

September 2016

City of Salem/2101  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
City of Salem/2101

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Salem/2101

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, 2015

## OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Salem -- #2101

September 2016

### Secondary Employers

2136	Salem Department Of Utilities
2748	Salem Area Mass Transit Authority

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# Executive Summary

Milliman has prepared this report for City of Salem to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Salem.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for City of Salem***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	17.05%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	9.50%	9.50%	9.50%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	(7.25%)	(7.25%)	(7.25%)
<b>Net pension contribution rate</b>	<b>20.57%</b>	<b>11.54%</b>	<b>16.31%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>21.07%</b>	<b>11.97%</b>	<b>16.74%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 69%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	26.55%	26.55%
Minimum 2019-2021 Rate	21.24%	15.93%
Maximum 2019-2021 Rate	31.86%	37.17%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$395,595,667	\$449,744,424	\$54,148,757	88%	\$76,156,229	71%
12/31/2011	385,499,542	465,044,196	79,544,654	83%	77,274,971	103%
12/31/2012	426,847,155	469,350,980	42,503,825	91%	77,123,538	55%
12/31/2013	468,955,181	486,497,219	17,542,038	96%	76,037,921	23%
12/31/2014	479,801,993	575,755,235	95,953,242	83%	76,521,581	125%
12/31/2015	467,585,026	598,989,240	131,404,214	78%	78,129,106	168%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *City of Salem*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$185,248,139	\$153,481,158
Allocated pooled OPSRP UAL	11,107,142	8,748,083
Side account	53,843,926	57,527,917
Net unfunded pension actuarial accrued liability	142,511,355	104,701,324
Combined valuation payroll	78,129,106	76,521,581
Net pension UAL as a percentage of payroll	182%	137%
Calculated side account rate relief	(7.25%)	(7.43%)
Allocated pooled RHIA UAL	\$379,368	\$608,239

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$7,951,773	\$8,319,184
Tier 1/Tier 2 valuation payroll	46,642,989	48,034,296
Tier 1/Tier 2 pension normal cost rate	17.05%	17.32%
Tier 1/ Tier 2 Actuarial accrued liability	\$598,989,240	\$575,755,235
Actuarial asset value	413,741,101	422,274,077
Tier 1/Tier 2 Unfunded actuarial accrued liability	185,248,139	153,481,158
Tier 1/ Tier 2 Funded status	69%	73%
Combined valuation payroll	\$78,129,106	\$76,521,581
Tier 1/Tier 2 UAL as a percentage of payroll	237%	201%
Tier 1/Tier 2 UAL rate	9.50%	8.79%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members <sup>1</sup>	575	622
Tier 1/Tier 2 dormant members	250	254
Tier 1/Tier 2 retirees and beneficiaries	1,130	1,077

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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.

	<b>New</b>	<b>Continuing</b>	<b>Total</b>
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>	<b>\$57,527,917</b>	<b>\$57,527,917</b>
2. Deposits made during 2015		N/A	
3. Administrative expenses		(2,000)	(2,000)
4. Amount transferred to employer reserves during 2015		(4,882,111)	(4,882,111)
5. Side account earnings during 2015		1,200,120	1,200,120
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>		<b>\$53,843,926</b>	<b>\$53,843,926</b>

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$50,391,167	\$53,840,583
Side account 2	3,452,759	3,687,334
Side account 3	0	0
<b>Total</b>	<b>\$53,843,926</b>	<b>\$57,527,917</b>

## 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, 2015	December 31, 2014
1. Total side account	\$53,843,926	\$57,527,917
2. Combined valuation payroll	78,129,106	76,521,581
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>(7.25%)</b>	<b>(7.43%)</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$50,955,154	\$54,396,840
2. Employer reserves	189,909,339	186,206,932
3. Benefits in force reserve	172,876,608	181,670,305
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$413,741,101</b>	<b>\$422,274,077</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$422,274,077
2. Regular employer contributions	7,135,745
3. Benefit payments and expense	(31,437,829)
4. Adjustments <sup>1</sup>	1,126,990
5. Interest credited	9,760,006
6. Total transferred from side accounts	4,882,111
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$413,741,101</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$2,125,949	\$2,286,415
Tier 1 General Service	1,874,294	2,119,200
Tier 2 Police & Fire	2,084,751	1,975,741
Tier 2 General Service	1,866,779	1,937,828
<b>Total</b>	<b>\$7,951,773</b>	<b>\$8,319,184</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$7,951,773	\$7,951,773	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$65,428,294	\$66,967,889
▪ Tier 1 General Service	59,434,390	63,333,571
▪ Tier 2 Police & Fire	36,795,120	31,744,022
▪ Tier 2 General Service	40,220,165	37,738,584
▪ <b>Total Active Members</b>	<b>\$201,877,969</b>	<b>\$199,784,066</b>
Dormant Members	23,837,575	23,535,279
Retired Members and Beneficiaries	373,273,696	352,435,890
<b>Total Actuarial Accrued Liability</b>	<b>\$598,989,240</b>	<b>\$575,755,235</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$598,989,240	\$598,989,240	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$598,989,240	\$575,755,235
2. Actuarial value of assets	413,741,101	422,274,077
3. Unfunded accrued liability (1. – 2.)	185,248,139	153,481,158
4. Funded percentage (2. ÷ 1.)	69%	73%
5. Combined valuation payroll	\$78,129,106	\$76,521,581
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	237%	201%

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$75,369,707	\$5,645,671	\$5,427,177	\$75,151,213	\$5,843,341
December 31, 2015	N/A	N/A	N/A	\$110,096,926	\$7,966,492
<b>Total</b>				<b>\$185,248,139</b>	<b>\$13,809,833</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$575,755,235
b. Normal cost at December 31, 2014 (excluding assumed expenses)	7,956,503
c. Benefit payments during 2015	(31,195,006)
d. Interest at 7.50% to December 31, 2015	42,310,199
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	594,826,931
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	594,826,931
2. Actuarial accrued liability at December 31, 2015	598,989,240
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(4,162,309)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	422,274,077
b. Contributions for 2015 <sup>1</sup>	12,017,856
c. Benefit payments and expenses during 2015	(31,437,829)
d. Interest at 7.50% to December 31, 2015	30,942,307
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	433,796,411
5. Actuarial value of assets at December 31, 2015	413,741,101
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(20,055,310)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$24,217,619)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$153,481,158</b>
2. Expected increase	7,549,362
3. Liability (gain)/loss	4,162,309
4. Asset (gain)/loss	20,055,310
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$185,248,139</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$2,125,949	\$9,444,135	22.51%	\$2,286,415	\$9,988,238	22.89%
Tier 1 General Service	1,874,294	10,927,881	17.15%	2,119,200	12,092,537	17.52%
Tier 2 Police & Fire	2,084,751	11,276,923	18.49%	1,975,741	10,646,534	18.56%
Tier 2 General Service	1,866,779	14,994,050	12.45%	1,937,828	15,306,987	12.66%
<b>Total</b>	<b>\$7,951,773</b>	<b>\$46,642,989</b>	<b>17.05%</b>	<b>\$8,319,184</b>	<b>\$48,034,296</b>	<b>17.32%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$185,248,139	\$153,481,158
2. Next year's Tier 1/Tier 2 UAL payment	13,809,833	11,297,730
3. Combined valuation payroll	78,129,106	76,521,581
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	17.68%	14.76%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.05%	17.32%
b. Tier 1/Tier 2 UAL rate	17.68%	14.76%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	34.88%	32.23%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		14.68%
2. Employer contribution rate attributable to side accounts		(7.08%)
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		21.76%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		4.35%
b. Preliminary size of rate collar (maximum of 3% or a.)		4.35%
c. Funded percentage		69%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		4.79%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	16.97%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	26.55%
7. July 1, 2017 total pension rate, before adjustment		34.88%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(8.33%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		17.68%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	9.35%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		26.55%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		17.05%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		17.05%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	26.55%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.05%	17.32%
b. Tier 1/Tier 2 UAL rate	9.35%	8.64%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	26.55%	26.11%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$10,927,881	\$9,444,135	\$20,372,016
Tier 2	14,994,050	11,276,923	26,270,973
Tier 1/Tier 2 valuation payroll	25,921,931	20,721,058	46,642,989
OPSRP valuation payroll	22,591,137	8,894,980	31,486,117
<b>Combined valuation payroll</b>	<b>\$48,513,068</b>	<b>\$29,616,038</b>	<b>\$78,129,106</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	150	219	386	755	177	230	356	763
Police & Fire	92	114	111	317	103	112	106	321
Total	242	333	497	1,072	280	342	462	1,084
<b>Active Members with previous service segments with the employer</b>								
General Service	132	157	N/A	289	140	159	N/A	299
Police & Fire	39	21	N/A	60	38	20	N/A	58
Total	171	178	N/A	349	178	179	N/A	357
<b>Dormant Members</b>								
General Service	105	118	45	268	116	111	44	271
Police & Fire	18	9	7	34	15	12	3	30
Total	123	127	52	302	131	123	47	301
<b>Retired Members and Beneficiaries</b>								
General Service	683	114	12	809	677	73	4	754
Police & Fire	313	20	0	333	322	5	0	327
Total	996	134	12	1,142	999	78	4	1,081
<b>Grand Total Number of Members</b>	<b>1,532</b>	<b>772</b>	<b>561</b>	<b>2,865</b>	<b>1,588</b>	<b>722</b>	<b>513</b>	<b>2,823</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34		1	3	2						6
35-39		1	29	12						42
40-44		3	44	48	6					101
45-49		2	26	61	38	9				136
50-54		1	24	24	25	19	2			95
55-59			23	26	20	32	6			107
60-64			9	19	16	14	7	2		67
65-69		1	5	3	5	2	2	1	1	20
70-74						1				1
75+										
<b>Total</b>	<b>0</b>	<b>9</b>	<b>163</b>	<b>195</b>	<b>110</b>	<b>77</b>	<b>17</b>	<b>3</b>	<b>1</b>	<b>575</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45	8	1,068
20-24			45-49	5	1,873
25-29			50-54	19	3,395
30-34	3	137	55-59	77	2,581
35-39	13	593	60-64	230	2,532
40-44	36	592	65-69	321	2,109
45-49	46	1,409	70-74	216	2,115
50-54	49	860	75-79	125	2,120
55-59	47	925	80-84	66	1,358
60-64	36	932	85-89	44	1,292
65-69	10	497	90-94	18	728
70-74	6	220	95-99	1	183
75+	4	2,856	100+		
<b>Total</b>	<b>250</b>	<b>925</b>	<b>Total</b>	<b>1,130</b>	<b>2,143</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Salem Housing Authority/2747  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).

September 2016  
Salem Housing Authority/2747

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Salem Housing Authority/2747

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Salem Housing Authority -- #2747**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Salem Housing Authority to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Salem Housing Authority.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Salem Housing Authority***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	14.21%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	4.39%	4.39%	4.39%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>19.87%</b>	<b>13.68%</b>	<b>18.45%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>20.37%</b>	<b>14.11%</b>	<b>18.88%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 75%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	18.60%	18.60%
Minimum 2019-2021 Rate	14.88%	11.16%
Maximum 2019-2021 Rate	22.32%	26.04%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$9,319,449	\$12,223,232	\$2,903,783	76%	\$2,702,281	107%
12/31/2011	9,559,472	12,177,434	2,617,962	79%	2,434,177	108%
12/31/2012	10,563,890	12,164,784	1,600,894	87%	2,346,011	68%
12/31/2013	11,707,116	12,604,785	897,669	93%	2,063,886	43%
12/31/2014	12,030,592	14,947,652	2,917,060	80%	2,160,512	135%
12/31/2015	11,551,677	15,470,113	3,918,436	75%	2,075,885	189%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Salem Housing Authority***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$3,918,436	\$2,917,060
Allocated pooled OPSRP UAL	295,116	246,994
Side account	0	0
Net unfunded pension actuarial accrued liability	4,213,552	3,164,054
Combined valuation payroll	2,075,885	2,160,512
Net pension UAL as a percentage of payroll	203%	146%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$10,080	\$17,173

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$166,213	\$178,593
Tier 1/Tier 2 valuation payroll	1,169,488	1,243,473
Tier 1/Tier 2 pension normal cost rate	14.21%	14.36%
Tier 1/ Tier 2 Actuarial accrued liability	\$15,470,113	\$14,947,652
Actuarial asset value	11,551,677	12,030,592
Tier 1/Tier 2 Unfunded actuarial accrued liability	3,918,436	2,917,060
Tier 1/ Tier 2 Funded status	75%	80%
Combined valuation payroll	\$2,075,885	\$2,160,512
Tier 1/Tier 2 UAL as a percentage of payroll	189%	135%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	4.39%	4.24%
Tier 1/Tier 2 active members <sup>1</sup>	19	21
Tier 1/Tier 2 dormant members	13	15
Tier 1/Tier 2 retirees and beneficiaries	48	46

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	2,075,885	2,160,512
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$1,270,961	\$1,499,732
2. Employer reserves	5,361,711	5,557,429
3. Benefits in force reserve	4,919,005	4,973,431
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$11,551,677</b>	<b>\$12,030,592</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$12,030,592
2. Regular employer contributions	220,354
3. Benefit payments and expense	(894,527)
4. Adjustments <sup>1</sup>	(74,867)
5. Interest credited	270,126
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$11,551,677</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	61,626	70,618
Tier 2 Police & Fire	0	0
Tier 2 General Service	104,587	107,975
<b>Total</b>	<b>\$166,213</b>	<b>\$178,593</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$166,213	\$166,213	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Actuarial Accrued Liability*

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	1,847,805	1,919,831
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	1,986,017	1,867,252
▪ <b>Total Active Members</b>	<b>\$3,833,822</b>	<b>\$3,787,083</b>
Dormant Members	1,015,218	1,512,236
Retired Members and Beneficiaries	10,621,073	9,648,333
<b>Total Actuarial Accrued Liability</b>	<b>\$15,470,113</b>	<b>\$14,947,652</b>

### *Change in Tier 1/Tier 2 Actuarial Accrued Liability*

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$15,470,113	\$15,470,113	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$15,470,113	\$14,947,652
2. Actuarial value of assets	11,551,677	12,030,592
3. Unfunded accrued liability (1. – 2.)	3,918,436	2,917,060
4. Funded percentage (2. ÷ 1.)	75%	80%
5. Combined valuation payroll	\$2,075,885	\$2,160,512
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	189%	135%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$899,585	\$67,385	\$64,777	\$896,977	\$69,744
December 31, 2015	N/A	N/A	N/A	\$3,021,459	\$218,629
<b>Total</b>				<b>\$3,918,436</b>	<b>\$288,373</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$14,947,652
b. Normal cost at December 31, 2014 (excluding assumed expenses)	170,842
c. Benefit payments during 2015	(887,618)
d. Interest at 7.50% to December 31, 2015	1,094,195
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	15,325,071
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	15,325,071
2. Actuarial accrued liability at December 31, 2015	15,470,113
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(145,042)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	12,030,592
b. Contributions for 2015 <sup>1</sup>	220,354
c. Benefit payments and expenses during 2015	(894,527)
d. Interest at 7.50% to December 31, 2015	877,013
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	12,233,431
5. Actuarial value of assets at December 31, 2015	11,551,677
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(681,754)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$826,796)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$2,917,060</b>
2. Expected increase	174,580
3. Liability (gain)/loss	145,042
4. Asset (gain)/loss	681,754
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$3,918,436</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	61,626	359,379	17.15%	70,618	389,457	18.13%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	104,587	810,109	12.91%	107,975	854,016	12.64%
<b>Total</b>	<b>\$166,213</b>	<b>\$1,169,488</b>	<b>14.21%</b>	<b>\$178,593</b>	<b>\$1,243,473</b>	<b>14.36%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$3,918,436	\$2,917,060
2. Next year's Tier 1/Tier 2 UAL payment	288,373	213,367
3. Combined valuation payroll	2,075,885	2,160,512
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	13.89%	9.88%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.21%	14.36%
b. Tier 1/Tier 2 UAL rate	13.89%	9.88%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	28.25%	24.39%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		15.50%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		15.50%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		3.10%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.10%
c. Funded percentage		75%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.10%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	12.40%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	18.60%
7. July 1, 2017 total pension rate, before adjustment		28.25%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(9.65%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		13.89%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	4.24%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		18.60%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		14.21%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		14.21%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	18.60%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.21%	14.36%
b. Tier 1/Tier 2 UAL rate	4.24%	4.09%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	18.60%	18.60%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$359,379	\$0	\$359,379
Tier 2	810,109	0	810,109
Tier 1/Tier 2 valuation payroll	1,169,488	0	1,169,488
OPSRP valuation payroll	906,397	0	906,397
<b>Combined valuation payroll</b>	<b>\$2,075,885</b>	<b>\$0</b>	<b>\$2,075,885</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	5	14	17	36	6	15	18	39
Police & Fire	0	0	0	0	0	0	0	0
Total	5	14	17	36	6	15	18	39
<b>Active Members with previous service segments with the employer</b>								
General Service	5	6	N/A	11	5	6	N/A	11
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	5	6	N/A	11	5	6	N/A	11
<b>Dormant Members</b>								
General Service	4	9	5	18	5	10	4	19
Police & Fire	0	0	0	0	0	0	0	0
Total	4	9	5	18	5	10	4	19
<b>Retired Members and Beneficiaries</b>								
General Service	44	4	1	49	45	1	1	47
Police & Fire	0	0	0	0	0	0	0	0
Total	44	4	1	49	45	1	1	47
<b>Grand Total Number of Members</b>	<b>58</b>	<b>33</b>	<b>23</b>	<b>114</b>	<b>61</b>	<b>32</b>	<b>23</b>	<b>116</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			2							2
40-44			2	1	1					4
45-49			1	1						2
50-54			2	1						3
55-59			1		2					3
60-64				1		2				3
65-69			1	1						2
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54	1	1,255
30-34	1	9	55-59	2	818
35-39	1	0	60-64	10	1,586
40-44	1	710	65-69	20	1,660
45-49	1	638	70-74	10	1,049
50-54	1	1,754	75-79	3	1,528
55-59	3	863	80-84	2	2,288
60-64	4	972	85-89		
65-69	1	19	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>13</b>	<b>739</b>	<b>Total</b>	<b>48</b>	<b>1,492</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Salmon Harbor-Douglas County/2675  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Salmon Harbor-Douglas County/2675

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Salmon Harbor-Douglas County/2675

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Salmon Harbor-Douglas County -- #2675**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Salmon Harbor-Douglas County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Salmon Harbor-Douglas County.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Salmon Harbor-Douglas County***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	11.85%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(0.44%)	(0.44%)	(0.44%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>12.68%</b>	<b>8.85%</b>	<b>13.62%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>13.18%</b>	<b>9.28%</b>	<b>14.05%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 84%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.41%	11.41%
Minimum 2019-2021 Rate	8.41%	5.41%
Maximum 2019-2021 Rate	14.41%	17.41%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$1,383,010	\$1,389,813	\$6,803	100%	\$503,210	1%
12/31/2011	1,432,878	1,451,916	19,038	99%	508,435	4%
12/31/2012	1,345,487	1,136,722	(208,765)	118%	382,708	(55%)
12/31/2013	1,410,640	1,283,678	(126,962)	110%	358,232	(35%)
12/31/2014	1,450,594	1,549,890	99,296	94%	396,567	25%
12/31/2015	1,377,121	1,639,524	262,403	84%	329,146	80%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Salmon Harbor-Douglas County***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$262,403	\$99,296
Allocated pooled OPSRP UAL	46,793	45,336
Side account	0	0
Net unfunded pension actuarial accrued liability	309,196	144,632
Combined valuation payroll	329,146	396,567
Net pension UAL as a percentage of payroll	94%	36%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$1,598	\$3,152

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$15,674	\$36,515
Tier 1/Tier 2 valuation payroll	132,287	244,766
Tier 1/Tier 2 pension normal cost rate	11.85%	14.92%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,639,524	\$1,549,890
Actuarial asset value	1,377,121	1,450,594
Tier 1/Tier 2 Unfunded actuarial accrued liability	262,403	99,296
Tier 1/ Tier 2 Funded status	84%	94%
Combined valuation payroll	\$329,146	\$396,567
Tier 1/Tier 2 UAL as a percentage of payroll	80%	25%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.44%)	(3.51%)
Tier 1/Tier 2 active members <sup>1</sup>	3	5
Tier 1/Tier 2 dormant members	2	1
Tier 1/Tier 2 retirees and beneficiaries	9	8

