatilla School District #6R to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Umatilla School District #6R.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Umatilla School District #6R

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(7.15%)	(7.15%)	(7.15%)
Net pension contribution rate	25.95%	20.40%	25.13%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	26.44%	20.82%	25.55%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Umatilla School District #6R

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$17,846,135	\$16,421,560
Allocated pooled OPSRP UAL	1,082,359	895,032
Side account	4,041,998	4,187,667
Net unfunded pension actuarial accrued liability	14,886,496	13,128,925
Combined valuation payroll	6,286,854	6,295,774
Net pension UAL as a percentage of payroll	237%	209%
Calculated Side Account Rate Relief	(7.15%)	(7.00%)
Allocated Pooled RHIA UAL	(\$856)	\$30,570

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$4,187,667	\$4,187,667
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(430,199)	(430,199)
5. Side account earnings during 2016		285,531	285,531
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$4,041,998	\$4,041,998

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$4,041,998	\$4,187,667
Side Account 2	0	0
Side Account 3	0	0
Total	\$4,041,998	\$4,187,667

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, 2016	December 31, 2015
1. Total side account	\$4,041,998	\$4,187,667
2. Combined valuation payroll	6,286,854	6,295,774
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(7.15%)	(7.00%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Union County School District/3966
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Union County School District/3966

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Union County School District/3966

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Union County School District -- #3966

November 2017

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Executive Summary

Milliman has prepared this report for Union County School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Union County School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Union County School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(14.05%)	(14.05%)	(14.05%)
Net pension contribution rate	19.05%	13.50%	18.23%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	19.54%	13.92%	18.65%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Union County School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$4,556,454	\$4,062,990
Allocated pooled OPSRP UAL	276,346	221,447
Side account	2,027,850	2,118,912
Net unfunded pension actuarial accrued liability	2,804,950	2,165,525
Combined valuation payroll	1,605,152	1,557,688
Net pension UAL as a percentage of payroll	175%	139%
Calculated Side Account Rate Relief	(14.05%)	(14.31%)
Allocated Pooled RHIA UAL	(\$219)	\$7,564

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$2,118,912	\$2,118,912
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(235,158)	(235,158)
5. Side account earnings during 2016		145,096	145,096
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$2,027,850	\$2,027,850

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$2,027,850	\$2,118,912
Side Account 2	0	0
Side Account 3	0	0
Total	\$2,027,850	\$2,118,912

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, 2016	December 31, 2015
1. Total side account	\$2,027,850	\$2,118,912
2. Combined valuation payroll	1,605,152	1,557,688
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(14.05%)	(14.31%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Warrenton-Hammond School District/3195
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017

Warrenton-Hammond School District/3195

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Warrenton-Hammond School District/3195

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Warrenton-Hammond School District -- #3195

November 2017

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Executive Summary

Milliman has prepared this report for Warrenton-Hammond School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Warrenton-Hammond School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Warrenton-Hammond School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(7.60%)	(7.60%)	(7.60%)
Net pension contribution rate	25.50%	19.95%	24.68%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	25.99%	20.37%	25.10%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Warrenton-Hammond School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$14,312,030	\$11,937,940
Allocated pooled OPSRP UAL	868,017	650,659
Side account	3,447,267	3,646,683
Net unfunded pension actuarial accrued liability	11,732,780	8,941,916
Combined valuation payroll	5,041,856	4,576,823
Net pension UAL as a percentage of payroll	233%	195%
Calculated Side Account Rate Relief	(7.60%)	(8.38%)
Allocated Pooled RHIA UAL	(\$686)	\$22,223

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$3,646,683	\$3,646,683
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(442,360)	(442,360)
5. Side account earnings during 2016		243,944	243,944
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$3,447,267	\$3,447,267

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$3,447,267	\$3,646,683
Side Account 2	0	0
Side Account 3	0	0
Total	\$3,447,267	\$3,646,683

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, 2016	December 31, 2015
1. Total side account	\$3,447,267	\$3,646,683
2. Combined valuation payroll	5,041,856	4,576,823
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(7.60%)	(8.38%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

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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.