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	329,146	396,567
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$91,082	\$98,936
2. Employer reserves	774,055	864,060
3. Benefits in force reserve	511,984	487,598
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$1,377,121</b>	<b>\$1,450,594</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$1,450,594
2. Regular employer contributions	8,931
3. Benefit payments and expense	(93,105)
4. Adjustments <sup>1</sup>	(20,561)
5. Interest credited	31,262
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$1,377,121</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	10,201	9,447
Tier 2 Police & Fire	0	0
Tier 2 General Service	5,473	27,068
<b>Total</b>	<b>\$15,674</b>	<b>\$36,515</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$15,674	\$15,674	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	281,461	238,302
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	250,945	364,044
▪ <b>Total Active Members</b>	<b>\$532,406</b>	<b>\$602,346</b>
Dormant Members	1,646	1,616
Retired Members and Beneficiaries	1,105,472	945,928
<b>Total Actuarial Accrued Liability</b>	<b>\$1,639,524</b>	<b>\$1,549,890</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,639,524	\$1,639,524	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,639,524	\$1,549,890
2. Actuarial value of assets	1,377,121	1,450,594
3. Unfunded accrued liability (1. – 2.)	262,403	99,296
4. Funded percentage (2. ÷ 1.)	84%	94%
5. Combined valuation payroll	\$329,146	\$396,567
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	80%	25%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$127,233)	(\$9,531)	(\$9,162)	(\$126,864)	(\$9,864)
December 31, 2015	N/A	N/A	N/A	\$389,267	\$28,167
<b>Total</b>				<b>\$262,403</b>	<b>\$18,303</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,549,890
b. Normal cost at December 31, 2014 (excluding assumed expenses)	34,931
c. Benefit payments during 2015	(92,386)
d. Interest at 7.50% to December 31, 2015	114,087
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,606,522
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,606,522
2. Actuarial accrued liability at December 31, 2015	1,639,524
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(33,002)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,450,594
b. Contributions for 2015 <sup>1</sup>	8,931
c. Benefit payments and expenses during 2015	(93,105)
d. Interest at 7.50% to December 31, 2015	105,638
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,472,058
5. Actuarial value of assets at December 31, 2015	1,377,121
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(94,937)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$127,939)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$99,296</b>
2. Expected increase	35,168
3. Liability (gain)/loss	33,002
4. Asset (gain)/loss	94,937
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$262,403</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	10,201	82,951	12.30%	9,447	75,970	12.44%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	5,473	49,336	11.09%	27,068	168,796	16.04%
<b>Total</b>	<b>\$15,674</b>	<b>\$132,287</b>	<b>11.85%</b>	<b>\$36,515</b>	<b>\$244,766</b>	<b>14.92%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$262,403	\$99,296
2. Next year's Tier 1/Tier 2 UAL payment	18,303	6,860
3. Combined valuation payroll	329,146	396,567
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	5.56%	1.73%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.85%	14.92%
b. Tier 1/Tier 2 UAL rate	5.56%	1.73%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	17.56%	16.80%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		8.41%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		8.41%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.68%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		84%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	5.41%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	11.41%
7. July 1, 2017 total pension rate, before adjustment		17.56%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(6.15%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		5.56%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(0.59%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		11.41%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		11.85%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		11.85%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	11.41%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.85%	14.92%
b. Tier 1/Tier 2 UAL rate	(0.59%)	(3.66%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	11.41%	11.41%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$82,951	\$0	\$82,951
Tier 2	49,336	0	49,336
Tier 1/Tier 2 valuation payroll	132,287	0	132,287
OPSRP valuation payroll	196,859	0	196,859
<b>Combined valuation payroll</b>	<b>\$329,146</b>	<b>\$0</b>	<b>\$329,146</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	2	6	9	1	4	6	11
Police & Fire	0	0	0	0	0	0	0	0
Total	1	2	6	9	1	4	6	11
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	2	2	4	0	1	2	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	2	4	0	1	2	3
<b>Retired Members and Beneficiaries</b>								
General Service	7	2	0	9	7	1	0	8
Police & Fire	0	0	0	0	0	0	0	0
Total	7	2	0	9	7	1	0	8
<b>Grand Total Number of Members</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>22</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>22</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39				1						1
40-44										
45-49				1						1
50-54										
55-59										
60-64										
65-69										
70-74				1						1
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64	2	1,640
40-44	1	0	65-69	4	691
45-49			70-74	1	86
50-54			75-79	1	260
55-59			80-84	1	1,705
60-64			85-89		
65-69	1	137	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>2</b>	<b>69</b>	<b>Total</b>	<b>9</b>	<b>900</b>

## Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

City of Sheridan/2219  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
City of Sheridan/2219

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Sheridan/2219

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**City of Sheridan -- #2219**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for City of Sheridan to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Sheridan.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for City of Sheridan***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	15.80%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(2.41%)	(2.41%)	(2.41%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>14.66%</b>	<b>6.88%</b>	<b>11.65%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>15.16%</b>	<b>7.31%</b>	<b>12.08%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 88%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	13.39%	13.39%
Minimum 2019-2021 Rate	10.39%	7.39%
Maximum 2019-2021 Rate	16.39%	19.39%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (b - a)</b>	<b>Funded Ratio (a ÷ b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)</b>
12/31/2010	\$3,537,952	\$3,788,496	\$250,544	93%	\$695,529	36%
12/31/2011	3,351,410	3,904,549	553,139	86%	843,575	66%
12/31/2012	3,729,854	3,992,295	262,441	93%	923,697	28%
12/31/2013	4,145,881	4,051,158	(94,723)	102%	926,539	(10%)
12/31/2014	4,266,358	4,710,044	443,686	91%	977,728	45%
12/31/2015	4,128,792	4,677,824	549,032	88%	1,005,883	55%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***City of Sheridan***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$549,032	\$443,686
Allocated pooled OPSRP UAL	143,000	111,776
Side account	0	0
Net unfunded pension actuarial accrued liability	692,032	555,462
Combined valuation payroll	1,005,883	977,728
Net pension UAL as a percentage of payroll	69%	57%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$4,884	\$7,772

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$91,293	\$86,723
Tier 1/Tier 2 valuation payroll	577,624	546,457
Tier 1/Tier 2 pension normal cost rate	15.80%	15.87%
Tier 1/ Tier 2 Actuarial accrued liability	\$4,677,824	\$4,710,044
Actuarial asset value	4,128,792	4,266,358
Tier 1/Tier 2 Unfunded actuarial accrued liability	549,032	443,686
Tier 1/ Tier 2 Funded status	88%	91%
Combined valuation payroll	\$1,005,883	\$977,728
Tier 1/Tier 2 UAL as a percentage of payroll	55%	45%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(2.41%)	(2.48%)
Tier 1/Tier 2 active members <sup>1</sup>	9	8
Tier 1/Tier 2 dormant members	2	2
Tier 1/Tier 2 retirees and beneficiaries	23	26

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	1,005,883	977,728
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$582,109	\$541,615
2. Employer reserves	2,420,472	2,338,780
3. Benefits in force reserve	1,126,211	1,385,963
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$4,128,792</b>	<b>\$4,266,358</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$4,266,358
2. Regular employer contributions	36,066
3. Benefit payments and expense	(204,803)
4. Adjustments <sup>1</sup>	(67,655)
5. Interest credited	98,826
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$4,128,792</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	45,031	42,566
Tier 2 Police & Fire	0	0
Tier 2 General Service	46,262	44,157
<b>Total</b>	<b>\$91,293</b>	<b>\$86,723</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$91,293	\$91,293	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	1,353,198	1,235,852
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	877,160	770,784
▪ <b>Total Active Members</b>	<b>\$2,230,358</b>	<b>\$2,006,636</b>
Dormant Members	15,761	14,674
Retired Members and Beneficiaries	2,431,705	2,688,734
<b>Total Actuarial Accrued Liability</b>	<b>\$4,677,824</b>	<b>\$4,710,044</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$4,677,824	\$4,677,824	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$4,677,824	\$4,710,044
2. Actuarial value of assets	4,128,792	4,266,358
3. Unfunded accrued liability (1. – 2.)	549,032	443,686
4. Funded percentage (2. ÷ 1.)	88%	91%
5. Combined valuation payroll	\$1,005,883	\$977,728
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	55%	45%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$94,925)	(\$7,110)	(\$6,835)	(\$94,650)	(\$7,359)
December 31, 2015	N/A	N/A	N/A	\$643,682	\$46,576
<b>Total</b>				<b>\$549,032</b>	<b>\$39,217</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$4,710,044
b. Normal cost at December 31, 2014 (excluding assumed expenses)	82,959
c. Benefit payments during 2015	(203,221)
d. Interest at 7.50% to December 31, 2015	348,743
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	4,938,525
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	4,938,525
2. Actuarial accrued liability at December 31, 2015	4,677,824
3. Gain/(loss) on actuarial accrued liability (1.g. – 2.)	260,701
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4,266,358
b. Contributions for 2015 <sup>1</sup>	36,066
c. Benefit payments and expenses during 2015	(204,803)
d. Interest at 7.50% to December 31, 2015	313,649
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	4,411,270
5. Actuarial value of assets at December 31, 2015	4,128,792
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(282,478)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$21,777)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$443,686</b>
2. Expected increase	83,569
3. Liability (gain)/loss	(260,701)
4. Asset (gain)/loss	282,478
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$549,032</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	45,031	215,801	20.87%	42,566	203,051	20.96%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	46,262	361,823	12.79%	44,157	343,406	12.86%
<b>Total</b>	<b>\$91,293</b>	<b>\$577,624</b>	<b>15.80%</b>	<b>\$86,723</b>	<b>\$546,457</b>	<b>15.87%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$549,032	\$443,686
2. Next year's Tier 1/Tier 2 UAL payment	39,217	31,863
3. Combined valuation payroll	1,005,883	977,728
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	3.90%	3.26%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.80%	15.87%
b. Tier 1/Tier 2 UAL rate	3.90%	3.26%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	19.85%	19.28%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		10.39%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		10.39%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.08%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		88%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	7.39%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	13.39%
7. July 1, 2017 total pension rate, before adjustment		19.85%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(6.46%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		3.90%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(2.56%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		13.39%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		15.80%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		15.80%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	13.39%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.80%	15.87%
b. Tier 1/Tier 2 UAL rate	(2.56%)	(2.63%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	13.39%	13.39%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$215,801	\$0	\$215,801
Tier 2	361,823	0	361,823
Tier 1/Tier 2 valuation payroll	577,624	0	577,624
OPSRP valuation payroll	428,259	0	428,259
<b>Combined valuation payroll</b>	<b>\$1,005,883</b>	<b>\$0</b>	<b>\$1,005,883</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	3	6	9	18	3	5	10	18
Police & Fire	0	0	0	0	0	0	0	0
Total	3	6	9	18	3	5	10	18
<b>Active Members with previous service segments with the employer</b>								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	0	N/A	1	1	0	N/A	1
<b>Dormant Members</b>								
General Service	0	2	0	2	0	2	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	2	0	2
<b>Retired Members and Beneficiaries</b>								
General Service	13	2	0	15	15	2	0	17
Police & Fire	8	0	0	8	9	0	0	9
Total	21	2	0	23	24	2	0	26
<b>Grand Total Number of Members</b>	<b>25</b>	<b>10</b>	<b>9</b>	<b>44</b>	<b>28</b>	<b>9</b>	<b>10</b>	<b>47</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						1
45-49			1							1
50-54										
55-59	1			2						3
60-64				1	1		1			3
65-69					1					1
70-74										
75+										
<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>9</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45	1	651
20-24			45-49		
25-29			50-54		
30-34			55-59	1	102
35-39	1	489	60-64	3	85
40-44			65-69	7	1,184
45-49			70-74	4	1,544
50-54			75-79	3	116
55-59			80-84	2	211
60-64			85-89	2	228
65-69			90-94		
70-74			95-99		
75+	1	28	100+		
<b>Total</b>	<b>2</b>	<b>259</b>	<b>Total</b>	<b>23</b>	<b>726</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Siletz Rural Fire Protection District/2885  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Siletz Rural Fire Protection District/2885

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Siletz Rural Fire Protection District/2885

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Siletz Rural Fire Protection District -- #2885**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Siletz Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Siletz Rural Fire Protection District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Siletz Rural Fire Protection District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	0.15%	0.15%	0.15%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>18.13%</b>	<b>9.44%</b>	<b>14.21%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>18.63%</b>	<b>9.87%</b>	<b>14.64%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.86%	16.86%
Minimum 2019-2021 Rate	13.49%	10.12%
Maximum 2019-2021 Rate	20.23%	23.60%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$0	\$0	\$0	0%	\$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	0	0	0	0%	0	0%
12/31/2013	0	0	0	0%	0	0%
12/31/2014	(20)	0	20	0%	135,428	0%
12/31/2015	(6)	0	6	0%	84,876	0%



# Executive Summary

## Accounting Information (continued)

### ***Retiree Healthcare***

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Siletz Rural Fire Protection District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$6	\$20
Allocated pooled OPSRP UAL	12,066	15,482
Side account	0	0
Net unfunded pension actuarial accrued liability	12,072	15,502
Combined valuation payroll	84,876	135,428
Net pension UAL as a percentage of payroll	14%	11%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$412	\$1,076

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$0	\$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	\$0	\$0
Actuarial asset value	(6)	(20)
Tier 1/Tier 2 Unfunded actuarial accrued liability	6	20
Tier 1/ Tier 2 Funded status	0%	0%
Combined valuation payroll	\$84,876	\$135,428
Tier 1/Tier 2 UAL as a percentage of payroll	0%	0%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	0.15%	0.15%
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	84,876	135,428
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	(6)	(20)
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>(\$6)</b>	<b>(\$20)</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	(\$20)
2. Regular employer contributions	119
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	(110)
5. Interest credited	4
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>(\$6)</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$0	\$0	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$0</b>	<b>\$0</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$0</b>	<b>\$0</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$0	\$0	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$0	\$0
2. Actuarial value of assets	(6)	(20)
3. Unfunded accrued liability (1. – 2.)	6	20
4. Funded percentage (2. ÷ 1.)	100%	100%
5. Combined valuation payroll	\$84,876	\$135,428
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	0%	0%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2015	N/A	N/A	N/A	\$6	\$0
<b>Total</b>				<b>\$6</b>	<b>\$0</b>

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$0
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	0
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	0
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	0
2. Actuarial accrued liability at December 31, 2015	0
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	0
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	(20)
b. Contributions for 2015 <sup>1</sup>	119
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	3
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	102
5. Actuarial value of assets at December 31, 2015	(6)
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(109)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$109)</b>

#### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$20</b>
2. Expected increase	(123)
3. Liability (gain)/loss	0
4. Asset (gain)/loss	109
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$6</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>16.71%</b>	<b>\$0</b>	<b>\$0</b>	<b>17.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$6	\$20
2. Next year's Tier 1/Tier 2 UAL payment	0	1
3. Combined valuation payroll	84,876	135,428
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	0.00%	0.00%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	16.86%	17.16%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		16.86%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		16.86%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		N/A
b. Preliminary size of rate collar (maximum of 3% or a.)		N/A
c. Funded percentage		N/A
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		N/A
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	N/A
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	N/A
7. July 1, 2017 total pension rate, before adjustment		N/A
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		N/A
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		N/A
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	N/A
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		N/A
12. Tier 1/Tier 2 retiree healthcare rate		N/A
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		N/A
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		N/A
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		N/A
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	N/A

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	16.86%	17.16%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	84,876	84,876
<b>Combined valuation payroll</b>	<b>\$0</b>	<b>\$84,876</b>	<b>\$84,876</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	2	2	0	0	2	2
Total	0	0	2	2	0	0	2	2
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Grand Total Number of Members</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Sisters-Camp Sherman Rural Fire Protection District/2701  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Sisters-Camp Sherman Rural Fire Protection District/2701

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Sisters-Camp Sherman Rural Fire Protection District/2701

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Sisters-Camp Sherman Rural Fire Protection District -- #2701**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Sisters-Camp Sherman Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Sisters-Camp Sherman Rural Fire Protection District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Sisters-Camp Sherman Rural Fire Protection District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	19.35%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	8.18%	8.18%	8.18%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>28.80%</b>	<b>17.47%</b>	<b>22.24%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>29.30%</b>	<b>17.90%</b>	<b>22.67%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 42%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	27.53%	27.53%
Minimum 2019-2021 Rate	22.02%	16.51%
Maximum 2019-2021 Rate	33.04%	38.55%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$2,273,163	\$2,884,837	\$611,674	79%	\$1,269,035	48%
12/31/2011	2,164,565	2,972,903	808,338	73%	879,705	92%
12/31/2012	2,517,320	3,313,831	796,511	76%	1,179,483	68%
12/31/2013	2,983,177	3,635,619	652,442	82%	989,618	66%
12/31/2014	2,883,709	4,420,367	1,536,658	65%	815,021	189%
12/31/2015	2,455,291	5,855,478	3,400,187	42%	1,022,384	333%



# Executive Summary

## Accounting Information (continued)

### ***Retiree Healthcare***

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Sisters-Camp Sherman Rural Fire Protection District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$3,400,187	\$1,536,658
Allocated pooled OPSRP UAL	145,346	93,175
Side account	0	0
Net unfunded pension actuarial accrued liability	3,545,533	1,629,833
Combined valuation payroll	1,022,384	815,021
Net pension UAL as a percentage of payroll	347%	200%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$4,964	\$6,478

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$102,757	\$81,575
Tier 1/Tier 2 valuation payroll	531,077	411,653
Tier 1/Tier 2 pension normal cost rate	19.35%	19.82%
Tier 1/ Tier 2 Actuarial accrued liability	\$5,855,478	\$4,420,367
Actuarial asset value	2,455,291	2,883,709
Tier 1/Tier 2 Unfunded actuarial accrued liability	3,400,187	1,536,658
Tier 1/ Tier 2 Funded status	42%	65%
Combined valuation payroll	\$1,022,384	\$815,021
Tier 1/Tier 2 UAL as a percentage of payroll	333%	189%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	8.18%	5.75%
Tier 1/Tier 2 active members <sup>1</sup>	5	4
Tier 1/Tier 2 dormant members	1	3
Tier 1/Tier 2 retirees and beneficiaries	10	7

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	1,022,384	815,021
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$145,270	\$190,825
2. Employer reserves	394,789	1,356,090
3. Benefits in force reserve	1,915,232	1,336,794
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$2,455,291</b>	<b>\$2,883,709</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$2,883,709
2. Regular employer contributions	101,865
3. Benefit payments and expense	(348,287)
4. Adjustments <sup>1</sup>	(258,823)
5. Interest credited	76,827
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$2,455,291</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$54,931	\$54,177
Tier 1 General Service	0	0
Tier 2 Police & Fire	41,598	21,362
Tier 2 General Service	6,228	6,036
<b>Total</b>	<b>\$102,757</b>	<b>\$81,575</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$102,757	\$102,757	\$0



## Tier 1/Tier 2 Valuation Results

### Liabilities

#### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

#### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$811,242	\$731,165
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	551,249	468,349
▪ Tier 2 General Service	109,195	95,033
▪ <b>Total Active Members</b>	<b>\$1,471,686</b>	<b>\$1,294,547</b>
Dormant Members	248,439	532,472
Retired Members and Beneficiaries	4,135,353	2,593,348
<b>Total Actuarial Accrued Liability</b>	<b>\$5,855,478</b>	<b>\$4,420,367</b>

#### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$5,855,478	\$5,855,478	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$5,855,478	\$4,420,367
2. Actuarial value of assets	2,455,291	2,883,709
3. Unfunded accrued liability (1. – 2.)	3,400,187	1,536,658
4. Funded percentage (2. ÷ 1.)	42%	65%
5. Combined valuation payroll	\$1,022,384	\$815,021
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	333%	189%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$653,834	\$48,976	\$47,081	\$651,939	\$50,691
December 31, 2015	N/A	N/A	N/A	\$2,748,248	\$198,860
<b>Total</b>				<b>\$3,400,187</b>	<b>\$249,551</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$4,420,367
b. Normal cost at December 31, 2014 (excluding assumed expenses)	78,034
c. Benefit payments during 2015	(345,597)
d. Interest at 7.50% to December 31, 2015	321,494
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	4,474,298
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	4,474,298
2. Actuarial accrued liability at December 31, 2015	5,855,478
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(1,381,180)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,883,709
b. Contributions for 2015 <sup>1</sup>	101,865
c. Benefit payments and expenses during 2015	(348,287)
d. Interest at 7.50% to December 31, 2015	207,037
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	2,844,324
5. Actuarial value of assets at December 31, 2015	2,455,291
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(389,034)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$1,770,214)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$1,536,658</b>
2. Expected increase	93,315
3. Liability (gain)/loss	1,381,180
4. Asset (gain)/loss	389,034
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$3,400,187</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$54,931	\$234,950	23.38%	\$54,177	\$230,096	23.55%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	41,598	231,861	17.94%	21,362	118,976	17.95%
Tier 2 General Service	6,228	64,266	9.69%	6,036	62,581	9.65%
<b>Total</b>	<b>\$102,757</b>	<b>\$531,077</b>	<b>19.35%</b>	<b>\$81,575</b>	<b>\$411,653</b>	<b>19.82%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$3,400,187	\$1,536,658
2. Next year's Tier 1/Tier 2 UAL payment	249,551	112,856
3. Combined valuation payroll	1,022,384	815,021
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	24.41%	13.85%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.35%	19.82%
b. Tier 1/Tier 2 UAL rate	24.41%	13.85%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	43.91%	33.82%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		19.67%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		19.67%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		3.93%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.93%
c. Funded percentage		42%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		7.86%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	11.81%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	27.53%
7. July 1, 2017 total pension rate, before adjustment		43.91%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(16.38%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		24.41%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	8.03%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		27.53%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		19.35%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		19.35%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	27.53%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.35%	19.82%
b. Tier 1/Tier 2 UAL rate	8.03%	5.60%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	27.53%	25.57%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$234,950	\$234,950
Tier 2	64,266	231,861	296,127
Tier 1/Tier 2 valuation payroll	64,266	466,811	531,077
OPSRP valuation payroll	61,251	430,056	491,307
<b>Combined valuation payroll</b>	<b>\$125,517</b>	<b>\$896,867</b>	<b>\$1,022,384</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	1	2	3	0	1	1	2
Police & Fire	2	2	6	10	2	1	5	8
Total	2	3	8	13	2	2	6	10
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	1	N/A	1	0	1	N/A	1
Total	0	1	N/A	1	0	1	N/A	1
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	1	2	2	1	1	4
Total	1	0	1	2	2	1	1	4
<b>Retired Members and Beneficiaries</b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	6	3	0	9	5	1	0	6
Total	7	3	0	10	6	1	0	7
<b>Grand Total Number of Members</b>	<b>10</b>	<b>7</b>	<b>9</b>	<b>26</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>22</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			2	1						3
40-44										
45-49										
50-54							1			1
55-59					1					1
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45	1	5,389
20-24			45-49		
25-29			50-54	1	1,215
30-34			55-59	3	3,553
35-39			60-64	1	6
40-44			65-69	2	2,168
45-49	1	2,439	70-74	1	1,209
50-54			75-79	1	349
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>1</b>	<b>2,439</b>	<b>Total</b>	<b>10</b>	<b>2,316</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

South Lane County Fire and Rescue/2859  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
South Lane County Fire and Rescue/2859

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
South Lane County Fire and Rescue/2859

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

### **INDEPENDENT EMPLOYERS**

**South Lane County Fire and Rescue -- #2859**

September 2016

Secondary Employers

2827 Creswell Rural Fire Protection District

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# Executive Summary

Milliman has prepared this report for South Lane County Fire and Rescue to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to South Lane County Fire and Rescue.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for South Lane County Fire and Rescue***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	19.91%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	12.35%	12.35%	12.35%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>33.53%</b>	<b>21.64%</b>	<b>26.41%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>34.03%</b>	<b>22.07%</b>	<b>26.84%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 25%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	32.26%	32.26%
Minimum 2019-2021 Rate	25.81%	19.36%
Maximum 2019-2021 Rate	38.71%	45.16%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$943,572	\$1,891,427	\$947,855	50%	\$1,483,211	64%
12/31/2011	1,034,896	2,162,175	1,127,279	48%	1,340,704	84%
12/31/2012	1,027,376	2,784,912	1,757,536	37%	1,671,543	105%
12/31/2013	1,203,455	3,095,152	1,891,697	39%	1,700,151	111%
12/31/2014	1,196,903	4,052,766	2,855,863	30%	1,811,141	158%
12/31/2015	1,121,841	4,502,076	3,380,235	25%	1,775,628	190%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***South Lane County Fire and Rescue***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$3,380,235	\$2,855,863
Allocated pooled OPSRP UAL	252,430	207,053
Side account	0	0
Net unfunded pension actuarial accrued liability	3,632,665	3,062,916
Combined valuation payroll	1,775,628	1,811,141
Net pension UAL as a percentage of payroll	205%	169%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$8,622	\$14,396

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$128,922	\$142,493
Tier 1/Tier 2 valuation payroll	647,395	680,893
Tier 1/Tier 2 pension normal cost rate	19.91%	20.93%
Tier 1/ Tier 2 Actuarial accrued liability	\$4,502,076	\$4,052,766
Actuarial asset value	1,121,841	1,196,903
Tier 1/Tier 2 Unfunded actuarial accrued liability	3,380,235	2,855,863
Tier 1/ Tier 2 Funded status	25%	30%
Combined valuation payroll	\$1,775,628	\$1,811,141
Tier 1/Tier 2 UAL as a percentage of payroll	190%	158%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	12.35%	11.33%
Tier 1/Tier 2 active members <sup>1</sup>	6	7
Tier 1/Tier 2 dormant members	3	3
Tier 1/Tier 2 retirees and beneficiaries	9	8

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	1,775,628	1,811,141
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$46,852	\$51,495
2. Employer reserves	(9,754)	217,619
3. Benefits in force reserve	1,084,743	927,789
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$1,121,841</b>	<b>\$1,196,903</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$1,196,903
2. Regular employer contributions	159,332
3. Benefit payments and expense	(197,262)
4. Adjustments <sup>1</sup>	(72,270)
5. Interest credited	35,138
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$1,121,841</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$70,739	\$93,490
Tier 1 General Service	0	0
Tier 2 Police & Fire	58,183	49,003
Tier 2 General Service	0	0
<b>Total</b>	<b>\$128,922</b>	<b>\$142,493</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$128,922	\$128,922	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$1,220,102	\$1,449,587
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	904,596	780,078
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$2,124,698</b>	<b>\$2,229,665</b>
Dormant Members	35,211	23,213
Retired Members and Beneficiaries	2,342,167	1,799,888
<b>Total Actuarial Accrued Liability</b>	<b>\$4,502,076</b>	<b>\$4,052,766</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$4,502,076	\$4,502,076	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$4,502,076	\$4,052,766
2. Actuarial value of assets	1,121,841	1,196,903
3. Unfunded accrued liability (1. – 2.)	3,380,235	2,855,863
4. Funded percentage (2. ÷ 1.)	25%	30%
5. Combined valuation payroll	\$1,775,628	\$1,811,141
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	190%	158%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$1,895,733	\$142,002	\$136,507	\$1,890,238	\$146,974
December 31, 2015	N/A	N/A	N/A	\$1,489,997	\$107,815
<b>Total</b>				<b>\$3,380,235</b>	<b>\$254,789</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$4,052,766
b. Normal cost at December 31, 2014 (excluding assumed expenses)	136,308
c. Benefit payments during 2015	(195,738)
d. Interest at 7.50% to December 31, 2015	301,729
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	4,295,065
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	4,295,065
2. Actuarial accrued liability at December 31, 2015	4,502,076
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(207,011)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,196,903
b. Contributions for 2015 <sup>1</sup>	159,332
c. Benefit payments and expenses during 2015	(197,262)
d. Interest at 7.50% to December 31, 2015	88,345
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,247,319
5. Actuarial value of assets at December 31, 2015	1,121,841
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(125,477)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$332,488)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$2,855,863</b>
2. Expected increase	191,884
3. Liability (gain)/loss	207,011
4. Asset (gain)/loss	125,477
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$3,380,235</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$70,739	\$315,741	22.40%	\$93,490	\$410,690	22.76%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	58,183	331,654	17.54%	49,003	270,203	18.14%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$128,922</b>	<b>\$647,395</b>	<b>19.91%</b>	<b>\$142,493</b>	<b>\$680,893</b>	<b>20.93%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$3,380,235	\$2,855,863
2. Next year's Tier 1/Tier 2 UAL payment	254,789	211,476
3. Combined valuation payroll	1,775,628	1,811,141
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	14.35%	11.68%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.91%	20.93%
b. Tier 1/Tier 2 UAL rate	14.35%	11.68%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	34.41%	32.76%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		23.04%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		23.04%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		4.61%
b. Preliminary size of rate collar (maximum of 3% or a.)		4.61%
c. Funded percentage		25%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		9.22%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	13.82%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	32.26%
7. July 1, 2017 total pension rate, before adjustment		34.41%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(2.15%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		14.35%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	12.20%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		32.26%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		19.91%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		19.91%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	32.26%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.91%	20.93%
b. Tier 1/Tier 2 UAL rate	12.20%	11.18%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	32.26%	32.26%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$315,741	\$315,741
Tier 2	0	331,654	331,654
Tier 1/Tier 2 valuation payroll	0	647,395	647,395
OPSRP valuation payroll	48,823	1,079,410	1,128,233
<b>Combined valuation payroll</b>	<b>\$48,823</b>	<b>\$1,726,805</b>	<b>\$1,775,628</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	2	2	0	0	2	2
Police & Fire	3	3	12	18	4	3	12	19
Total	3	3	14	20	4	3	14	21
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	1	4	N/A	5	1	4	N/A	5
Total	1	4	N/A	5	1	4	N/A	5
<b>Dormant Members</b>								
General Service	0	1	0	1	0	1	0	1
Police & Fire	1	1	0	2	1	1	0	2
Total	1	2	0	3	1	2	0	3
<b>Retired Members and Beneficiaries</b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	7	1	0	8	6	1	0	7
Total	8	1	0	9	7	1	0	8
<b>Grand Total Number of Members</b>	<b>13</b>	<b>10</b>	<b>14</b>	<b>37</b>	<b>13</b>	<b>10</b>	<b>14</b>	<b>37</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39				1						1
40-44					1					1
45-49			1	1						2
50-54						1				1
55-59						1				1
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	3	1,897
35-39			60-64	4	1,524
40-44			65-69	2	625
45-49	1	198	70-74		
50-54			75-79		
55-59	1	14	80-84		
60-64	1	123	85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>3</b>	<b>112</b>	<b>Total</b>	<b>9</b>	<b>1,448</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Southwestern Polk County Rural Fire Protection District/2803  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Southwestern Polk County Rural Fire Protection District/2803

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Southwestern Polk County Rural Fire Protection District/2803

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Southwestern Polk County Rural Fire Protection District -- #2803**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Southwestern Polk County Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Southwestern Polk County Rural Fire Protection District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Southwestern Polk County Rural Fire Protection District***

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(3.10%)	(3.10%)	(3.10%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>14.88%</b>	<b>6.19%</b>	<b>10.96%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>15.38%</b>	<b>6.62%</b>	<b>11.39%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 114%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	13.61%	13.61%
Minimum 2019-2021 Rate	10.61%	7.61%
Maximum 2019-2021 Rate	16.61%	19.61%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (b - a)</b>	<b>Funded Ratio (a ÷ b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)</b>
12/31/2010	\$80,618	\$58,861	(\$21,757)	137%	\$36,315	(60%)
12/31/2011	67,029	59,440	(7,589)	113%	36,767	(21%)
12/31/2012	71,598	57,004	(14,594)	126%	37,423	(39%)
12/31/2013	76,824	56,412	(20,412)	136%	39,029	(52%)
12/31/2014	75,078	62,470	(12,608)	120%	40,494	(31%)
12/31/2015	70,710	62,009	(8,701)	114%	41,337	(21%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Southwestern Polk County Rural Fire Protection District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$8,701)	(\$12,608)
Allocated pooled OPSRP UAL	5,877	4,629
Side account	0	0
Net unfunded pension actuarial accrued liability	(2,824)	(7,979)
Combined valuation payroll	41,337	40,494
Net pension UAL as a percentage of payroll	(7%)	(20%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$201	\$322

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$0	\$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	\$62,009	\$62,470
Actuarial asset value	70,710	75,078
Tier 1/Tier 2 Unfunded actuarial accrued liability	(8,701)	(12,608)
Tier 1/ Tier 2 Funded status	114%	120%
Combined valuation payroll	\$41,337	\$40,494
Tier 1/Tier 2 UAL as a percentage of payroll	(21%)	(31%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(3.10%)	(3.40%)
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	2	2

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### **OPSRP**

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### **Retiree Healthcare**

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	41,337	40,494
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	41,991	42,876
3. Benefits in force reserve	28,719	32,202
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$70,710</b>	<b>\$75,078</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$75,078
2. Regular employer contributions	(1,643)
3. Benefit payments and expense	(5,223)
4. Adjustments <sup>1</sup>	1,206
5. Interest credited	1,291
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$70,710</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$0	\$0	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$0</b>	<b>\$0</b>
Dormant Members	0	0
Retired Members and Beneficiaries	62,009	62,470
<b>Total Actuarial Accrued Liability</b>	<b>\$62,009</b>	<b>\$62,470</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$62,009	\$62,009	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$62,009	\$62,470
2. Actuarial value of assets	70,710	75,078
3. Unfunded accrued liability (1. – 2.)	(8,701)	(12,608)
4. Funded percentage (2. ÷ 1.)	114%	120%
5. Combined valuation payroll	\$41,337	\$40,494
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(21%)	(31%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$20,456)	(\$1,532)	(\$1,473)	(\$20,397)	(\$1,586)
December 31, 2015	N/A	N/A	N/A	\$11,696	\$846
<b>Total</b>				<b>(\$8,701)</b>	<b>(\$740)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$62,470
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	(5,182)
d. Interest at 7.50% to December 31, 2015	4,491
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	61,779
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	61,779
2. Actuarial accrued liability at December 31, 2015	62,009
3. Gain/(loss) on actuarial accrued liability (1.g. – 2.)	(230)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	75,078
b. Contributions for 2015 <sup>1</sup>	(1,643)
c. Benefit payments and expenses during 2015	(5,223)
d. Interest at 7.50% to December 31, 2015	5,373
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	73,586
5. Actuarial value of assets at December 31, 2015	70,710
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(2,877)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$3,107)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$12,608)</b>
2. Expected increase	800
3. Liability (gain)/loss	230
4. Asset (gain)/loss	2,877
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$8,701)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>16.71%</b>	<b>\$0</b>	<b>\$0</b>	<b>17.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$8,701)	(\$12,608)
2. Next year's Tier 1/Tier 2 UAL payment	(740)	(964)
3. Combined valuation payroll	41,337	40,494
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(1.79%)	(2.38%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	(1.79%)	(2.38%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	15.07%	14.78%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		10.61%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		10.61%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.12%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		114%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	7.61%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	13.61%
7. July 1, 2017 total pension rate, before adjustment		15.07%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(1.46%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(1.79%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(3.25%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		13.61%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.71%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.71%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	13.61%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	(3.25%)	(3.55%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	13.61%	13.61%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	41,337	0	41,337
<b>Combined valuation payroll</b>	<b>\$41,337</b>	<b>\$0</b>	<b>\$41,337</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	1	0	1	0	1	0	1
Total	0	2	0	2	0	2	0	2
<b>Grand Total Number of Members</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69	1	85
45-49			70-74	1	360
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>	<b>2</b>	<b>223</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Springfield Utility Board/2767  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Springfield Utility Board/2767

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Springfield Utility Board/2767

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Springfield Utility Board -- #2767**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Springfield Utility Board to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Springfield Utility Board.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Springfield Utility Board***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	15.87%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(4.46%)	(4.46%)	(4.46%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>12.68%</b>	<b>4.83%</b>	<b>9.60%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>13.18%</b>	<b>5.26%</b>	<b>10.03%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 91%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.41%	11.41%
Minimum 2019-2021 Rate	8.41%	5.41%
Maximum 2019-2021 Rate	14.41%	17.41%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$234,185	\$240,917	\$6,732	97%	\$77,075	9%
12/31/2011	248,311	257,708	9,397	96%	79,824	12%
12/31/2012	292,221	250,720	(41,501)	117%	83,649	(50%)
12/31/2013	336,955	291,087	(45,868)	116%	86,946	(53%)
12/31/2014	366,511	375,364	8,853	98%	90,502	10%
12/31/2015	388,107	427,949	39,842	91%	96,755	41%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *Springfield Utility Board*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$39,842	\$8,853
Allocated pooled OPSRP UAL	13,755	10,346
Side account	0	0
Net unfunded pension actuarial accrued liability	53,597	19,199
Combined valuation payroll	96,755	90,502
Net pension UAL as a percentage of payroll	55%	21%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$470	\$719

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$15,355	\$14,506
Tier 1/Tier 2 valuation payroll	96,755	90,502
Tier 1/Tier 2 pension normal cost rate	15.87%	16.03%
Tier 1/ Tier 2 Actuarial accrued liability	\$427,949	\$375,364
Actuarial asset value	388,107	366,511
Tier 1/Tier 2 Unfunded actuarial accrued liability	39,842	8,853
Tier 1/ Tier 2 Funded status	91%	98%
Combined valuation payroll	\$96,755	\$90,502
Tier 1/Tier 2 UAL as a percentage of payroll	41%	10%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(4.46%)	(4.62%)
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	96,755	90,502
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$131,114	\$120,448
2. Employer reserves	256,993	246,063
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$388,107</b>	<b>\$366,511</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$366,511
2. Regular employer contributions	6,069
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	1,626
5. Interest credited	13,900
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$388,107</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	15,355	14,506
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$15,355</b>	<b>\$14,506</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$15,355	\$15,355	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	427,949	375,364
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$427,949</b>	<b>\$375,364</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$427,949</b>	<b>\$375,364</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$427,949	\$427,949	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$427,949	\$375,364
2. Actuarial value of assets	388,107	366,511
3. Unfunded accrued liability (1. – 2.)	39,842	8,853
4. Funded percentage (2. ÷ 1.)	91%	98%
5. Combined valuation payroll	\$96,755	\$90,502
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	41%	10%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$45,966)	(\$3,443)	(\$3,310)	(\$45,833)	(\$3,564)
December 31, 2015	N/A	N/A	N/A	\$85,675	\$6,199
<b>Total</b>				<b>\$39,842</b>	<b>\$2,635</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$375,364
b. Normal cost at December 31, 2014 (excluding assumed expenses)	13,876
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	28,673
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	417,913
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	417,913
2. Actuarial accrued liability at December 31, 2015	427,949
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(10,036)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	366,511
b. Contributions for 2015 <sup>1</sup>	6,069
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	27,716
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	400,297
5. Actuarial value of assets at December 31, 2015	388,107
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(12,190)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$22,226)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$8,853</b>
2. Expected increase	8,763
3. Liability (gain)/loss	10,036
4. Asset (gain)/loss	12,190
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$39,842</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	15,355	96,755	15.87%	14,506	90,502	16.03%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$15,355</b>	<b>\$96,755</b>	<b>15.87%</b>	<b>\$14,506</b>	<b>\$90,502</b>	<b>16.03%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$39,842	\$8,853
2. Next year's Tier 1/Tier 2 UAL payment	2,635	524
3. Combined valuation payroll	96,755	90,502
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	2.72%	0.58%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.87%	16.03%
b. Tier 1/Tier 2 UAL rate	2.72%	0.58%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	18.74%	16.76%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		8.41%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		8.41%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.68%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		91%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	5.41%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	11.41%
7. July 1, 2017 total pension rate, before adjustment		18.74%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(7.33%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		2.72%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(4.61%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		11.41%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		15.87%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		15.87%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	11.41%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.87%	16.03%
b. Tier 1/Tier 2 UAL rate	(4.61%)	(4.77%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	11.41%	11.41%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$96,755	\$0	\$96,755
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	96,755	0	96,755
OPSRP valuation payroll	0	0	0
<b>Combined valuation payroll</b>	<b>\$96,755</b>	<b>\$0</b>	<b>\$96,755</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Grand Total Number of Members</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59						1				1
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

City of Stanfield/2213  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
City of Stanfield/2213

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Stanfield/2213

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**City of Stanfield -- #2213**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for City of Stanfield to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Stanfield.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for City of Stanfield***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	14.77%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(9.27%)	(9.27%)	(9.27%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>6.77%</b>	<b>0.02%</b>	<b>4.79%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>7.27%</b>	<b>0.45%</b>	<b>5.22%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 127%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	5.50%	5.50%
Minimum 2019-2021 Rate	2.50%	0.00%
Maximum 2019-2021 Rate	8.50%	11.50%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$2,098,371	\$1,564,203	(\$534,168)	134%	\$416,738	(128%)
12/31/2011	2,037,197	1,602,362	(434,835)	127%	379,898	(114%)
12/31/2012	2,276,037	1,638,465	(637,572)	139%	398,287	(160%)
12/31/2013	2,563,919	1,711,052	(852,867)	150%	390,228	(219%)
12/31/2014	2,677,365	1,948,398	(728,967)	137%	437,262	(167%)
12/31/2015	2,670,874	2,106,399	(564,475)	127%	482,612	(117%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *City of Stanfield*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$564,475)	(\$728,967)
Allocated pooled OPSRP UAL	68,610	49,989
Side account	0	0
Net unfunded pension actuarial accrued liability	(495,865)	(678,978)
Combined valuation payroll	482,612	437,262
Net pension UAL as a percentage of payroll	(103%)	(155%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$2,343	\$3,476

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$25,946	\$29,087
Tier 1/Tier 2 valuation payroll	177,903	138,413
Tier 1/Tier 2 pension normal cost rate	14.77%	21.01%
Tier 1/ Tier 2 Actuarial accrued liability	\$2,106,399	\$1,948,398
Actuarial asset value	2,670,874	2,677,365
Tier 1/Tier 2 Unfunded actuarial accrued liability	(564,475)	(728,967)
Tier 1/ Tier 2 Funded status	127%	137%
Combined valuation payroll	\$482,612	\$437,262
Tier 1/Tier 2 UAL as a percentage of payroll	(117%)	(167%)
Tier 1/Tier 2 UAL rate	(9.27%)	(12.41%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members <sup>1</sup>	3	4
Tier 1/Tier 2 dormant members	7	8
Tier 1/Tier 2 retirees and beneficiaries	14	13