November 2017

West Linn School District/3075
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
West Linn School District/3075

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
West Linn School District/3075

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

West Linn School District -- #3075

November 2017

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Executive Summary

Milliman has prepared this report for West Linn School District to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to West Linn School District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for West Linn School District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(7.75%)	(7.75%)	(7.75%)
Net pension contribution rate	25.35%	19.80%	24.53%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	25.84%	20.22%	24.95%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

West Linn School District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$135,682,385	\$112,402,951
Allocated pooled OPSRP UAL	8,229,064	6,126,351
Side account	33,297,401	35,400,482
Net unfunded pension actuarial accrued liability	110,614,048	83,128,820
Combined valuation payroll	47,798,325	43,093,566
Net pension UAL as a percentage of payroll	231%	193%
Calculated Side Account Rate Relief	(7.75%)	(8.64%)
Allocated Pooled RHIA UAL	(\$6,508)	\$209,248

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$35,400,482	\$35,400,482
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(4,464,391)	(4,464,391)
5. Side account earnings during 2016		2,362,310	2,362,310
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$33,297,401	\$33,297,401

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$33,297,401	\$35,400,482
Side Account 2	0	0
Side Account 3	0	0
Total	\$33,297,401	\$35,400,482

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, 2016	December 31, 2015
1. Total side account	\$33,297,401	\$35,400,482
2. Combined valuation payroll	47,798,325	43,093,566
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(7.75%)	(8.64%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

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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.

November 2017

Willamette Education Service District/4254
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017

Willamette Education Service District/4254

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Willamette Education Service District/4254

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Willamette Education Service District -- #4254

November 2017

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Executive Summary

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

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Willamette Education Service District.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Willamette Education Service District

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(18.61%)	(18.61%)	(18.61%)
Net pension contribution rate	14.49%	8.94%	13.67%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	14.98%	9.36%	14.09%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Willamette Education Service District

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$42,816,051	\$37,534,528
Allocated pooled OPSRP UAL	2,596,771	2,045,762
Side account	25,259,154	26,329,899
Net unfunded pension actuarial accrued liability	20,153,668	13,250,391
Combined valuation payroll	15,083,281	14,390,162
Net pension UAL as a percentage of payroll	134%	92%
Calculated Side Account Rate Relief	(18.61%)	(19.26%)
Allocated Pooled RHIA UAL	(\$2,054)	\$69,874

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$26,329,899	\$26,329,899
2. Deposits during 2016		N/A	
3. Administrative expenses		(3,000)	(3,000)
4. Amount transferred to employer reserves during 2016		(2,847,620)	(2,847,620)
5. Side account earnings during 2016		1,779,875	1,779,875
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$25,259,154	\$25,259,154

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$17,828,633	\$18,583,507
Side Account 2	4,440,579	4,497,769
Side Account 3	2,989,942	3,248,623
Total	\$25,259,154	\$26,329,899

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, 2016	December 31, 2015
1. Total side account	\$25,259,154	\$26,329,899
2. Combined valuation payroll	15,083,281	14,390,162
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(18.61%)	(19.26%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Willamina School District #30J/4314
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information 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.

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November 2017

Willamina School District #30J/4314

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Willamina School District #30J/4314

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', with a long horizontal flourish extending to the right.

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

A handwritten signature in black ink, appearing to read 'Scott Preppernau', with a long horizontal flourish extending to the right.

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



ACTUARIAL VALUATION REPORT DECEMBER 31, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Willamina School District #30J -- #4314

November 2017

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Executive Summary

Milliman has prepared this report for Willamina School District #30J to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Willamina School District #30J.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Willamina School District #30J

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(4.53%)	(4.53%)	(4.53%)
Net pension contribution rate	28.57%	23.02%	27.75%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	29.06%	23.44%	28.17%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Willamina School District #30J

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$11,889,705	\$10,872,212
Allocated pooled OPSRP UAL	721,104	592,573
Side account	1,705,164	1,781,298
Net unfunded pension actuarial accrued liability	10,905,645	9,683,487
Combined valuation payroll	4,188,517	4,168,239
Net pension UAL as a percentage of payroll	260%	232%
Calculated Side Account Rate Relief	(4.53%)	(4.50%)
Allocated Pooled RHIA UAL	(\$570)	\$20,240

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$1,781,298	\$1,781,298
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(195,312)	(195,312)
5. Side account earnings during 2016		120,178	120,178
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$1,705,164	\$1,705,164

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$1,705,164	\$1,781,298
Side Account 2	0	0
Side Account 3	0	0
Total	\$1,705,164	\$1,781,298

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, 2016	December 31, 2015
1. Total side account	\$1,705,164	\$1,781,298
2. Combined valuation payroll	4,188,517	4,168,239
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(4.53%)	(4.50%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Winston-Dillard Schools/3349
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Winston-Dillard Schools/3349

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.