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	482,612	437,262
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$336,872	\$314,879
2. Employer reserves	1,954,763	1,940,875
3. Benefits in force reserve	379,239	421,611
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$2,670,874</b>	<b>\$2,677,365</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$2,677,365
2. Regular employer contributions	(20,134)
3. Benefit payments and expense	(68,965)
4. Adjustments <sup>1</sup>	21,442
5. Interest credited	61,166
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$2,670,874</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	14,002	12,673
Tier 2 Police & Fire	11,578	16,320
Tier 2 General Service	366	94
<b>Total</b>	<b>\$25,946</b>	<b>\$29,087</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$25,946	\$25,946	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$59,956	\$55,823
▪ Tier 1 General Service	397,392	305,613
▪ Tier 2 Police & Fire	254,973	219,315
▪ Tier 2 General Service	146,122	133,511
▪ <b>Total Active Members</b>	<b>\$858,443</b>	<b>\$714,262</b>
Dormant Members	429,107	416,220
Retired Members and Beneficiaries	818,849	817,916
<b>Total Actuarial Accrued Liability</b>	<b>\$2,106,399</b>	<b>\$1,948,398</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$2,106,399	\$2,106,399	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$2,106,399	\$1,948,398
2. Actuarial value of assets	2,670,874	2,677,365
3. Unfunded accrued liability (1. – 2.)	(564,475)	(728,967)
4. Funded percentage (2. ÷ 1.)	127%	137%
5. Combined valuation payroll	\$482,612	\$437,262
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(117%)	(167%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$854,687)	(\$64,021)	(\$61,544)	(\$852,210)	(\$66,263)
December 31, 2015	N/A	N/A	N/A	\$287,735	\$20,820
<b>Total</b>				<b>(\$564,475)</b>	<b>(\$45,443)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,948,398
b. Normal cost at December 31, 2014 (excluding assumed expenses)	27,693
c. Benefit payments during 2015	(68,432)
d. Interest at 7.50% to December 31, 2015	144,602
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	2,052,261
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	2,052,261
2. Actuarial accrued liability at December 31, 2015	2,106,399
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(54,138)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,677,365
b. Contributions for 2015 <sup>1</sup>	(20,134)
c. Benefit payments and expenses during 2015	(68,965)
d. Interest at 7.50% to December 31, 2015	197,461
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	2,785,728
5. Actuarial value of assets at December 31, 2015	2,670,874
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(114,853)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$168,991)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$728,967)</b>
2. Expected increase	(4,499)
3. Liability (gain)/loss	54,138
4. Asset (gain)/loss	114,853
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$564,475)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	14,002	78,818	17.76%	12,673	67,002	18.91%
Tier 2 Police & Fire	11,578	96,140	12.04%	16,320	70,664	23.10%
Tier 2 General Service	366	2,945	12.43%	94	747	12.58%
<b>Total</b>	<b>\$25,946</b>	<b>\$177,903</b>	<b>14.58%</b>	<b>\$29,087</b>	<b>\$138,413</b>	<b>21.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$564,475)	(\$728,967)
2. Next year's Tier 1/Tier 2 UAL payment	(45,443)	(54,924)
3. Combined valuation payroll	482,612	437,262
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(9.42%)	(12.56%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.58%	21.01%
b. Tier 1/Tier 2 UAL rate	(9.42%)	(12.56%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	5.31%	8.60%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		127%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	2.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	8.47%
7. July 1, 2017 total pension rate, before adjustment		5.31%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		0.00%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(9.42%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(9.42%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		5.31%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.19%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		14.58%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		14.77%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	5.50%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.77%	21.01%
b. Tier 1/Tier 2 UAL rate	(9.42%)	(12.56%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	5.50%	8.60%
<i>(a. + b. + c., minimum of 5.50%)</i>		



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$78,818	\$0	\$78,818
Tier 2	2,945	96,140	99,085
Tier 1/Tier 2 valuation payroll	81,763	96,140	177,903
OPSRP valuation payroll	176,320	128,389	304,709
<b>Combined valuation payroll</b>	<b>\$258,083</b>	<b>\$224,529</b>	<b>\$482,612</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	1	5	7	1	1	6	8
Police & Fire	0	1	3	4	0	2	3	5
Total	1	2	8	11	1	3	9	13
<b>Active Members with previous service segments with the employer</b>								
General Service	1	2	N/A	3	1	2	N/A	3
Police & Fire	2	2	N/A	4	2	1	N/A	3
Total	3	4	N/A	7	3	3	N/A	6
<b>Dormant Members</b>								
General Service	2	2	0	4	3	2	0	5
Police & Fire	1	2	0	3	1	2	0	3
Total	3	4	0	7	4	4	0	8
<b>Retired Members and Beneficiaries</b>								
General Service	6	1	0	7	5	1	0	6
Police & Fire	6	1	0	7	6	1	0	7
Total	12	2	0	14	11	2	0	13
<b>Grand Total Number of Members</b>	<b>19</b>	<b>12</b>	<b>8</b>	<b>39</b>	<b>19</b>	<b>12</b>	<b>9</b>	<b>40</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						1
45-49						1				1
50-54										
55-59										
60-64										
65-69										
70-74										
75+				1						1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54	1	42
30-34			55-59	1	23
35-39	1	702	60-64	1	270
40-44	1	288	65-69	3	255
45-49	1	270	70-74	4	149
50-54	1	2,158	75-79	2	1,812
55-59	1	51	80-84	1	620
60-64	1	783	85-89	1	42
65-69	1	103	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>7</b>	<b>622</b>	<b>Total</b>	<b>14</b>	<b>427</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Sunrise Water Authority/2845  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).

September 2016  
Sunrise Water Authority/2845

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Sunrise Water Authority/2845

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, 2015

## OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Sunrise Water Authority -- #2845

September 2016

### Secondary Employers

2586	Mt Scott Water District
2656	Damascus Water District

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# Executive Summary

Milliman has prepared this report for Sunrise Water Authority to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Sunrise Water Authority.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Sunrise Water Authority***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	10.94%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	8.22%	8.22%	8.22%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>20.43%</b>	<b>17.51%</b>	<b>22.28%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>20.93%</b>	<b>17.94%</b>	<b>22.71%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 65%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	19.16%	19.16%
Minimum 2019-2021 Rate	15.33%	11.50%
Maximum 2019-2021 Rate	22.99%	26.82%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$3,071,750	\$3,823,574	\$751,824	80%	\$931,592	81%
12/31/2011	2,709,139	3,974,445	1,265,306	68%	1,060,987	119%
12/31/2012	2,973,563	4,013,502	1,039,939	74%	1,130,346	92%
12/31/2013	3,222,903	4,026,330	803,427	80%	1,068,798	75%
12/31/2014	3,273,211	4,606,451	1,333,240	71%	1,191,064	112%
12/31/2015	3,175,704	4,854,173	1,678,469	65%	1,094,333	153%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *Sunrise Water Authority*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$1,678,469	\$1,333,240
Allocated pooled OPSRP UAL	155,575	136,165
Side account	0	0
Net unfunded pension actuarial accrued liability	1,834,044	1,469,405
Combined valuation payroll	1,094,333	1,191,064
Net pension UAL as a percentage of payroll	168%	123%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$5,314	\$9,467

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$33,407	\$25,750
Tier 1/Tier 2 valuation payroll	305,316	247,166
Tier 1/Tier 2 pension normal cost rate	10.94%	10.42%
Tier 1/ Tier 2 Actuarial accrued liability	\$4,854,173	\$4,606,451
Actuarial asset value	3,175,704	3,273,211
Tier 1/Tier 2 Unfunded actuarial accrued liability	1,678,469	1,333,240
Tier 1/ Tier 2 Funded status	65%	71%
Combined valuation payroll	\$1,094,333	\$1,191,064
Tier 1/Tier 2 UAL as a percentage of payroll	153%	112%
Tier 1/Tier 2 UAL rate	8.22%	7.24%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members <sup>1</sup>	4	3
Tier 1/Tier 2 dormant members	5	6
Tier 1/Tier 2 retirees and beneficiaries	16	16

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	1,094,333	1,191,064
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$398,163	\$355,827
2. Employer reserves	1,190,846	1,146,013
3. Benefits in force reserve	1,586,695	1,771,372
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$3,175,704</b>	<b>\$3,273,211</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$3,273,211
2. Regular employer contributions	74,866
3. Benefit payments and expense	(288,543)
4. Adjustments <sup>1</sup>	44,283
5. Interest credited	71,886
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$3,175,704</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	9,404	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	24,003	25,750
<b>Total</b>	<b>\$33,407</b>	<b>\$25,750</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$33,407	\$33,407	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	365,773	141,912
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	629,305	621,495
▪ <b>Total Active Members</b>	<b>\$995,078</b>	<b>\$763,407</b>
Dormant Members	433,116	406,628
Retired Members and Beneficiaries	3,425,979	3,436,416
<b>Total Actuarial Accrued Liability</b>	<b>\$4,854,173</b>	<b>\$4,606,451</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$4,854,173	\$4,854,173	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$4,854,173	\$4,606,451
2. Actuarial value of assets	3,175,704	3,273,211
3. Unfunded accrued liability (1. – 2.)	1,678,469	1,333,240
4. Funded percentage (2. ÷ 1.)	65%	71%
5. Combined valuation payroll	\$1,094,333	\$1,191,064
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	153%	112%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$805,141	\$60,310	\$57,976	\$802,807	\$62,422
December 31, 2015	N/A	N/A	N/A	\$875,662	\$63,362
<b>Total</b>				<b>\$1,678,469</b>	<b>\$125,784</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$4,606,451
b. Normal cost at December 31, 2014 (excluding assumed expenses)	24,632
c. Benefit payments during 2015	(286,314)
d. Interest at 7.50% to December 31, 2015	335,671
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	4,680,440
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	4,680,440
2. Actuarial accrued liability at December 31, 2015	4,854,173
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(173,733)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	3,273,211
b. Contributions for 2015 <sup>1</sup>	74,866
c. Benefit payments and expenses during 2015	(288,543)
d. Interest at 7.50% to December 31, 2015	237,478
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	3,297,013
5. Actuarial value of assets at December 31, 2015	3,175,704
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(121,309)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$295,042)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$1,333,240</b>
2. Expected increase	50,187
3. Liability (gain)/loss	173,733
4. Asset (gain)/loss	121,309
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$1,678,469</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	9,404	82,795	11.36%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	24,003	222,521	10.79%	25,750	247,166	10.42%
<b>Total</b>	<b>\$33,407</b>	<b>\$305,316</b>	<b>10.94%</b>	<b>\$25,750</b>	<b>\$247,166</b>	<b>10.42%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$1,678,469	\$1,333,240
2. Next year's Tier 1/Tier 2 UAL payment	125,784	98,523
3. Combined valuation payroll	1,094,333	1,191,064
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	11.49%	8.27%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.94%	10.42%
b. Tier 1/Tier 2 UAL rate	11.49%	8.27%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	22.58%	18.84%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		14.66%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		14.66%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.93%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		65%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		4.50%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	10.16%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	19.16%
7. July 1, 2017 total pension rate, before adjustment		22.58%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(3.42%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		11.49%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	8.07%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		19.16%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		10.94%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		10.94%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	19.16%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.94%	10.42%
b. Tier 1/Tier 2 UAL rate	8.07%	7.09%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	19.16%	17.66%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$82,795	\$0	\$82,795
Tier 2	222,521	0	222,521
Tier 1/Tier 2 valuation payroll	305,316	0	305,316
OPSRP valuation payroll	789,017	0	789,017
<b>Combined valuation payroll</b>	<b>\$1,094,333</b>	<b>\$0</b>	<b>\$1,094,333</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	3	11	15	0	3	14	17
Police & Fire	0	0	0	0	0	0	0	0
Total	1	3	11	15	0	3	14	17
<b>Active Members with previous service segments with the employer</b>								
General Service	3	1	N/A	4	2	1	N/A	3
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	3	1	N/A	4	2	1	N/A	3
<b>Dormant Members</b>								
General Service	3	2	3	8	4	2	2	8
Police & Fire	0	0	0	0	0	0	0	0
Total	3	2	3	8	4	2	2	8
<b>Retired Members and Beneficiaries</b>								
General Service	15	1	0	16	15	1	0	16
Police & Fire	0	0	0	0	0	0	0	0
Total	15	1	0	16	15	1	0	16
<b>Grand Total Number of Members</b>	<b>22</b>	<b>7</b>	<b>14</b>	<b>43</b>	<b>21</b>	<b>7</b>	<b>16</b>	<b>44</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			1							1
40-44				1						1
45-49				2						2
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64	2	2,607
40-44			65-69	2	1,600
45-49	1	990	70-74	4	1,318
50-54	3	1,223	75-79	4	1,922
55-59			80-84	2	1,271
60-64	1	57	85-89	1	613
65-69			90-94	1	698
70-74			95-99		
75+			100+		
<b>Total</b>	<b>5</b>	<b>943</b>	<b>Total</b>	<b>16</b>	<b>1,577</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

City of Sweet Home/2129  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
City of Sweet Home/2129

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Sweet Home/2129

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**City of Sweet Home -- #2129**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for City of Sweet Home to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Sweet Home.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### *Employer Rates Effective July 1, 2017 for City of Sweet Home*

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	16.97%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(8.50%)	(8.50%)	(8.50%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>9.74%</b>	<b>0.79%</b>	<b>5.56%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>10.24%</b>	<b>1.22%</b>	<b>5.99%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 101%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$6,905,331	\$5,733,310	(\$1,172,021)	120%	\$860,986	(136%)
12/31/2011	6,785,370	6,077,241	(708,129)	112%	636,038	(111%)
12/31/2012	7,035,389	5,996,351	(1,039,038)	117%	770,371	(135%)
12/31/2013	7,787,332	6,150,297	(1,637,035)	127%	764,975	(214%)
12/31/2014	8,111,359	7,283,771	(827,588)	111%	909,894	(91%)
12/31/2015	7,977,353	7,913,088	(64,265)	101%	951,790	(7%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *City of Sweet Home*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$64,265)	(\$827,588)
Allocated pooled OPSRP UAL	135,310	104,021
Side account	0	0
Net unfunded pension actuarial accrued liability	71,045	(723,567)
Combined valuation payroll	951,790	909,894
Net pension UAL as a percentage of payroll	7%	(80%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$4,622	\$7,232

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### ***Tier 1/Tier 2***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$76,120	\$85,472
Tier 1/Tier 2 valuation payroll	448,571	499,351
Tier 1/Tier 2 pension normal cost rate	16.97%	17.12%
Tier 1/ Tier 2 Actuarial accrued liability	\$7,913,088	\$7,283,771
Actuarial asset value	7,977,353	8,111,359
Tier 1/Tier 2 Unfunded actuarial accrued liability	(64,265)	(827,588)
Tier 1/ Tier 2 Funded status	101%	111%
Combined valuation payroll	\$951,790	\$909,894
Tier 1/Tier 2 UAL as a percentage of payroll	(7%)	(91%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(8.50%)	(8.65%)
Tier 1/Tier 2 active members <sup>1</sup>	6	7
Tier 1/Tier 2 dormant members	4	4
Tier 1/Tier 2 retirees and beneficiaries	18	16

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	951,790	909,894
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$1,029,762	\$1,017,621
2. Employer reserves	5,150,355	5,300,068
3. Benefits in force reserve	1,797,236	1,793,670
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$7,977,353</b>	<b>\$8,111,359</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$8,111,359
2. Regular employer contributions	(20,267)
3. Benefit payments and expense	(326,830)
4. Adjustments <sup>1</sup>	27,209
5. Interest credited	185,882
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$7,977,353</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$16,063	\$15,793
Tier 1 General Service	0	0
Tier 2 Police & Fire	49,995	60,167
Tier 2 General Service	10,062	9,512
<b>Total</b>	<b>\$76,120</b>	<b>\$85,472</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$76,120	\$76,120	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$1,819,953	\$1,798,077
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	1,838,822	1,675,278
▪ Tier 2 General Service	218,581	186,821
▪ <b>Total Active Members</b>	<b>\$3,877,356</b>	<b>\$3,660,176</b>
Dormant Members	155,155	143,921
Retired Members and Beneficiaries	3,880,577	3,479,674
<b>Total Actuarial Accrued Liability</b>	<b>\$7,913,088</b>	<b>\$7,283,771</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$7,913,088	\$7,913,088	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$7,913,088	\$7,283,771
2. Actuarial value of assets	7,977,353	8,111,359
3. Unfunded accrued liability (1. – 2.)	(64,265)	(827,588)
4. Funded percentage (2. ÷ 1.)	101%	111%
5. Combined valuation payroll	\$951,790	\$909,894
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(7%)	(91%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$1,640,528)	(\$122,886)	(\$118,130)	(\$1,635,772)	(\$127,189)
December 31, 2015	N/A	N/A	N/A	\$1,571,507	\$113,713
<b>Total</b>				<b>(\$64,265)</b>	<b>(\$13,476)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$7,283,771
b. Normal cost at December 31, 2014 (excluding assumed expenses)	81,761
c. Benefit payments during 2015	(324,305)
d. Interest at 7.50% to December 31, 2015	537,187
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	7,578,414
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	7,578,414
2. Actuarial accrued liability at December 31, 2015	7,913,088
3. Gain/(loss) on actuarial accrued liability (1.g. – 2.)	(334,674)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	8,111,359
b. Contributions for 2015 <sup>1</sup>	(20,267)
c. Benefit payments and expenses during 2015	(326,830)
d. Interest at 7.50% to December 31, 2015	595,336
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	8,359,598
5. Actuarial value of assets at December 31, 2015	7,977,353
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(382,245)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$716,919)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$827,588)</b>
2. Expected increase	46,404
3. Liability (gain)/loss	334,674
4. Asset (gain)/loss	382,245
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$64,265)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$16,063	\$78,039	20.58%	\$15,793	\$76,672	20.60%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	49,995	280,043	17.85%	60,167	337,888	17.81%
Tier 2 General Service	10,062	90,489	11.12%	9,512	84,791	11.22%
<b>Total</b>	<b>\$76,120</b>	<b>\$448,571</b>	<b>16.97%</b>	<b>\$85,472</b>	<b>\$499,351</b>	<b>17.12%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$64,265)	(\$827,588)
2. Next year's Tier 1/Tier 2 UAL payment	(13,476)	(64,063)
3. Combined valuation payroll	951,790	909,894
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(1.42%)	(7.04%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.97%	17.12%
b. Tier 1/Tier 2 UAL rate	(1.42%)	(7.04%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	15.70%	10.23%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		101%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	2.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	8.47%
7. July 1, 2017 total pension rate, before adjustment		15.70%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(7.23%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(1.42%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(8.65%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		8.47%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.97%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.97%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	8.47%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.97%	17.12%
b. Tier 1/Tier 2 UAL rate	(8.65%)	(8.80%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	8.47%	8.47%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$78,039	\$78,039
Tier 2	90,489	280,043	370,532
Tier 1/Tier 2 valuation payroll	90,489	358,082	448,571
OPSRP valuation payroll	0	503,219	503,219
<b>Combined valuation payroll</b>	<b>\$90,489</b>	<b>\$861,301</b>	<b>\$951,790</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	1	0	1	0	1	0	1
Police & Fire	1	4	9	14	1	5	7	13
Total	1	5	9	15	1	6	7	14
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	14	14	N/A	28	15	13	N/A	28
Total	14	14	N/A	28	15	13	N/A	28
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	3	1	1	5	3	1	1	5
Total	3	1	1	5	3	1	1	5
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	17	1	0	18	16	0	0	16
Total	17	1	0	18	16	0	0	16
<b>Grand Total Number of Members</b>	<b>35</b>	<b>21</b>	<b>10</b>	<b>66</b>	<b>35</b>	<b>20</b>	<b>8</b>	<b>63</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			1							1
40-44			2	1						3
45-49				1	1					2
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54	2	605
30-34			55-59	3	916
35-39	1	35	60-64	5	1,903
40-44	1	38	65-69	6	635
45-49			70-74	2	2,167
50-54			75-79		
55-59	1	168	80-84		
60-64	1	737	85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>4</b>	<b>244</b>	<b>Total</b>	<b>18</b>	<b>1,201</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Sweet Home Cemetery/2643  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Sweet Home Cemetery/2643

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Sweet Home Cemetery/2643

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Sweet Home Cemetery -- #2643**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Sweet Home Cemetery to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Sweet Home Cemetery.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### *Employer Rates Effective July 1, 2017 for Sweet Home Cemetery*

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	16.73%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	3.66%	3.66%	3.66%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>21.66%</b>	<b>12.95%</b>	<b>17.72%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>22.16%</b>	<b>13.38%</b>	<b>18.15%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 89%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	20.39%	20.39%
Minimum 2019-2021 Rate	16.31%	12.23%
Maximum 2019-2021 Rate	24.47%	28.55%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$612,989	\$739,059	\$126,070	83%	\$111,990	113%
12/31/2011	350,642	511,257	160,615	69%	27,288	589%
12/31/2012	388,006	464,278	76,272	84%	84,731	90%
12/31/2013	441,442	485,592	44,150	91%	107,083	41%
12/31/2014	415,137	462,736	47,599	90%	114,408	42%
12/31/2015	423,852	477,886	54,034	89%	118,271	46%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Sweet Home Cemetery***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$54,034	\$47,599
Allocated pooled OPSRP UAL	16,814	13,079
Side account	0	0
Net unfunded pension actuarial accrued liability	70,848	60,678
Combined valuation payroll	118,271	114,408
Net pension UAL as a percentage of payroll	60%	53%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$574	\$909