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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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Winston-Dillard Schools/3349

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Winston-Dillard Schools -- #3349

November 2017

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Executive Summary

Milliman has prepared this report for Winston-Dillard Schools to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Winston-Dillard Schools.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Winston-Dillard Schools

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(34.36%)	(34.36%)	(34.36%)
Net pension contribution rate	0.00%	0.00%	0.00%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	0.49%	0.42%	0.42%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Winston-Dillard Schools

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$15,306,066	\$13,927,443
Allocated pooled OPSRP UAL	928,305	759,094
Side account	16,663,112	16,590,824
Net unfunded pension actuarial accrued liability	(428,741)	(1,904,287)
Combined valuation payroll	5,392,036	5,339,568
Net pension UAL as a percentage of payroll	(8%)	(36%)
Calculated Side Account Rate Relief	(34.36%)	(32.69%)
Allocated Pooled RHIA UAL	(\$734)	\$25,927

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$16,590,824	\$16,590,824
2. Deposits during 2016		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2016		(1,088,038)	(1,088,038)
5. Side account earnings during 2016		1,162,326	1,162,326
6. Side account as of December 31, 2016 <i>(1. + 2. + 3. + 4. + 5.)</i>		\$16,663,112	\$16,663,112

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$7,575,684	\$7,369,133
Side Account 2	9,087,428	9,221,691
Side Account 3	0	0
Total	\$16,663,112	\$16,590,824

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, 2016	December 31, 2015
1. Total side account	\$16,663,112	\$16,590,824
2. Combined valuation payroll	5,392,036	5,339,568
3. Average amortization factor	8.994	9.504
4. Total side account rate $(-1. \div 2. \div 3.)^1$	(34.36%)	(32.69%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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.

November 2017

Yamhill-Carlton School District #1/4166
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, 2016. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This valuation is advisory and does not affect employer contribution rates. Employer contribution rates effective July 1, 2019 through June 30, 2021 will be calculated in the December 31, 2017 actuarial valuation.

This report reflects the benefit provisions in effect as of December 31, 2016. 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,
- Information to assist you in completing GASB 45 financial reporting requirements, 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.



November 2017
Yamhill-Carlton School District #1/4166

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.

Some of the actuarial computations presented in this report are for purposes of estimating the contribution rates effective from July 2019 to June 2021 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.



November 2017
Yamhill-Carlton School District #1/4166

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, 2016

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL DISTRICT POOL

Yamhill-Carlton School District #1 -- #4166

November 2017

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Executive Summary

Milliman has prepared this report for Yamhill-Carlton School District #1 to:

- Provide summary December 31, 2016 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 advisory information calculated as of December 31, 2016 on estimated employer-specific contribution rates effective July 1, 2019 through June 30, 2021,
- Provide employer-specific information on side accounts as of December 31, 2016, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

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, 2016 system-wide actuarial valuation report. This report develops employer-specific side account rates and applies the results from the system-wide valuation to Yamhill-Carlton School District #1.

Employer Contribution Rates

The following table summarizes the employer contribution rates calculated as of December 31, 2016 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.

Advisory 2019 - 2021 Employer Rates Calculated as of December 31, 2016 for Yamhill-Carlton School District #1

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
Pension			
Normal cost rate	14.04%	8.49%	13.22%
Tier 1/Tier 2 UAL rate ¹	17.50%	17.50%	17.50%
OPSRP UAL rate	1.56%	1.56%	1.56%
Side account rate relief ²	(27.88%)	(27.88%)	(27.88%)
Net pension contribution rate	5.22%	0.00%	4.40%
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.42%	0.42%	0.42%
Net retiree healthcare rate	0.49%	0.42%	0.42%
Total net employer contribution rate	5.71%	0.42%	4.82%

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 2019 to June 2021 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, 2019, which will depend on the funded status as of December 31, 2017. 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, 2016 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	25.43%	25.43%
Minimum 2019-2021 Rate	20.34%	15.25%
Maximum 2019-2021 Rate	30.52%	35.61%

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.

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under GASB 45. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of the December 31, 2015 valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
	Tier 1 / Tier 2	OPSRP	
		General Service	Police and Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern 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 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.

Yamhill-Carlton School District #1

	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Allocated pooled T1/T2 UAL	\$13,521,541	\$12,895,086
Allocated pooled OPSRP UAL	820,074	702,827
Side account	11,945,100	12,048,626
Net unfunded pension actuarial accrued liability	2,396,515	1,549,287
Combined valuation payroll	4,763,382	4,943,778
Net pension UAL as a percentage of payroll	50%	31%
Calculated Side Account Rate Relief	(27.88%)	(25.64%)
Allocated Pooled RHIA UAL	(\$649)	\$24,005

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, 2016	December 31, 2015
Normal cost	\$215.1	\$209.7
Tier 1/Tier 2 valuation payroll	1,532.7	1,578.8
Normal cost rate	14.04%	13.28%
Actuarial accrued liability	\$29,152.2	\$27,670.7
Actuarial asset value	19,952.9	19,687.3
Unfunded actuarial accrued liability	9,199.2	7,983.4
Funded status	68%	71%
Combined valuation payroll	\$3,240.7	\$3,060.7
UAL as a percentage of payroll	284%	261%
UAL rate (includes Multnomah Fire District #10)	17.50%	12.15%
Tier 1/Tier 2 Active Members		
▪ Count	26,180	28,114
▪ Average Age	52.6	52.2
▪ Average Service	19.2	18.5
▪ Average Valuation Payroll	\$58,545	\$56,157
Tier 1/Tier 2 Dormant Members		
▪ Count	12,865	12,964
▪ Average Age	55.8	55.0
▪ Average Monthly Benefit	\$993	\$988
Tier 1/Tier 2 Retirees and Beneficiaries		
▪ Count	65,696	65,030
▪ Average Age	72.2	71.9
▪ Average Monthly Benefit	\$2,191	\$2,143

Executive Summary

Principal Valuation Results (continued)

OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
General service normal cost	\$402.9	\$342.2
OPSRP general service valuation payroll	4,746.4	4,266.9
General service normal cost rate	8.49%	8.02%
Police and fire normal cost	\$80.6	\$69.9
OPSRP police and fire valuation payroll	609.4	546.4
Police and fire normal cost rate	13.22%	12.79%
Actuarial accrued liability	\$4,717.0	\$3,742.5
Actuarial asset value	3,021.4	2,389.1
Unfunded actuarial accrued liability	1,695.6	1,353.5
Funded status	64%	64%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	17%	14%
UAL rate	1.56%	1.27%

Retiree Healthcare

RHIA (\$ in millions)	Actuarial Valuation as of	
	December 31, 2016	December 31, 2015
Normal cost	\$3.0	\$3.3
Tier 1 / Tier 2 valuation payroll	4,516.7	4,730.8
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$463.7	\$465.6
Actuarial asset value	465.0	419.3
Unfunded actuarial accrued liability	(1.3)	46.3
Funded status	100%	90%
Combined valuation payroll	\$9,872.6	\$9,544.1
UAL as a percentage of payroll	0%	0%
UAL rate	0.42%	0.43%

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, 2015	N/A	\$12,048,626	\$12,048,626
2. Deposits during 2016		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2016		(939,921)	(939,921)
5. Side account earnings during 2016		837,395	837,395
6. Side account as of December 31, 2016 (1. + 2. + 3. + 4. + 5.)		\$11,945,100	\$11,945,100

Side Account Information

Side Account Balances

	December 31, 2016	December 31, 2015
Side Account 1	\$11,945,100	\$12,048,626
Side Account 2	0	0
Side Account 3	0	0
Total	\$11,945,100	\$12,048,626

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, 2016	December 31, 2015
1. Total side account	\$11,945,100	\$12,048,626
2. Combined valuation payroll	4,763,382	4,943,778
3. Average amortization factor	8.994	9.504
4. Total side account rate (-1. ÷ 2. ÷ 3.) ¹	(27.88%)	(25.64%)

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, 2016 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 7.5% in 2017 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, 2015 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Valuation Procedures

- **Allocation of Liability for Service Segments**

For allocating Tier 1/Tier 2 liability among multiple employers, the weighting between Money Match and Full Formula methodologies was updated to reflect expected future experience.

Changes in Economic Assumptions

- **Investment Return and Interest Crediting**

The assumed investment return and interest crediting to both regular and variable account balances was reduced to 7.20%. Previously, the assumed investment return and interest crediting to both regular and variable account balances was 7.50%.

- **Administrative Expenses**

Administrative expenses were assumed to be \$6.5 million per year for the OPSRP System and \$37.5 million per year for the Tier 1/Tier 2 System.

Changes in Demographic Assumptions

- **Mortality**

Mortality assumption uses RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.

- **Disability, Retirement, and Termination**

Rates for the disability, retirement, and termination assumptions were adjusted.

A complete summary of all assumptions used as part of the December 31, 2016 actuarial valuation is contained in the system-wide report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2015 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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