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$6,583	\$6,376
Tier 1/Tier 2 valuation payroll	39,339	38,802
Tier 1/Tier 2 pension normal cost rate	16.73%	16.43%
Tier 1/ Tier 2 Actuarial accrued liability	\$477,886	\$462,736
Actuarial asset value	423,852	415,137
Tier 1/Tier 2 Unfunded actuarial accrued liability	54,034	47,599
Tier 1/ Tier 2 Funded status	89%	90%
Combined valuation payroll	\$118,271	\$114,408
Tier 1/Tier 2 UAL as a percentage of payroll	46%	42%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	3.66%	3.26%
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	1	1

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	118,271	114,408
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$74,898	\$68,805
2. Employer reserves	205,066	187,187
3. Benefits in force reserve	143,888	159,145
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$423,852</b>	<b>\$415,137</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$415,137
2. Regular employer contributions	14,040
3. Benefit payments and expense	(26,166)
4. Adjustments <sup>1</sup>	9,223
5. Interest credited	11,618
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$423,852</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

## Tier 1/Tier 2 Valuation Results

### Liabilities

#### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

#### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	6,583	6,376
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$6,583</b>	<b>\$6,376</b>

#### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$6,583	\$6,583	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	167,205	153,999
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$167,205</b>	<b>\$153,999</b>
Dormant Members	0	0
Retired Members and Beneficiaries	310,681	308,737
<b>Total Actuarial Accrued Liability</b>	<b>\$477,886</b>	<b>\$462,736</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$477,886	\$477,886	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$477,886	\$462,736
2. Actuarial value of assets	423,852	415,137
3. Unfunded accrued liability (1. – 2.)	54,034	47,599
4. Funded percentage (2. ÷ 1.)	89%	90%
5. Combined valuation payroll	\$118,271	\$114,408
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	46%	42%

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$44,244	\$3,314	\$3,186	\$44,116	\$3,430
December 31, 2015	N/A	N/A	N/A	\$9,918	\$718
<b>Total</b>				<b>\$54,034</b>	<b>\$4,148</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$462,736
b. Normal cost at December 31, 2014 (excluding assumed expenses)	6,099
c. Benefit payments during 2015	(25,964)
d. Interest at 7.50% to December 31, 2015	33,960
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	476,831
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	476,831
2. Actuarial accrued liability at December 31, 2015	477,886
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(1,055)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	415,137
b. Contributions for 2015 <sup>1</sup>	14,040
c. Benefit payments and expenses during 2015	(26,166)
d. Interest at 7.50% to December 31, 2015	30,681
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	433,692
5. Actuarial value of assets at December 31, 2015	423,852
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(9,840)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$10,895)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$47,599</b>
2. Expected increase	(4,460)
3. Liability (gain)/loss	1,055
4. Asset (gain)/loss	9,840
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$54,034</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	6,583	39,339	16.73%	6,376	38,802	16.43%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$6,583</b>	<b>\$39,339</b>	<b>16.73%</b>	<b>\$6,376</b>	<b>\$38,802</b>	<b>16.43%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$54,034	\$47,599
2. Next year's Tier 1/Tier 2 UAL payment	4,148	3,557
3. Combined valuation payroll	118,271	114,408
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	3.51%	3.11%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.73%	16.43%
b. Tier 1/Tier 2 UAL rate	3.51%	3.11%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	20.39%	19.69%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		17.09%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		17.09%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		3.42%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.42%
c. Funded percentage		89%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.42%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	13.67%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	20.51%
7. July 1, 2017 total pension rate, before adjustment		20.39%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		0.00%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		3.51%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	3.51%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		20.39%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.73%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.73%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	20.39%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.73%	16.43%
b. Tier 1/Tier 2 UAL rate	3.51%	3.11%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	20.39%	19.69%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$39,339	\$0	\$39,339
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	39,339	0	39,339
OPSRP valuation payroll	78,932	0	78,932
<b>Combined valuation payroll</b>	<b>\$118,271</b>	<b>\$0</b>	<b>\$118,271</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	0	2	3	1	0	2	3
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	2	3	1	0	2	3
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
<b>Grand Total Number of Members</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59					1					1
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64	1	1,771
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>	<b>1</b>	<b>1,771</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Tillamook 9-1-1/2722

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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Tillamook 9-1-1/2722

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Tillamook 9-1-1/2722

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Tillamook 9-1-1 -- #2722**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for Tillamook 9-1-1 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Tillamook 9-1-1.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Tillamook 9-1-1***

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	13.60%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(5.13%)	(5.13%)	(5.13%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>9.74%</b>	<b>4.16%</b>	<b>8.93%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>10.24%</b>	<b>4.59%</b>	<b>9.36%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 107%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$1,755,810	\$1,582,886	(\$172,924)	111%	\$488,423	(35%)
12/31/2011	1,800,706	1,660,388	(140,318)	108%	561,258	(25%)
12/31/2012	2,056,968	1,641,966	(415,002)	125%	525,267	(79%)
12/31/2013	2,338,997	1,713,100	(625,897)	137%	530,964	(118%)
12/31/2014	2,358,457	2,145,269	(213,188)	110%	567,404	(38%)
12/31/2015	2,424,064	2,256,633	(167,431)	107%	557,353	(30%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Tillamook 9-1-1***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$167,431)	(\$213,188)
Allocated pooled OPSRP UAL	79,236	64,867
Side account	0	0
Net unfunded pension actuarial accrued liability	(88,195)	(148,321)
Combined valuation payroll	557,353	567,404
Net pension UAL as a percentage of payroll	(16%)	(26%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$2,706	\$4,510

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$35,976	\$34,755
Tier 1/Tier 2 valuation payroll	264,586	258,456
Tier 1/Tier 2 pension normal cost rate	13.60%	13.45%
Tier 1/ Tier 2 Actuarial accrued liability	\$2,256,633	\$2,145,269
Actuarial asset value	2,424,064	2,358,457
Tier 1/Tier 2 Unfunded actuarial accrued liability	(167,431)	(213,188)
Tier 1/ Tier 2 Funded status	107%	110%
Combined valuation payroll	\$557,353	\$567,404
Tier 1/Tier 2 UAL as a percentage of payroll	(30%)	(38%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(5.13%)	(4.98%)
Tier 1/Tier 2 active members <sup>1</sup>	4	4
Tier 1/Tier 2 dormant members	5	5
Tier 1/Tier 2 retirees and beneficiaries	4	4

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	557,353	567,404
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$699,661	\$651,520
2. Employer reserves	1,553,821	1,492,568
3. Benefits in force reserve	170,583	214,369
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$2,424,064</b>	<b>\$2,358,457</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$2,358,457
2. Regular employer contributions	(2,631)
3. Benefit payments and expense	(31,021)
4. Adjustments <sup>1</sup>	27,963
5. Interest credited	71,296
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$2,424,064</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

## Tier 1/Tier 2 Valuation Results

### Liabilities

#### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

#### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	24,551	24,006
Tier 2 Police & Fire	0	0
Tier 2 General Service	11,425	10,749
<b>Total</b>	<b>\$35,976</b>	<b>\$34,755</b>

#### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$35,976	\$35,976	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	664,845	603,190
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	323,429	286,424
▪ <b>Total Active Members</b>	<b>\$988,274</b>	<b>\$889,614</b>
Dormant Members	900,039	839,786
Retired Members and Beneficiaries	368,320	415,869
<b>Total Actuarial Accrued Liability</b>	<b>\$2,256,633</b>	<b>\$2,145,269</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$2,256,633	\$2,256,633	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$2,256,633	\$2,145,269
2. Actuarial value of assets	2,424,064	2,358,457
3. Unfunded accrued liability (1. – 2.)	(167,431)	(213,188)
4. Funded percentage (2. ÷ 1.)	107%	110%
5. Combined valuation payroll	\$557,353	\$567,404
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(30%)	(38%)

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$627,233)	(\$46,984)	(\$45,165)	(\$625,414)	(\$48,629)
December 31, 2015	N/A	N/A	N/A	\$457,983	\$33,139
<b>Total</b>				<b>(\$167,431)</b>	<b>(\$15,490)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$2,145,269
b. Normal cost at December 31, 2014 (excluding assumed expenses)	33,246
c. Benefit payments during 2015	(30,781)
d. Interest at 7.50% to December 31, 2015	160,988
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	2,308,722
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	2,308,722
2. Actuarial accrued liability at December 31, 2015	2,256,633
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	52,089
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,358,457
b. Contributions for 2015 <sup>1</sup>	(2,631)
c. Benefit payments and expenses during 2015	(31,021)
d. Interest at 7.50% to December 31, 2015	175,622
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	2,500,428
5. Actuarial value of assets at December 31, 2015	2,424,064
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(76,364)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$24,275)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$213,188)</b>
2. Expected increase	21,482
3. Liability (gain)/loss	(52,089)
4. Asset (gain)/loss	76,364
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$167,431)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	24,551	145,724	16.85%	24,006	145,409	16.51%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	11,425	118,862	9.61%	10,749	113,047	9.51%
<b>Total</b>	<b>\$35,976</b>	<b>\$264,586</b>	<b>13.60%</b>	<b>\$34,755</b>	<b>\$258,456</b>	<b>13.45%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$167,431)	(\$213,188)
2. Next year's Tier 1/Tier 2 UAL payment	(15,490)	(17,024)
3. Combined valuation payroll	557,353	567,404
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(2.78%)	(3.00%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.60%	13.45%
b. Tier 1/Tier 2 UAL rate	(2.78%)	(3.00%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	10.97%	10.60%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		107%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	2.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	8.47%
7. July 1, 2017 total pension rate, before adjustment		10.97%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(2.50%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(2.78%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(5.28%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		8.47%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		13.60%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		13.60%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	8.47%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.60%	13.45%
b. Tier 1/Tier 2 UAL rate	(5.28%)	(5.13%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	8.47%	8.47%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$145,724	\$0	\$145,724
Tier 2	118,862	0	118,862
Tier 1/Tier 2 valuation payroll	264,586	0	264,586
OPSRP valuation payroll	292,767	0	292,767
<b>Combined valuation payroll</b>	<b>\$557,353</b>	<b>\$0</b>	<b>\$557,353</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	2	2	7	11	2	2	9	13
Police & Fire	0	0	0	0	0	0	0	0
Total	2	2	7	11	2	2	9	13
<b>Active Members with previous service segments with the employer</b>								
General Service	4	4	N/A	8	4	4	N/A	8
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	4	4	N/A	8	4	4	N/A	8
<b>Dormant Members</b>								
General Service	5	0	2	7	5	0	0	5
Police & Fire	0	0	0	0	0	0	0	0
Total	5	0	2	7	5	0	0	5
<b>Retired Members and Beneficiaries</b>								
General Service	4	0	0	4	4	0	0	4
Police & Fire	0	0	0	0	0	0	0	0
Total	4	0	0	4	4	0	0	4
<b>Grand Total Number of Members</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>30</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>30</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			1							1
40-44			1							1
45-49						1				1
50-54						1				1
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	1	373
35-39			60-64	1	188
40-44	1	2,228	65-69	1	94
45-49	1	1,756	70-74	1	1,867
50-54	1	1,608	75-79		
55-59	2	1,477	80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>5</b>	<b>1,709</b>	<b>Total</b>	<b>4</b>	<b>630</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Tillamook County Soil And Water Conservation District/2821  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016

Tillamook County Soil And Water Conservation District/2821

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Tillamook County Soil And Water Conservation District/2821

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Tillamook County Soil And Water Conservation District -- #2821**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Tillamook County Soil And Water Conservation District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Tillamook County Soil And Water Conservation District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Tillamook County Soil And Water Conservation District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	13.07%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	2.21%	2.21%	2.21%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>16.55%</b>	<b>11.50%</b>	<b>16.27%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>17.05%</b>	<b>11.93%</b>	<b>16.70%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 76%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.28%	15.28%
Minimum 2019-2021 Rate	12.22%	9.16%
Maximum 2019-2021 Rate	18.34%	21.40%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$224,527	\$251,501	\$26,974	89%	\$62,899	43%
12/31/2011	238,346	275,346	37,000	87%	58,527	63%
12/31/2012	285,362	301,823	16,461	95%	63,910	26%
12/31/2013	343,758	346,692	2,934	99%	73,887	4%
12/31/2014	390,400	504,206	113,806	77%	166,220	68%
12/31/2015	419,462	549,750	130,288	76%	206,045	63%



# Executive Summary

## Accounting Information (continued)

### ***Retiree Healthcare***

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Tillamook County Soil And Water Conservation District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$130,288	\$113,806
Allocated pooled OPSRP UAL	29,292	19,003
Side account	0	0
Net unfunded pension actuarial accrued liability	159,580	132,809
Combined valuation payroll	206,045	166,220
Net pension UAL as a percentage of payroll	77%	80%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$1,000	\$1,321

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$21,830	\$21,552
Tier 1/Tier 2 valuation payroll	166,972	166,220
Tier 1/Tier 2 pension normal cost rate	13.07%	12.97%
Tier 1/ Tier 2 Actuarial accrued liability	\$549,750	\$504,206
Actuarial asset value	419,462	390,400
Tier 1/Tier 2 Unfunded actuarial accrued liability	130,288	113,806
Tier 1/ Tier 2 Funded status	76%	77%
Combined valuation payroll	\$206,045	\$166,220
Tier 1/Tier 2 UAL as a percentage of payroll	63%	68%
Tier 1/Tier 2 UAL rate	2.21%	2.31%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members <sup>1</sup>	3	3
Tier 1/Tier 2 dormant members	3	3
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### **OPSRP**

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### **Retiree Healthcare**

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	206,045	166,220
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$88,532	\$86,679
2. Employer reserves	330,930	303,721
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$419,462</b>	<b>\$390,400</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$390,400
2. Regular employer contributions	21,002
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	1,055
5. Interest credited	7,005
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$419,462</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	9,960	9,555
Tier 2 Police & Fire	0	0
Tier 2 General Service	11,870	11,997
<b>Total</b>	<b>\$21,830</b>	<b>\$21,552</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$21,830	\$21,830	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### **Actuarial Accrued Liability**

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	50,978	39,036
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	420,958	388,766
▪ <b>Total Active Members</b>	<b>\$471,936</b>	<b>\$427,802</b>
Dormant Members	77,814	76,404
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$549,750</b>	<b>\$504,206</b>

### **Change in Tier 1/Tier 2 Actuarial Accrued Liability**

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$549,750	\$549,750	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$549,750	\$504,206
2. Actuarial value of assets	419,462	390,400
3. Unfunded accrued liability (1. – 2.)	130,288	113,806
4. Funded percentage (2. ÷ 1.)	76%	77%
5. Combined valuation payroll	\$206,045	\$166,220
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	63%	68%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$2,941	\$220	\$212	\$2,933	\$228
December 31, 2015	N/A	N/A	N/A	\$127,355	\$9,215
<b>Total</b>				<b>\$130,288</b>	<b>\$9,443</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$504,206
b. Normal cost at December 31, 2014 (excluding assumed expenses)	20,616
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	38,589
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	563,411
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	563,411
2. Actuarial accrued liability at December 31, 2015	549,750
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	13,661
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	390,400
b. Contributions for 2015 <sup>1</sup>	21,002
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	30,068
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	441,470
5. Actuarial value of assets at December 31, 2015	419,462
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(22,007)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$8,346)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$113,806</b>
2. Expected increase	8,136
3. Liability (gain)/loss	(13,661)
4. Asset (gain)/loss	22,007
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$130,288</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	9,960	55,905	17.82%	9,555	55,379	17.25%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	11,870	111,067	10.69%	11,997	110,841	10.82%
<b>Total</b>	<b>\$21,830</b>	<b>\$166,972</b>	<b>13.07%</b>	<b>\$21,552</b>	<b>\$166,220</b>	<b>12.97%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$130,288	\$113,806
2. Next year's Tier 1/Tier 2 UAL payment	9,443	8,242
3. Combined valuation payroll	206,045	166,220
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	4.58%	4.96%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.07%	12.97%
b. Tier 1/Tier 2 UAL rate	4.58%	4.96%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	17.80%	18.08%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		12.28%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		12.28%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.46%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		76%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	9.28%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	15.28%
7. July 1, 2017 total pension rate, before adjustment		17.80%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(2.52%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		4.58%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	2.06%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		15.28%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		13.07%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		13.07%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	15.28%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.07%	12.97%
b. Tier 1/Tier 2 UAL rate	2.06%	2.16%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	15.28%	15.28%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$55,905	\$0	\$55,905
Tier 2	111,067	0	111,067
Tier 1/Tier 2 valuation payroll	166,972	0	166,972
OPSRP valuation payroll	39,073	0	39,073
<b>Combined valuation payroll</b>	<b>\$206,045</b>	<b>\$0</b>	<b>\$206,045</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	2	1	4	1	2	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	1	2	1	4	1	2	0	3
<b>Active Members with previous service segments with the employer</b>								
General Service	0	1	N/A	1	0	1	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	1	N/A	1	0	1	N/A	1
<b>Dormant Members</b>								
General Service	0	3	0	3	0	3	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	3	0	3	0	3	0	3
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Grand Total Number of Members</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>7</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54					1					1
55-59				1						1
60-64				1						1
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49	1	10	70-74		
50-54	1	494	75-79		
55-59			80-84		
60-64	1	210	85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>3</b>	<b>238</b>	<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Tillamook Fire District/2783  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Tillamook Fire District/2783

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Tillamook Fire District/2783

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Tillamook Fire District -- #2783**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Tillamook Fire District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Tillamook Fire District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Tillamook Fire District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	19.89%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(4.05%)	(4.05%)	(4.05%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>17.11%</b>	<b>5.24%</b>	<b>10.01%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>17.61%</b>	<b>5.67%</b>	<b>10.44%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 94%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.84%	15.84%
Minimum 2019-2021 Rate	12.67%	9.50%
Maximum 2019-2021 Rate	19.01%	22.18%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$737,343	\$675,041	(\$62,302)	109%	\$208,067	(30%)
12/31/2011	755,393	729,306	(26,087)	104%	265,563	(10%)
12/31/2012	863,045	819,757	(43,288)	105%	273,216	(16%)
12/31/2013	993,298	880,246	(113,052)	113%	279,546	(40%)
12/31/2014	1,059,115	1,076,206	17,091	98%	287,394	6%
12/31/2015	1,086,488	1,150,218	63,730	94%	291,168	22%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Tillamook Fire District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$63,730	\$17,091
Allocated pooled OPSRP UAL	41,394	32,855
Side account	0	0
Net unfunded pension actuarial accrued liability	105,124	49,946
Combined valuation payroll	291,168	287,394
Net pension UAL as a percentage of payroll	36%	17%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$1,414	\$2,284

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### ***Tier 1/Tier 2***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$45,438	\$44,331
Tier 1/Tier 2 valuation payroll	228,490	225,364
Tier 1/Tier 2 pension normal cost rate	19.89%	19.67%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,150,218	\$1,076,206
Actuarial asset value	1,086,488	1,059,115
Tier 1/Tier 2 Unfunded actuarial accrued liability	63,730	17,091
Tier 1/ Tier 2 Funded status	94%	98%
Combined valuation payroll	\$291,168	\$287,394
Tier 1/Tier 2 UAL as a percentage of payroll	22%	6%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(4.05%)	(3.83%)
Tier 1/Tier 2 active members <sup>1</sup>	3	3
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	5	5

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	291,168	287,394
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$91,826	\$84,595
2. Employer reserves	840,756	803,641
3. Benefits in force reserve	153,906	170,879
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$1,086,488</b>	<b>\$1,059,115</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$1,059,115
2. Regular employer contributions	21,177
3. Benefit payments and expense	(27,988)
4. Adjustments <sup>1</sup>	9,783
5. Interest credited	24,401
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$1,086,488</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$20,423	\$19,771
Tier 1 General Service	0	0
Tier 2 Police & Fire	25,015	24,560
Tier 2 General Service	0	0
<b>Total</b>	<b>\$45,438</b>	<b>\$44,331</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$45,438	\$45,438	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$446,529	\$414,556
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	371,376	330,149
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$817,905</b>	<b>\$744,705</b>
Dormant Members	0	0
Retired Members and Beneficiaries	332,313	331,501
<b>Total Actuarial Accrued Liability</b>	<b>\$1,150,218</b>	<b>\$1,076,206</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,150,218	\$1,150,218	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,150,218	\$1,076,206
2. Actuarial value of assets	1,086,488	1,059,115
3. Unfunded accrued liability (1. – 2.)	63,730	17,091
4. Funded percentage (2. ÷ 1.)	94%	98%
5. Combined valuation payroll	\$291,168	\$287,394
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	22%	6%

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$113,293)	(\$8,486)	(\$8,158)	(\$112,965)	(\$8,784)
December 31, 2015	N/A	N/A	N/A	\$176,695	\$12,785
<b>Total</b>				<b>\$63,730</b>	<b>\$4,001</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,076,206
b. Normal cost at December 31, 2014 (excluding assumed expenses)	42,407
c. Benefit payments during 2015	(27,772)
d. Interest at 7.50% to December 31, 2015	81,264
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,172,105
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,172,105
2. Actuarial accrued liability at December 31, 2015	1,150,218
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	21,887
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,059,115
b. Contributions for 2015 <sup>1</sup>	21,177
c. Benefit payments and expenses during 2015	(27,988)
d. Interest at 7.50% to December 31, 2015	79,178
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,131,482
5. Actuarial value of assets at December 31, 2015	1,086,488
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(44,994)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$23,107)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$17,091</b>
2. Expected increase	23,532
3. Liability (gain)/loss	(21,887)
4. Asset (gain)/loss	44,994
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$63,730</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$20,423	\$89,698	22.77%	\$19,771	\$88,400	22.37%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	25,015	138,792	18.02%	24,560	136,964	17.93%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$45,438</b>	<b>\$228,490</b>	<b>19.89%</b>	<b>\$44,331</b>	<b>\$225,364</b>	<b>19.67%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$63,730	\$17,091
2. Next year's Tier 1/Tier 2 UAL payment	4,001	948
3. Combined valuation payroll	291,168	287,394
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	1.37%	0.33%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.89%	19.67%
b. Tier 1/Tier 2 UAL rate	1.37%	0.33%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	21.41%	20.15%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		12.84%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		12.84%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.57%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		94%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	9.84%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	15.84%
7. July 1, 2017 total pension rate, before adjustment		21.41%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(5.57%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		1.37%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(4.20%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		15.84%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		19.89%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		19.89%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	15.84%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.89%	19.67%
b. Tier 1/Tier 2 UAL rate	(4.20%)	(3.98%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	15.84%	15.84%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$89,698	\$89,698
Tier 2	0	138,792	138,792
Tier 1/Tier 2 valuation payroll	0	228,490	228,490
OPSRP valuation payroll	0	62,678	62,678
<b>Combined valuation payroll</b>	<b>\$0</b>	<b>\$291,168</b>	<b>\$291,168</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	2	1	4	1	2	1	4
<b>Total</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>4</b>
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Retired Members and Beneficiaries</b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	3	1	0	4	4	0	0	4
<b>Total</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>Grand Total Number of Members</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>9</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>9</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						1
45-49			1							1
50-54										
55-59					1					1
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69	3	555
45-49			70-74	2	219
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>	<b>5</b>	<b>420</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Town of Butte Falls/2253  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Town of Butte Falls/2253

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Town of Butte Falls/2253

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Town of Butte Falls -- #2253**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Town of Butte Falls to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Town of Butte Falls.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Town of Butte Falls***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	15.04%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(3.63%)	(3.63%)	(3.63%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>12.68%</b>	<b>5.66%</b>	<b>10.43%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>13.18%</b>	<b>6.09%</b>	<b>10.86%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 95%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.41%	11.41%
Minimum 2019-2021 Rate	8.41%	5.41%
Maximum 2019-2021 Rate	14.41%	17.41%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$197,488	\$178,619	(\$18,869)	111%	\$112,140	(17%)
12/31/2011	198,605	200,004	1,399	99%	86,198	2%
12/31/2012	227,332	191,168	(36,164)	119%	55,627	(65%)
12/31/2013	260,079	208,272	(51,807)	125%	74,444	(70%)
12/31/2014	278,186	258,036	(20,150)	108%	65,100	(31%)
12/31/2015	283,012	296,657	13,645	95%	37,997	36%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Town of Butte Falls***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$13,645	(\$20,150)
Allocated pooled OPSRP UAL	5,402	7,442
Side account	0	0
Net unfunded pension actuarial accrued liability	19,047	(12,708)
Combined valuation payroll	37,997	65,100
Net pension UAL as a percentage of payroll	50%	(20%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$185	\$517

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$1,178	\$5,732
Tier 1/Tier 2 valuation payroll	7,832	34,988
Tier 1/Tier 2 pension normal cost rate	15.04%	16.38%
Tier 1/ Tier 2 Actuarial accrued liability	\$296,657	\$258,036
Actuarial asset value	283,012	278,186
Tier 1/Tier 2 Unfunded actuarial accrued liability	13,645	(20,150)
Tier 1/ Tier 2 Funded status	95%	108%
Combined valuation payroll	\$37,997	\$65,100
Tier 1/Tier 2 UAL as a percentage of payroll	36%	(31%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(3.63%)	(4.97%)
Tier 1/Tier 2 active members <sup>1</sup>	0	1
Tier 1/Tier 2 dormant members	4	4
Tier 1/Tier 2 retirees and beneficiaries	3	3

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	37,997	65,100
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$60,763	\$56,911
2. Employer reserves	204,927	201,963
3. Benefits in force reserve	17,323	19,313
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$283,012</b>	<b>\$278,186</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$278,186
2. Regular employer contributions	(957)
3. Benefit payments and expense	(3,150)
4. Adjustments <sup>1</sup>	1,680
5. Interest credited	7,253
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$283,012</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

#### Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$755	\$5,322
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	423	410
<b>Total</b>	<b>\$1,178</b>	<b>\$5,732</b>

### Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$1,178	\$1,178	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$97,092	\$66,838
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	31,694	32,147
▪ Tier 2 General Service	2,034	1,961
▪ <b>Total Active Members</b>	<b>\$130,820</b>	<b>\$100,946</b>
Dormant Members	128,434	119,624
Retired Members and Beneficiaries	37,403	37,466
<b>Total Actuarial Accrued Liability</b>	<b>\$296,657</b>	<b>\$258,036</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$296,657	\$296,657	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$296,657	\$258,036
2. Actuarial value of assets	283,012	278,186
3. Unfunded accrued liability (1. – 2.)	13,645	(20,150)
4. Funded percentage (2. ÷ 1.)	95%	108%
5. Combined valuation payroll	\$37,997	\$65,100
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	36%	(31%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$51,917)	(\$3,889)	(\$3,738)	(\$51,766)	(\$4,025)
December 31, 2015	N/A	N/A	N/A	\$65,411	\$4,733
<b>Total</b>				<b>\$13,645</b>	<b>\$708</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$258,036
b. Normal cost at December 31, 2014 (excluding assumed expenses)	5,472
c. Benefit payments during 2015	(3,126)
d. Interest at 7.50% to December 31, 2015	19,441
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	279,823
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	279,823
2. Actuarial accrued liability at December 31, 2015	296,657
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(16,834)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	278,186
b. Contributions for 2015 <sup>1</sup>	(957)
c. Benefit payments and expenses during 2015	(3,150)
d. Interest at 7.50% to December 31, 2015	20,710
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	294,789
5. Actuarial value of assets at December 31, 2015	283,012
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(11,777)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$28,611)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$20,150)</b>
2. Expected increase	5,184
3. Liability (gain)/loss	16,834
4. Asset (gain)/loss	11,777
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$13,645</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$755	\$4,776	15.81%	\$5,322	\$32,001	16.63%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	423	3,056	13.84%	410	2,987	13.73%
<b>Total</b>	<b>\$1,178</b>	<b>\$7,832</b>	<b>15.04%</b>	<b>\$5,732</b>	<b>\$34,988</b>	<b>16.38%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$13,645	(\$20,150)
2. Next year's Tier 1/Tier 2 UAL payment	708	(1,590)
3. Combined valuation payroll	37,997	65,100
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	1.86%	(2.44%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.04%	16.38%
b. Tier 1/Tier 2 UAL rate	1.86%	(2.44%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	17.05%	14.09%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		8.41%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		8.41%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.68%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		95%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	5.41%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	11.41%
7. July 1, 2017 total pension rate, before adjustment		17.05%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(5.64%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		1.86%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(3.78%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		11.41%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		15.04%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		15.04%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	11.41%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.04%	16.38%
b. Tier 1/Tier 2 UAL rate	(3.78%)	(5.12%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	11.41%	11.41%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$4,776	\$4,776
Tier 2	3,056	0	3,056
Tier 1/Tier 2 valuation payroll	3,056	4,776	7,832
OPSRP valuation payroll	30,165	0	30,165
<b>Combined valuation payroll</b>	<b>\$33,221</b>	<b>\$4,776</b>	<b>\$37,997</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	0	0	1	0	0	1
Total	0	0	1	1	1	0	1	2
<b>Active Members with previous service segments with the employer</b>								
General Service	0	1	N/A	1	0	1	N/A	1
Police & Fire	2	1	N/A	3	1	1	N/A	2
Total	2	2	N/A	4	1	2	N/A	3
<b>Dormant Members</b>								
General Service	0	0	1	1	0	0	1	1
Police & Fire	1	3	0	4	1	3	0	4
Total	1	3	1	5	1	3	1	5
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	2	1	0	3	2	1	0	3
Total	2	1	0	3	2	1	0	3
<b>Grand Total Number of Members</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>13</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>13</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64	1	94
40-44			65-69		
45-49	2	189	70-74	1	90
50-54	1	0	75-79		
55-59			80-84		
60-64	1	565	85-89	1	118
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>4</b>	<b>236</b>	<b>Total</b>	<b>3</b>	<b>101</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Tri-County Cooperative Weed Management Area/2865  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Tri-County Cooperative Weed Management Area/2865

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Tri-County Cooperative Weed Management Area/2865

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

Tri-County Cooperative Weed Management Area -- #2865

September 2016

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# Executive Summary

Milliman has prepared this report for Tri-County Cooperative Weed Management Area to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Tri-County Cooperative Weed Management Area.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Tri-County Cooperative Weed Management Area***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(2.24%)	(2.24%)	(2.24%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>15.74%</b>	<b>7.05%</b>	<b>11.82%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>16.24%</b>	<b>7.48%</b>	<b>12.25%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.47%	14.47%
Minimum 2019-2021 Rate	11.47%	8.47%
Maximum 2019-2021 Rate	17.47%	20.47%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (b - a)</b>	<b>Funded Ratio (a ÷ b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)</b>
12/31/2010	(\$252)	\$0	\$252	0%	\$113,522	0%
12/31/2011	(275)	0	275	100%	114,758	0%
12/31/2012	(295)	0	295	0%	96,745	0%
12/31/2013	(1,440)	0	1,440	0%	91,490	2%
12/31/2014	(3,031)	0	3,031	0%	75,233	4%
12/31/2015	(4,528)	0	4,528	0%	70,260	6%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Tri-County Cooperative Weed Management Area***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$4,528	\$3,031
Allocated pooled OPSRP UAL	9,988	8,601
Side account	0	0
Net unfunded pension actuarial accrued liability	14,516	11,632
Combined valuation payroll	70,260	75,233
Net pension UAL as a percentage of payroll	21%	15%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$341	\$598

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$0	\$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	\$0	\$0
Actuarial asset value	(4,528)	(3,031)
Tier 1/Tier 2 Unfunded actuarial accrued liability	4,528	3,031
Tier 1/ Tier 2 Funded status	0%	0%
Combined valuation payroll	\$70,260	\$75,233
Tier 1/Tier 2 UAL as a percentage of payroll	6%	4%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(2.24%)	(2.54%)
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	70,260	75,233
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	(4,528)	(3,031)
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>(\$4,528)</b>	<b>(\$3,031)</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	(\$3,031)
2. Regular employer contributions	(1,317)
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	(100)
5. Interest credited	(80)
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>(\$4,528)</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$0	\$0	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$0</b>	<b>\$0</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$0</b>	<b>\$0</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$0	\$0	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$0	\$0
2. Actuarial value of assets	(4,528)	(3,031)
3. Unfunded accrued liability (1. – 2.)	4,528	3,031
4. Funded percentage (2. ÷ 1.)	100%	100%
5. Combined valuation payroll	\$70,260	\$75,233
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	6%	4%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$1,443	\$108	\$104	\$1,439	\$112
December 31, 2015	N/A	N/A	N/A	\$3,089	\$224
<b>Total</b>				<b>\$4,528</b>	<b>\$336</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$0
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	0
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	0
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	0
2. Actuarial accrued liability at December 31, 2015	0
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	0
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	(3,031)
b. Contributions for 2015 <sup>1</sup>	(1,317)
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	(277)
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	(4,625)
5. Actuarial value of assets at December 31, 2015	(4,528)
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	97
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>\$97</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$3,031</b>
2. Expected increase	1,594
3. Liability (gain)/loss	0
4. Asset (gain)/loss	(97)
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$4,528</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>16.71%</b>	<b>\$0</b>	<b>\$0</b>	<b>17.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$4,528	\$3,031
2. Next year's Tier 1/Tier 2 UAL payment	336	223
3. Combined valuation payroll	70,260	75,233
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	0.48%	0.30%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.48%	0.30%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	17.34%	17.46%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		11.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		11.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.29%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		100%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	8.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	14.47%
7. July 1, 2017 total pension rate, before adjustment		17.34%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(2.87%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		0.48%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(2.39%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		14.47%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.71%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.71%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	14.47%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	(2.39%)	(2.69%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	14.47%	14.47%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	70,260	0	70,260
<b>Combined valuation payroll</b>	<b>\$70,260</b>	<b>\$0</b>	<b>\$70,260</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	2	2	0	0	2	2
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	2	2
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Grand Total Number of Members</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Turner Fire District/2610  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Turner Fire District/2610

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Turner Fire District/2610

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Turner Fire District -- #2610**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Turner Fire District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Turner Fire District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Turner Fire District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	28.46%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(10.99%)	(10.99%)	(10.99%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>18.74%</b>	<b>0.00%</b>	<b>3.07%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>19.24%</b>	<b>0.43%</b>	<b>3.50%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 86%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	17.47%	17.47%
Minimum 2019-2021 Rate	13.98%	10.49%
Maximum 2019-2021 Rate	20.96%	24.45%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$0	\$0	\$0	0%	\$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	1,274,813	1,088,856	(185,957)	117%	336,946	(55%)
12/31/2013	1,424,608	1,184,515	(240,093)	120%	355,304	(68%)
12/31/2014	1,459,477	1,608,804	149,327	91%	327,881	46%
12/31/2015	1,454,911	1,696,372	241,461	86%	495,653	49%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Turner Fire District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$241,461	\$149,327
Allocated pooled OPSRP UAL	70,464	37,484
Side account	0	0
Net unfunded pension actuarial accrued liability	311,925	186,811
Combined valuation payroll	495,653	327,881
Net pension UAL as a percentage of payroll	63%	57%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$2,407	\$2,606

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$29,313	\$23,922
Tier 1/Tier 2 valuation payroll	102,996	92,615
Tier 1/Tier 2 pension normal cost rate	28.46%	25.83%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,696,372	\$1,608,804
Actuarial asset value	1,454,911	1,459,477
Tier 1/Tier 2 Unfunded actuarial accrued liability	241,461	149,327
Tier 1/ Tier 2 Funded status	86%	91%
Combined valuation payroll	\$495,653	\$327,881
Tier 1/Tier 2 UAL as a percentage of payroll	49%	46%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(10.99%)	(8.36%)
Tier 1/Tier 2 active members <sup>1</sup>	2	1
Tier 1/Tier 2 dormant members	7	7
Tier 1/Tier 2 retirees and beneficiaries	5	5

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	495,653	327,881
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$156,751	\$150,738
2. Employer reserves	950,952	923,437
3. Benefits in force reserve	347,208	385,302
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$1,454,911</b>	<b>\$1,459,477</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$1,459,477
2. Regular employer contributions	9,556
3. Benefit payments and expense	(63,140)
4. Adjustments <sup>1</sup>	19,438
5. Interest credited	29,581
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$1,454,911</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$28,441	\$23,860
Tier 1 General Service	0	0
Tier 2 Police & Fire	872	62
Tier 2 General Service	0	0
<b>Total</b>	<b>\$29,313</b>	<b>\$23,922</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$29,313	\$29,313	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$724,395	\$655,168
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	124,061	111,332
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$848,456</b>	<b>\$766,500</b>
Dormant Members	98,227	94,828
Retired Members and Beneficiaries	749,689	747,476
<b>Total Actuarial Accrued Liability</b>	<b>\$1,696,372</b>	<b>\$1,608,804</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,696,372	\$1,696,372	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,696,372	\$1,608,804
2. Actuarial value of assets	1,454,911	1,459,477
3. Unfunded accrued liability (1. – 2.)	241,461	149,327
4. Funded percentage (2. ÷ 1.)	86%	91%
5. Combined valuation payroll	\$495,653	\$327,881
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	49%	46%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$240,605)	(\$18,023)	(\$17,325)	(\$239,907)	(\$18,654)
December 31, 2015	N/A	N/A	N/A	\$481,368	\$34,831
<b>Total</b>				<b>\$241,461</b>	<b>\$16,177</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,608,804
b. Normal cost at December 31, 2014 (excluding assumed expenses)	23,018
c. Benefit payments during 2015	(62,653)
d. Interest at 7.50% to December 31, 2015	119,174
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,688,343
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,688,343
2. Actuarial accrued liability at December 31, 2015	1,696,372
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(8,029)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,459,477
b. Contributions for 2015 <sup>1</sup>	9,556
c. Benefit payments and expenses during 2015	(63,140)
d. Interest at 7.50% to December 31, 2015	107,451
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,513,344
5. Actuarial value of assets at December 31, 2015	1,454,911
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(58,432)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$66,461)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$149,327</b>
2. Expected increase	25,673
3. Liability (gain)/loss	8,029
4. Asset (gain)/loss	58,432
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$241,461</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$28,441	\$98,260	28.94%	\$23,860	\$92,265	25.86%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	872	4,736	18.41%	62	350	17.71%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$29,313</b>	<b>\$102,996</b>	<b>28.46%</b>	<b>\$23,922</b>	<b>\$92,615</b>	<b>25.83%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$241,461	\$149,327
2. Next year's Tier 1/Tier 2 UAL payment	16,177	10,192
3. Combined valuation payroll	495,653	327,881
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	3.26%	3.11%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	28.46%	25.83%
b. Tier 1/Tier 2 UAL rate	3.26%	3.11%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	31.87%	29.09%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		14.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		14.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.89%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		86%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	11.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	17.47%
7. July 1, 2017 total pension rate, before adjustment		31.87%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(14.40%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		3.26%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(11.14%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		17.47%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		28.46%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		28.46%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	17.47%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	28.46%	25.83%
b. Tier 1/Tier 2 UAL rate	(11.14%)	(8.51%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	17.47%	17.47%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$98,260	\$98,260
Tier 2	0	4,736	4,736
Tier 1/Tier 2 valuation payroll	0	102,996	102,996
OPSRP valuation payroll	22,273	370,384	392,657
<b>Combined valuation payroll</b>	<b>\$22,273</b>	<b>\$473,380</b>	<b>\$495,653</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	2	0	17	19	1	0	12	13
Total	2	0	17	19	1	0	12	13
<b>Active Members with previous service segments with the employer</b>								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	7	16	N/A	23	8	15	N/A	23
Total	8	16	N/A	24	9	15	N/A	24
<b>Dormant Members</b>								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	6	2	8	0	6	2	8
Total	0	7	2	9	0	7	2	9
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	5	0	0	5	5	0	0	5
Total	5	0	0	5	5	0	0	5
<b>Grand Total Number of Members</b>	<b>15</b>	<b>23</b>	<b>19</b>	<b>57</b>	<b>15</b>	<b>22</b>	<b>14</b>	<b>51</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49					1	1				2
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54	1	1
30-34			55-59	1	22
35-39	1	394	60-64	2	447
40-44	1	151	65-69		
45-49	1	210	70-74	1	3,355
50-54	2	21	75-79		
55-59	1	354	80-84		
60-64			85-89		
65-69	1	1,004	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>7</b>	<b>308</b>	<b>Total</b>	<b>5</b>	<b>854</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Umatilla-Morrow Radio and Data District/2874  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016

Umatilla-Morrow Radio and Data District/2874

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Umatilla-Morrow Radio and Data District/2874

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Umatilla-Morrow Radio and Data District -- #2874**

**September 2016**

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## Executive Summary

Milliman has prepared this report for Umatilla-Morrow Radio and Data District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Umatilla-Morrow Radio and Data District.

### Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Umatilla-Morrow Radio and Data District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	10.55%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	0.17%	0.17%	0.17%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>11.99%</b>	<b>9.46%</b>	<b>14.23%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>12.49%</b>	<b>9.89%</b>	<b>14.66%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 87%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	10.72%	10.72%
Minimum 2019-2021 Rate	7.72%	4.72%
Maximum 2019-2021 Rate	13.72%	16.72%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$0	\$0	\$0	0%	\$0	0%
12/31/2011	0	493	493	0%	64,245	1%
12/31/2012	18,250	10,753	(7,497)	170%	125,894	(6%)
12/31/2013	36,329	22,118	(14,211)	164%	128,162	(11%)
12/31/2014	48,000	46,421	(1,579)	103%	205,709	(1%)
12/31/2015	61,232	70,322	9,090	87%	202,445	4%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Umatilla-Morrow Radio and Data District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$9,090	(\$1,579)
Allocated pooled OPSRP UAL	28,780	23,517
Side account	0	0
Net unfunded pension actuarial accrued liability	37,870	21,938
Combined valuation payroll	202,445	205,709
Net pension UAL as a percentage of payroll	19%	11%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$983	\$1,635

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$21,365	\$20,923
Tier 1/Tier 2 valuation payroll	202,445	205,709
Tier 1/Tier 2 pension normal cost rate	10.55%	10.17%
Tier 1/ Tier 2 Actuarial accrued liability	\$70,322	\$46,421
Actuarial asset value	61,232	48,000
Tier 1/Tier 2 Unfunded actuarial accrued liability	9,090	(1,579)
Tier 1/ Tier 2 Funded status	87%	103%
Combined valuation payroll	\$202,445	\$205,709
Tier 1/Tier 2 UAL as a percentage of payroll	4%	(1%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	0.17%	0.08%
Tier 1/Tier 2 active members <sup>1</sup>	3	3
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	202,445	205,709
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	61,232	48,000
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$61,232</b>	<b>\$48,000</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$48,000
2. Regular employer contributions	12,292
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	(190)
5. Interest credited	1,131
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$61,232</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	21,365	20,923
<b>Total</b>	<b>\$21,365</b>	<b>\$20,923</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$21,365	\$21,365	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	70,322	46,421
▪ <b>Total Active Members</b>	<b>\$70,322</b>	<b>\$46,421</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$70,322</b>	<b>\$46,421</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$70,322	\$70,322	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$70,322	\$46,421
2. Actuarial value of assets	61,232	48,000
3. Unfunded accrued liability (1. – 2.)	9,090	(1,579)
4. Funded percentage (2. ÷ 1.)	87%	103%
5. Combined valuation payroll	\$202,445	\$205,709
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	4%	(1%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$14,241)	(\$1,067)	(\$1,025)	(\$14,199)	(\$1,104)
December 31, 2015	N/A	N/A	N/A	\$23,289	\$1,685
<b>Total</b>				<b>\$9,090</b>	<b>\$581</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$46,421
b. Normal cost at December 31, 2014 (excluding assumed expenses)	20,015
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	4,232
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	70,668
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	70,668
2. Actuarial accrued liability at December 31, 2015	70,322
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	346
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	48,000
b. Contributions for 2015 <sup>1</sup>	12,292
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	4,061
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	64,353
5. Actuarial value of assets at December 31, 2015	61,232
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(3,120)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$2,774)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$1,579)</b>
2. Expected increase	7,895
3. Liability (gain)/loss	(346)
4. Asset (gain)/loss	3,120
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$9,090</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	21,365	202,445	10.55%	20,923	205,709	10.17%
<b>Total</b>	<b>\$21,365</b>	<b>\$202,445</b>	<b>10.55%</b>	<b>\$20,923</b>	<b>\$205,709</b>	<b>10.17%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$9,090	(\$1,579)
2. Next year's Tier 1/Tier 2 UAL payment	581	(151)
3. Combined valuation payroll	202,445	205,709
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	0.29%	(0.07%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.55%	10.17%
b. Tier 1/Tier 2 UAL rate	0.29%	(0.07%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	10.99%	10.25%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		7.72%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		7.72%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.54%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		87%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	4.72%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	10.72%
7. July 1, 2017 total pension rate, before adjustment		10.99%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(0.27%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		0.29%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	0.02%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		10.72%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		10.55%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		10.55%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	10.72%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.55%	10.17%
b. Tier 1/Tier 2 UAL rate	0.02%	(0.07%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	10.72%	10.25%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	202,445	0	202,445
Tier 1/Tier 2 valuation payroll	202,445	0	202,445
OPSRP valuation payroll	0	0	0
<b>Combined valuation payroll</b>	<b>\$202,445</b>	<b>\$0</b>	<b>\$202,445</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	3	0	3	0	3	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	3	0	3	0	3	0	3
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Grand Total Number of Members</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39			1							1
40-44			1							1
45-49										
50-54				1						1
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Valley View Cemetery/2536  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Valley View Cemetery/2536

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Valley View Cemetery/2536

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Valley View Cemetery -- #2536**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Valley View Cemetery to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Valley View Cemetery.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### Employer Rates Effective July 1, 2017 for Valley View Cemetery

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	21.59%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(16.09%)	(16.09%)	(16.09%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>6.77%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>7.27%</b>	<b>0.43%</b>	<b>0.43%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 1107%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	5.50%	5.50%
Minimum 2019-2021 Rate	2.50%	0.00%
Maximum 2019-2021 Rate	8.50%	11.50%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$87,303	\$8,851	(\$78,452)	986%	\$18,935	(414%)
12/31/2011	88,943	9,444	(79,499)	942%	39,559	(201%)
12/31/2012	101,364	7,927	(93,437)	1279%	33,825	(276%)
12/31/2013	116,935	8,598	(108,337)	1360%	38,133	(284%)
12/31/2014	125,081	10,818	(114,263)	1156%	43,622	(262%)
12/31/2015	125,579	11,343	(114,236)	1107%	45,911	(249%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *Valley View Cemetery*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$114,236)	(\$114,263)
Allocated pooled OPSRP UAL	6,527	4,987
Side account	0	0
Net unfunded pension actuarial accrued liability	(107,709)	(109,276)
Combined valuation payroll	45,911	43,622
Net pension UAL as a percentage of payroll	(235%)	(251%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$223	\$347

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$1,103	\$950
Tier 1/Tier 2 valuation payroll	6,856	5,611
Tier 1/Tier 2 pension normal cost rate	21.59%	22.43%
Tier 1/ Tier 2 Actuarial accrued liability	\$11,343	\$10,818
Actuarial asset value	125,579	125,081
Tier 1/Tier 2 Unfunded actuarial accrued liability	(114,236)	(114,263)
Tier 1/ Tier 2 Funded status	1107%	1156%
Combined valuation payroll	\$45,911	\$43,622
Tier 1/Tier 2 UAL as a percentage of payroll	(249%)	(262%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(16.09%)	(16.93%)
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	1	1

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

## Side Account Information

### Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

### 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	45,911	43,622
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	122,254	121,007
3. Benefits in force reserve	3,325	4,074
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$125,579</b>	<b>\$125,081</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$125,081
2. Regular employer contributions	(1,060)
3. Benefit payments and expense	(605)
4. Adjustments <sup>1</sup>	(138)
5. Interest credited	2,301
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$125,579</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	1,103	950
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$1,103</b>	<b>\$950</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$1,103	\$1,103	\$0



## Tier 1/Tier 2 Valuation Results

### Liabilities

#### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

#### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	4,163	2,913
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$4,163</b>	<b>\$2,913</b>
Dormant Members	0	0
Retired Members and Beneficiaries	7,180	7,905
<b>Total Actuarial Accrued Liability</b>	<b>\$11,343</b>	<b>\$10,818</b>

#### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$11,343	\$11,343	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$11,343	\$10,818
2. Actuarial value of assets	125,579	125,081
3. Unfunded accrued liability (1. – 2.)	(114,236)	(114,263)
4. Funded percentage (2. ÷ 1.)	1107%	1156%
5. Combined valuation payroll	\$45,911	\$43,622
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(249%)	(262%)

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$108,569)	(\$8,133)	(\$7,818)	(\$108,254)	(\$8,417)
December 31, 2015	N/A	N/A	N/A	(\$5,982)	(\$433)
<b>Total</b>				<b>(\$114,236)</b>	<b>(\$8,850)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$10,818
b. Normal cost at December 31, 2014 (excluding assumed expenses)	950
c. Benefit payments during 2015	(600)
d. Interest at 7.50% to December 31, 2015	824
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	11,992
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	11,992
2. Actuarial accrued liability at December 31, 2015	11,343
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	649
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	125,081
b. Contributions for 2015 <sup>1</sup>	(1,060)
c. Benefit payments and expenses during 2015	(605)
d. Interest at 7.50% to December 31, 2015	9,319
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	132,734
5. Actuarial value of assets at December 31, 2015	125,579
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(7,156)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$6,507)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$114,263)</b>
2. Expected increase	(6,480)
3. Liability (gain)/loss	(649)
4. Asset (gain)/loss	7,156
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$114,236)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	1,103	6,856	16.09%	950	5,611	16.93%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$1,103</b>	<b>\$6,856</b>	<b>16.09%</b>	<b>\$950</b>	<b>\$5,611</b>	<b>16.93%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$114,236)	(\$114,263)
2. Next year's Tier 1/Tier 2 UAL payment	(8,850)	(8,545)
3. Combined valuation payroll	45,911	43,622
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(19.28%)	(19.59%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.09%	16.93%
b. Tier 1/Tier 2 UAL rate	(19.28%)	(19.59%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	(3.04%)	(2.51%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		1107%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		6.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	0.00%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	11.47%
7. July 1, 2017 total pension rate, before adjustment		(3.04%)
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		3.04%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(19.28%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(16.24%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		0.00%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		5.50%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.09%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		21.59%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	5.50%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	21.59%	22.43%
b. Tier 1/Tier 2 UAL rate	(16.24%)	(17.08%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	5.50%	5.50%
<i>(a. + b. + c., minimum of 5.50%)</i>		



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$6,856	\$0	\$6,856
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	6,856	0	6,856
OPSRP valuation payroll	39,055	0	39,055
<b>Combined valuation payroll</b>	<b>\$45,911</b>	<b>\$0</b>	<b>\$45,911</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	2	2	0	0	2	2
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	2	2
<b>Active Members with previous service segments with the employer</b>								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	0	N/A	1	1	0	N/A	1
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
<b>Grand Total Number of Members</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>4</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84	1	49
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>	<b>1</b>	<b>49</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

Vernonia Fire/2797  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).

September 2016  
Vernonia Fire/2797

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Vernonia Fire/2797

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

Vernonia Fire -- #2797

September 2016

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# Executive Summary

Milliman has prepared this report for Vernonia Fire to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Vernonia Fire.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### *Employer Rates Effective July 1, 2017 for Vernonia Fire*

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	10.82%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(2.35%)	(2.35%)	(2.35%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>9.74%</b>	<b>6.94%</b>	<b>11.71%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>10.24%</b>	<b>7.37%</b>	<b>12.14%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 102%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$237,730	\$179,180	(\$58,550)	133%	\$63,952	(92%)
12/31/2011	202,377	193,402	(8,975)	105%	95,536	(9%)
12/31/2012	222,028	192,073	(29,955)	116%	68,647	(44%)
12/31/2013	246,059	200,102	(45,957)	123%	76,009	(60%)
12/31/2014	253,297	232,832	(20,465)	109%	80,963	(25%)
12/31/2015	251,140	245,454	(5,686)	102%	81,364	(7%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Vernonia Fire***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$5,686)	(\$20,465)
Allocated pooled OPSRP UAL	11,567	9,256
Side account	0	0
Net unfunded pension actuarial accrued liability	5,881	(11,209)
Combined valuation payroll	81,364	80,963
Net pension UAL as a percentage of payroll	7%	(14%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$395	\$644

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$2,332	\$2,240
Tier 1/Tier 2 valuation payroll	21,547	20,743
Tier 1/Tier 2 pension normal cost rate	10.82%	10.80%
Tier 1/ Tier 2 Actuarial accrued liability	\$245,454	\$232,832
Actuarial asset value	251,140	253,297
Tier 1/Tier 2 Unfunded actuarial accrued liability	(5,686)	(20,465)
Tier 1/ Tier 2 Funded status	102%	109%
Combined valuation payroll	\$81,364	\$80,963
Tier 1/Tier 2 UAL as a percentage of payroll	(7%)	(25%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(2.35%)	(2.33%)
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	1	1

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	81,364	80,963
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$18,282	\$16,876
2. Employer reserves	156,762	153,900
3. Benefits in force reserve	76,096	82,521
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$251,140</b>	<b>\$253,297</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$253,297
2. Regular employer contributions	(70)
3. Benefit payments and expense	(13,838)
4. Adjustments <sup>1</sup>	6,295
5. Interest credited	5,456
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$251,140</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	2,332	2,240
<b>Total</b>	<b>\$2,332</b>	<b>\$2,240</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$2,332	\$2,332	\$0



## Tier 1/Tier 2 Valuation Results

### Liabilities

#### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

#### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	38,897	33,552
▪ <b>Total Active Members</b>	<b>\$38,897</b>	<b>\$33,552</b>
Dormant Members	42,252	39,191
Retired Members and Beneficiaries	164,305	160,089
<b>Total Actuarial Accrued Liability</b>	<b>\$245,454</b>	<b>\$232,832</b>

#### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$245,454	\$245,454	\$0

## Tier 1/Tier 2 Valuation Results

### Unfunded Accrued Liability (UAL)

#### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$245,454	\$232,832
2. Actuarial value of assets	251,140	253,297
3. Unfunded accrued liability (1. – 2.)	(5,686)	(20,465)
4. Funded percentage (2. ÷ 1.)	102%	109%
5. Combined valuation payroll	\$81,364	\$80,963
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(7%)	(25%)

#### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$46,055)	(\$3,450)	(\$3,316)	(\$45,921)	(\$3,571)
December 31, 2015	N/A	N/A	N/A	\$40,235	\$2,911
<b>Total</b>				<b>(\$5,686)</b>	<b>(\$660)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$232,832
b. Normal cost at December 31, 2014 (excluding assumed expenses)	2,143
c. Benefit payments during 2015	(13,731)
d. Interest at 7.50% to December 31, 2015	17,028
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	238,272
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	238,272
2. Actuarial accrued liability at December 31, 2015	245,454
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(7,182)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	253,297
b. Contributions for 2015 <sup>1</sup>	(70)
c. Benefit payments and expenses during 2015	(13,838)
d. Interest at 7.50% to December 31, 2015	18,476
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	257,865
5. Actuarial value of assets at December 31, 2015	251,140
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(6,725)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$13,907)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$20,465)</b>
2. Expected increase	872
3. Liability (gain)/loss	7,182
4. Asset (gain)/loss	6,725
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$5,686)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	2,332	21,547	10.82%	2,240	20,743	10.80%
<b>Total</b>	<b>\$2,332</b>	<b>\$21,547</b>	<b>10.82%</b>	<b>\$2,240</b>	<b>\$20,743</b>	<b>10.80%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$5,686)	(\$20,465)
2. Next year's Tier 1/Tier 2 UAL payment	(660)	(1,598)
3. Combined valuation payroll	81,364	80,963
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(0.81%)	(1.97%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.82%	10.80%
b. Tier 1/Tier 2 UAL rate	(0.81%)	(1.97%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	10.16%	8.98%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Adjustments Due to Rate Collar and Minimum Rate Requirements***

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		102%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	2.47%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	8.47%
7. July 1, 2017 total pension rate, before adjustment		10.16%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(1.69%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(0.81%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(2.50%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		8.47%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		10.82%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		10.82%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	8.47%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.82%	10.80%
b. Tier 1/Tier 2 UAL rate	(2.50%)	(2.48%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	8.47%	8.47%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	21,547	0	21,547
Tier 1/Tier 2 valuation payroll	21,547	0	21,547
OPSRP valuation payroll	0	59,817	59,817
<b>Combined valuation payroll</b>	<b>\$21,547</b>	<b>\$59,817</b>	<b>\$81,364</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	0	1	1	0	0	1	1
Total	0	1	1	2	0	1	1	2
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	0	1	1	0	0	1
Total	1	0	0	1	1	0	0	1
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	0	1	0	1	0	1
Total	0	1	0	1	0	1	0	1
<b>Grand Total Number of Members</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>4</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1							1
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	1	976
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59	1	241	80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>1</b>	<b>241</b>	<b>Total</b>	<b>1</b>	<b>976</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016

City of Waldport/2261  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).

September 2016  
City of Waldport/2261

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Waldport/2261

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

City of Waldport -- #2261

September 2016

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# Executive Summary

Milliman has prepared this report for City of Waldport to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Waldport.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for City of Waldport***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	15.34%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(4.65%)	(4.65%)	(4.65%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>11.96%</b>	<b>4.64%</b>	<b>9.41%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>12.46%</b>	<b>5.07%</b>	<b>9.84%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 99%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	10.69%	10.69%
Minimum 2019-2021 Rate	7.69%	4.69%
Maximum 2019-2021 Rate	13.69%	16.69%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$2,981,867	\$2,802,015	(\$179,852)	106%	\$636,529	(28%)
12/31/2011	2,991,828	2,932,896	(58,932)	102%	640,777	(9%)
12/31/2012	3,384,024	3,149,005	(235,019)	107%	689,451	(34%)
12/31/2013	3,784,497	3,288,088	(496,409)	115%	651,864	(76%)
12/31/2014	3,599,425	3,339,642	(259,783)	108%	636,448	(41%)
12/31/2015	3,514,763	3,546,561	31,798	99%	759,059	4%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *City of Waldport*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$31,798	(\$259,783)
Allocated pooled OPSRP UAL	107,911	72,760
Side account	0	0
Net unfunded pension actuarial accrued liability	139,709	(187,023)
Combined valuation payroll	759,059	636,448
Net pension UAL as a percentage of payroll	18%	(29%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$3,686	\$5,059

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$48,850	\$56,330
Tier 1/Tier 2 valuation payroll	318,387	360,598
Tier 1/Tier 2 pension normal cost rate	15.34%	15.62%
Tier 1/ Tier 2 Actuarial accrued liability	\$3,546,561	\$3,339,642
Actuarial asset value	3,514,763	3,599,425
Tier 1/Tier 2 Unfunded actuarial accrued liability	31,798	(259,783)
Tier 1/ Tier 2 Funded status	99%	108%
Combined valuation payroll	\$759,059	\$636,448
Tier 1/Tier 2 UAL as a percentage of payroll	4%	(41%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(4.65%)	(4.93%)
Tier 1/Tier 2 active members <sup>1</sup>	6	7
Tier 1/Tier 2 dormant members	4	4
Tier 1/Tier 2 retirees and beneficiaries	22	21

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	759,059	636,448
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$477,049	\$494,146
2. Employer reserves	2,178,634	2,281,806
3. Benefits in force reserve	859,081	823,474
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$3,514,763</b>	<b>\$3,599,425</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$3,599,425
2. Regular employer contributions	5,645
3. Benefit payments and expense	(156,225)
4. Adjustments <sup>1</sup>	(23,527)
5. Interest credited	89,445
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$3,514,763</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Normal Cost***

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	39,675	47,504
Tier 2 Police & Fire	0	0
Tier 2 General Service	9,175	8,826
<b>Total</b>	<b>\$48,850</b>	<b>\$56,330</b>

### ***Change in Tier 1/Tier 2 Normal Cost***

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$48,850	\$48,850	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Actuarial Accrued Liability*

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$139,978	\$138,731
▪ Tier 1 General Service	801,931	914,479
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	194,452	172,285
▪ <b>Total Active Members</b>	<b>\$1,136,361</b>	<b>\$1,225,495</b>
Dormant Members	555,280	516,629
Retired Members and Beneficiaries	1,854,920	1,597,518
<b>Total Actuarial Accrued Liability</b>	<b>\$3,546,561</b>	<b>\$3,339,642</b>

### *Change in Tier 1/Tier 2 Actuarial Accrued Liability*

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$3,546,561	\$3,546,561	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$3,546,561	\$3,339,642
2. Actuarial value of assets	3,514,763	3,599,425
3. Unfunded accrued liability (1. – 2.)	31,798	(259,783)
4. Funded percentage (2. ÷ 1.)	99%	108%
5. Combined valuation payroll	\$759,059	\$636,448
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	4%	(41%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$497,468)	(\$37,264)	(\$35,821)	(\$496,025)	(\$38,568)
December 31, 2015	N/A	N/A	N/A	\$527,823	\$38,193
<b>Total</b>				<b>\$31,798</b>	<b>(\$375)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$3,339,642
b. Normal cost at December 31, 2014 (excluding assumed expenses)	53,884
c. Benefit payments during 2015	(155,018)
d. Interest at 7.50% to December 31, 2015	246,681
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	3,485,189
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	3,485,189
2. Actuarial accrued liability at December 31, 2015	3,546,561
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(61,372)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	3,599,425
b. Contributions for 2015 <sup>1</sup>	5,645
c. Benefit payments and expenses during 2015	(156,225)
d. Interest at 7.50% to December 31, 2015	264,310
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	3,713,155
5. Actuarial value of assets at December 31, 2015	3,514,763
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(198,392)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$259,764)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$259,783)</b>
2. Expected increase	31,817
3. Liability (gain)/loss	61,372
4. Asset (gain)/loss	198,392
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$31,798</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	39,675	259,898	15.27%	47,504	304,859	15.58%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	9,175	58,489	15.69%	8,826	55,739	15.83%
<b>Total</b>	<b>\$48,850</b>	<b>\$318,387</b>	<b>15.34%</b>	<b>\$56,330</b>	<b>\$360,598</b>	<b>15.62%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$31,798	(\$259,783)
2. Next year's Tier 1/Tier 2 UAL payment	(375)	(20,065)
3. Combined valuation payroll	759,059	636,448
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(0.05%)	(3.15%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.34%	15.62%
b. Tier 1/Tier 2 UAL rate	(0.05%)	(3.15%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	15.44%	12.62%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		7.69%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		7.69%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.54%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		99%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	4.69%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	10.69%
7. July 1, 2017 total pension rate, before adjustment		15.44%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(4.75%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(0.05%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(4.80%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		10.69%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		15.34%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		15.34%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	10.69%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.34%	15.62%
b. Tier 1/Tier 2 UAL rate	(4.80%)	(5.08%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	10.69%	10.69%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$259,898	\$0	\$259,898
Tier 2	58,489	0	58,489
Tier 1/Tier 2 valuation payroll	318,387	0	318,387
OPSRP valuation payroll	440,672	0	440,672
<b>Combined valuation payroll</b>	<b>\$759,059</b>	<b>\$0</b>	<b>\$759,059</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	5	1	10	16	6	1	7	14
Police & Fire	0	0	0	0	0	0	0	0
Total	5	1	10	16	6	1	7	14
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	3	0	N/A	3	3	0	N/A	3
Total	3	0	N/A	3	3	0	N/A	3
<b>Dormant Members</b>								
General Service	3	0	0	3	3	0	0	3
Police & Fire	1	0	0	1	1	0	0	1
Total	4	0	0	4	4	0	0	4
<b>Retired Members and Beneficiaries</b>								
General Service	11	4	0	15	10	4	0	14
Police & Fire	7	0	0	7	7	0	0	7
Total	18	4	0	22	17	4	0	21
<b>Grand Total Number of Members</b>	<b>30</b>	<b>5</b>	<b>10</b>	<b>45</b>	<b>30</b>	<b>5</b>	<b>7</b>	<b>42</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49				1						1
50-54										
55-59				2	1					3
60-64					1					1
65-69				1						1
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	2	1,144
35-39			60-64	3	365
40-44			65-69	6	640
45-49			70-74	5	524
50-54			75-79	1	252
55-59	2	1,567	80-84	3	748
60-64	2	405	85-89	2	648
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>4</b>	<b>986</b>	<b>Total</b>	<b>22</b>	<b>620</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Wallowa County/2050  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Wallowa County/2050

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Wallowa County/2050

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

Wallowa County -- #2050

September 2016

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# Executive Summary

Milliman has prepared this report for Wallowa County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Wallowa County.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Wallowa County***

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	19.16%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(9.64%)	(9.64%)	(9.64%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>10.79%</b>	<b>0.00%</b>	<b>4.42%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>11.29%</b>	<b>0.43%</b>	<b>4.85%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 107%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	9.52%	9.52%
Minimum 2019-2021 Rate	6.52%	3.52%
Maximum 2019-2021 Rate	12.52%	15.52%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (b - a)</b>	<b>Funded Ratio (a ÷ b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)</b>
12/31/2010	\$1,148,797	\$1,222,151	\$73,354	94%	\$299,382	25%
12/31/2011	1,158,734	1,294,432	135,698	90%	283,239	48%
12/31/2012	1,302,300	1,090,558	(211,742)	119%	178,369	(119%)
12/31/2013	1,434,706	1,162,654	(272,052)	123%	267,075	(102%)
12/31/2014	1,464,839	1,340,855	(123,984)	109%	271,075	(46%)
12/31/2015	1,455,430	1,365,970	(89,460)	107%	266,007	(34%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Wallowa County***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$89,460)	(\$123,984)
Allocated pooled OPSRP UAL	37,817	30,990
Side account	0	0
Net unfunded pension actuarial accrued liability	(51,643)	(92,994)
Combined valuation payroll	266,007	271,075
Net pension UAL as a percentage of payroll	(19%)	(34%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$1,292	\$2,155

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$16,966	\$18,401
Tier 1/Tier 2 valuation payroll	88,539	98,319
Tier 1/Tier 2 pension normal cost rate	19.16%	18.72%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,365,970	\$1,340,855
Actuarial asset value	1,455,430	1,464,839
Tier 1/Tier 2 Unfunded actuarial accrued liability	(89,460)	(123,984)
Tier 1/ Tier 2 Funded status	107%	109%
Combined valuation payroll	\$266,007	\$271,075
Tier 1/Tier 2 UAL as a percentage of payroll	(34%)	(46%)
Tier 1/Tier 2 UAL rate	(9.64%)	(9.20%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	3	3
Tier 1/Tier 2 retirees and beneficiaries	8	8

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	266,007	271,075
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$130,708	\$121,989
2. Employer reserves	997,119	979,506
3. Benefits in force reserve	327,602	363,344
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$1,455,430</b>	<b>\$1,464,839</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$1,464,839
2. Regular employer contributions	(1,446)
3. Benefit payments and expense	(59,575)
4. Adjustments <sup>1</sup>	20,130
5. Interest credited	31,482
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$1,455,430</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	16,966	18,401
Tier 2 General Service	0	0
<b>Total</b>	<b>\$16,966</b>	<b>\$18,401</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$16,966	\$16,966	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	291,637	295,338
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$291,637</b>	<b>\$295,338</b>
Dormant Members	366,978	340,638
Retired Members and Beneficiaries	707,355	704,879
<b>Total Actuarial Accrued Liability</b>	<b>\$1,365,970</b>	<b>\$1,340,855</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,365,970	\$1,365,970	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,365,970	\$1,340,855
2. Actuarial value of assets	1,455,430	1,464,839
3. Unfunded accrued liability (1. – 2.)	(89,460)	(123,984)
4. Funded percentage (2. ÷ 1.)	107%	109%
5. Combined valuation payroll	\$266,007	\$271,075
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(34%)	(46%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$272,633)	(\$20,422)	(\$19,632)	(\$271,843)	(\$21,137)
December 31, 2015	N/A	N/A	N/A	\$182,383	\$13,197
<b>Total</b>				<b>(\$89,460)</b>	<b>(\$7,940)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,340,855
b. Normal cost at December 31, 2014 (excluding assumed expenses)	17,602
c. Benefit payments during 2015	(59,115)
d. Interest at 7.50% to December 31, 2015	99,007
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,398,349
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,398,349
2. Actuarial accrued liability at December 31, 2015	1,365,970
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	32,379
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,464,839
b. Contributions for 2015 <sup>1</sup>	(1,446)
c. Benefit payments and expenses during 2015	(59,575)
d. Interest at 7.50% to December 31, 2015	107,575
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,511,392
5. Actuarial value of assets at December 31, 2015	1,455,430
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(55,963)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$23,584)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$123,984)</b>
2. Expected increase	10,940
3. Liability (gain)/loss	(32,379)
4. Asset (gain)/loss	55,963
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$89,460)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	16,966	88,539	19.16%	18,401	98,319	18.72%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$16,966</b>	<b>\$88,539</b>	<b>19.16%</b>	<b>\$18,401</b>	<b>\$98,319</b>	<b>18.72%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$89,460)	(\$123,984)
2. Next year's Tier 1/Tier 2 UAL payment	(7,940)	(9,666)
3. Combined valuation payroll	266,007	271,075
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(2.98%)	(3.57%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.16%	18.72%
b. Tier 1/Tier 2 UAL rate	(2.98%)	(3.57%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	16.33%	15.30%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		6.52%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		6.52%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.30%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		107%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	3.52%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	9.52%
7. July 1, 2017 total pension rate, before adjustment		16.33%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(6.81%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(2.98%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(9.79%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		9.52%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		19.16%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		19.16%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	9.52%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.16%	18.72%
b. Tier 1/Tier 2 UAL rate	(9.79%)	(9.35%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	9.52%	9.52%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	88,539	88,539
Tier 1/Tier 2 valuation payroll	0	88,539	88,539
OPSRP valuation payroll	0	177,468	177,468
<b>Combined valuation payroll</b>	<b>\$0</b>	<b>\$266,007</b>	<b>\$266,007</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	3	4	0	1	3	4
Total	0	1	3	4	0	1	3	4
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	2	1	0	3	2	1	0	3
Total	2	1	0	3	2	1	0	3
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	7	1	0	8	7	1	0	8
Total	7	1	0	8	7	1	0	8
<b>Grand Total Number of Members</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>15</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>15</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54			1							1
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	1	541
35-39			60-64	1	1,061
40-44			65-69	2	773
45-49	1	1,410	70-74	1	644
50-54	2	1,070	75-79	1	124
55-59			80-84	1	255
60-64			85-89	1	111
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>3</b>	<b>1,183</b>	<b>Total</b>	<b>8</b>	<b>535</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

West Side Rural Fire Protection District/2796  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
West Side Rural Fire Protection District/2796

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
West Side Rural Fire Protection District/2796

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**West Side Rural Fire Protection District -- #2796**

**September 2016**

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# Executive Summary

Milliman has prepared this report for West Side Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to West Side Rural Fire Protection District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for West Side Rural Fire Protection District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(4.95%)	(4.95%)	(4.95%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>13.03%</b>	<b>4.34%</b>	<b>9.11%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>13.53%</b>	<b>4.77%</b>	<b>9.54%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 108%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.76%	11.76%
Minimum 2019-2021 Rate	8.76%	5.76%
Maximum 2019-2021 Rate	14.76%	17.76%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$214,440	\$171,459	(\$42,981)	125%	\$79,841	(54%)
12/31/2011	231,035	197,980	(33,055)	117%	82,111	(40%)
12/31/2012	278,239	226,802	(51,437)	123%	84,601	(61%)
12/31/2013	335,523	253,385	(82,138)	132%	87,178	(94%)
12/31/2014	369,674	315,804	(53,870)	117%	129,580	(42%)
12/31/2015	386,385	358,137	(28,248)	108%	43,749	(65%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***West Side Rural Fire Protection District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$28,248)	(\$53,870)
Allocated pooled OPSRP UAL	6,220	14,814
Side account	0	0
Net unfunded pension actuarial accrued liability	(22,028)	(39,056)
Combined valuation payroll	43,749	129,580
Net pension UAL as a percentage of payroll	(50%)	(30%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$212	\$1,030

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$0	\$23,656
Tier 1/Tier 2 valuation payroll	0	89,702
Tier 1/Tier 2 pension normal cost rate	16.71%	26.37%
Tier 1/ Tier 2 Actuarial accrued liability	\$358,137	\$315,804
Actuarial asset value	386,385	369,674
Tier 1/Tier 2 Unfunded actuarial accrued liability	(28,248)	(53,870)
Tier 1/ Tier 2 Funded status	108%	117%
Combined valuation payroll	\$43,749	\$129,580
Tier 1/Tier 2 UAL as a percentage of payroll	(65%)	(42%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(4.95%)	(8.61%)
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	43,749	129,580
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$29,874	\$29,026
2. Employer reserves	356,511	340,648
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$386,385</b>	<b>\$369,674</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$369,674
2. Regular employer contributions	9,125
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	517
5. Interest credited	7,069
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$386,385</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	23,656
Tier 2 General Service	0	0
<b>Total</b>	<b>\$0</b>	<b>\$23,656</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$0	\$0	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	358,137	315,804
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$358,137</b>	<b>\$315,804</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$358,137</b>	<b>\$315,804</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$358,137	\$358,137	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$358,137	\$315,804
2. Actuarial value of assets	386,385	369,674
3. Unfunded accrued liability (1. – 2.)	(28,248)	(53,870)
4. Funded percentage (2. ÷ 1.)	108%	117%
5. Combined valuation payroll	\$43,749	\$129,580
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(65%)	(42%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$82,313)	(\$6,166)	(\$5,927)	(\$82,074)	(\$6,382)
December 31, 2015	N/A	N/A	N/A	\$53,826	\$3,895
<b>Total</b>				<b>(\$28,248)</b>	<b>(\$2,487)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$315,804
b. Normal cost at December 31, 2014 (excluding assumed expenses)	22,629
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	24,534
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	362,967
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	362,967
2. Actuarial accrued liability at December 31, 2015	358,137
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	4,830
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	369,674
b. Contributions for 2015 <sup>1</sup>	9,125
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	28,068
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	406,866
5. Actuarial value of assets at December 31, 2015	386,385
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(20,482)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$15,652)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$53,870)</b>
2. Expected increase	9,970
3. Liability (gain)/loss	(4,830)
4. Asset (gain)/loss	20,482
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$28,248)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	23,656	89,702	26.37%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>16.71%</b>	<b>\$23,656</b>	<b>\$89,702</b>	<b>26.37%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$28,248)	(\$53,870)
2. Next year's Tier 1/Tier 2 UAL payment	(2,487)	(4,108)
3. Combined valuation payroll	43,749	129,580
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(5.68%)	(3.17%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	26.37%
b. Tier 1/Tier 2 UAL rate	(5.68%)	(3.17%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	11.18%	23.35%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		14.76%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		14.76%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.95%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		108%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	11.76%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	17.76%
7. July 1, 2017 total pension rate, before adjustment		11.18%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		0.58%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(5.68%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(5.10%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		11.76%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.71%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.71%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	11.76%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	26.37%
b. Tier 1/Tier 2 UAL rate	(5.10%)	(8.76%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	11.76%	17.76%



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	43,749	43,749
<b>Combined valuation payroll</b>	<b>\$0</b>	<b>\$43,749</b>	<b>\$43,749</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	1	2	0	1	1	2
<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total Number of Members</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69				1						1
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

West Valley Fire District/2725  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
West Valley Fire District/2725

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
West Valley Fire District/2725

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**West Valley Fire District -- #2725**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for West Valley Fire District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to West Valley Fire District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for West Valley Fire District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	22.50%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(5.54%)	(5.54%)	(5.54%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>18.23%</b>	<b>3.75%</b>	<b>8.52%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>18.73%</b>	<b>4.18%</b>	<b>8.95%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 71%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.96%	16.96%
Minimum 2019-2021 Rate	13.57%	10.18%
Maximum 2019-2021 Rate	20.35%	23.74%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$556,619	\$497,630	(\$58,989)	112%	\$490,715	(12%)
12/31/2011	596,571	590,253	(6,318)	101%	457,183	(1%)
12/31/2012	699,866	728,108	28,242	96%	368,253	8%
12/31/2013	813,970	782,700	(31,270)	104%	509,464	(6%)
12/31/2014	770,983	1,025,215	254,232	75%	604,114	42%
12/31/2015	753,673	1,063,541	309,868	71%	648,188	48%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***West Valley Fire District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$309,868	\$254,232
Allocated pooled OPSRP UAL	92,149	69,063
Side account	0	0
Net unfunded pension actuarial accrued liability	402,017	323,295
Combined valuation payroll	648,188	604,114
Net pension UAL as a percentage of payroll	62%	54%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$3,147	\$4,802

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$5,029	\$6,094
Tier 1/Tier 2 valuation payroll	22,349	50,224
Tier 1/Tier 2 pension normal cost rate	22.50%	12.13%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,063,541	\$1,025,215
Actuarial asset value	753,673	770,983
Tier 1/Tier 2 Unfunded actuarial accrued liability	309,868	254,232
Tier 1/ Tier 2 Funded status	71%	75%
Combined valuation payroll	\$648,188	\$604,114
Tier 1/Tier 2 UAL as a percentage of payroll	48%	42%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(5.54%)	3.18%
Tier 1/Tier 2 active members <sup>1</sup>	1	1
Tier 1/Tier 2 dormant members	4	5
Tier 1/Tier 2 retirees and beneficiaries	6	7

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	648,188	604,114
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$77,396	\$73,623
2. Employer reserves	477,536	477,498
3. Benefits in force reserve	198,741	219,863
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$753,673</b>	<b>\$770,983</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$770,983
2. Regular employer contributions	(6,662)
3. Benefit payments and expense	(36,141)
4. Adjustments <sup>1</sup>	10,113
5. Interest credited	15,380
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$753,673</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	5,029	0
Tier 2 Police & Fire	0	6,094
Tier 2 General Service	0	0
<b>Total</b>	<b>\$5,029</b>	<b>\$6,094</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$5,029	\$5,029	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$31,392	\$29,382
▪ Tier 1 General Service	45,820	40,814
▪ Tier 2 Police & Fire	293,349	261,933
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$370,561</b>	<b>\$332,129</b>
Dormant Members	263,859	266,559
Retired Members and Beneficiaries	429,121	426,527
<b>Total Actuarial Accrued Liability</b>	<b>\$1,063,541</b>	<b>\$1,025,215</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,063,541	\$1,063,541	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,063,541	\$1,025,215
2. Actuarial value of assets	753,673	770,983
3. Unfunded accrued liability (1. – 2.)	309,868	254,232
4. Funded percentage (2. ÷ 1.)	71%	75%
5. Combined valuation payroll	\$648,188	\$604,114
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	48%	42%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$31,337)	(\$2,347)	(\$2,257)	(\$31,247)	(\$2,430)
December 31, 2015	N/A	N/A	N/A	\$341,115	\$24,683
<b>Total</b>				<b>\$309,868</b>	<b>\$22,253</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,025,215
b. Normal cost at December 31, 2014 (excluding assumed expenses)	5,770
c. Benefit payments during 2015	(35,862)
d. Interest at 7.50% to December 31, 2015	75,763
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,070,886
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,070,886
2. Actuarial accrued liability at December 31, 2015	1,063,541
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	7,345
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	770,983
b. Contributions for 2015 <sup>1</sup>	(6,662)
c. Benefit payments and expenses during 2015	(36,141)
d. Interest at 7.50% to December 31, 2015	56,219
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	784,399
5. Actuarial value of assets at December 31, 2015	753,673
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(30,725)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$23,380)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$254,232</b>
2. Expected increase	32,256
3. Liability (gain)/loss	(7,345)
4. Asset (gain)/loss	30,725
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$309,868</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	5,029	22,349	22.50%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	6,094	50,224	12.13%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$5,029</b>	<b>\$22,349</b>	<b>22.50%</b>	<b>\$6,094</b>	<b>\$50,224</b>	<b>12.13%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$309,868	\$254,232
2. Next year's Tier 1/Tier 2 UAL payment	22,253	18,316
3. Combined valuation payroll	648,188	604,114
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	3.43%	3.03%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	22.50%	12.13%
b. Tier 1/Tier 2 UAL rate	3.43%	3.03%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	26.08%	15.31%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		13.96%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		13.96%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.79%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		71%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	10.96%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	16.96%
7. July 1, 2017 total pension rate, before adjustment		26.08%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(9.12%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		3.43%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(5.69%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		16.96%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		22.50%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		22.50%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	16.96%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	22.50%	12.13%
b. Tier 1/Tier 2 UAL rate	(5.69%)	3.03%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	16.96%	15.31%
<i>(a. + b. + c., minimum of 5.50%)</i>		



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$22,349	\$0	\$22,349
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	22,349	0	22,349
OPSRP valuation payroll	0	625,839	625,839
<b>Combined valuation payroll</b>	<b>\$22,349</b>	<b>\$625,839</b>	<b>\$648,188</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	0	0	1	0	0	1	1
Police & Fire	0	0	10	10	0	1	9	10
Total	1	0	10	11	0	1	10	11
<b>Active Members with previous service segments with the employer</b>								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	2	10	N/A	12	2	9	N/A	11
Total	3	10	N/A	13	3	9	N/A	12
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	3	1	2	6	4	1	2	7
Total	3	1	2	6	4	1	2	7
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	5	1	0	6	6	1	0	7
Total	5	1	0	6	6	1	0	7
<b>Grand Total Number of Members</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>36</b>	<b>13</b>	<b>12</b>	<b>12</b>	<b>37</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64			1							1
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45	1	15
20-24			45-49	1	20
25-29			50-54	1	1,986
30-34			55-59	1	61
35-39			60-64	1	256
40-44	1	24	65-69		
45-49	1	0	70-74		
50-54			75-79	1	55
55-59	1	1,473	80-84		
60-64			85-89		
65-69			90-94		
70-74	1	494	95-99		
75+			100+		
<b>Total</b>	<b>4</b>	<b>498</b>	<b>Total</b>	<b>6</b>	<b>399</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

Wiard Memorial Park District/2733  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).

September 2016

Winchester Bay Sanitary District/2714  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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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September 2016  
Winchester Bay Sanitary District/2714

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Winchester Bay Sanitary District/2714

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Winchester Bay Sanitary District -- #2714**

**September 2016**

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

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## Executive Summary

Milliman has prepared this report for Winchester Bay Sanitary District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Winchester Bay Sanitary District.

### Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Winchester Bay Sanitary District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	14.27%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	2.64%	2.64%	2.64%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>18.18%</b>	<b>11.93%</b>	<b>16.70%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>18.68%</b>	<b>12.36%</b>	<b>17.13%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 76%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.91%	16.91%
Minimum 2019-2021 Rate	13.53%	10.15%
Maximum 2019-2021 Rate	20.29%	23.67%



# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$168,693	\$228,660	\$59,967	74%	\$139,258	43%
12/31/2011	170,661	234,713	64,052	73%	138,822	46%
12/31/2012	204,010	269,846	65,836	76%	143,212	46%
12/31/2013	243,389	280,556	37,167	87%	144,040	26%
12/31/2014	267,042	343,278	76,236	78%	149,211	51%
12/31/2015	279,590	367,587	87,997	76%	152,862	58%

# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Winchester Bay Sanitary District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$87,997	\$76,236
Allocated pooled OPSRP UAL	21,731	17,058
Side account	0	0
Net unfunded pension actuarial accrued liability	109,728	93,294
Combined valuation payroll	152,862	149,211
Net pension UAL as a percentage of payroll	72%	63%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$742	\$1,186

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$15,321	\$14,968
Tier 1/Tier 2 valuation payroll	107,328	105,198
Tier 1/Tier 2 pension normal cost rate	14.27%	14.23%
Tier 1/ Tier 2 Actuarial accrued liability	\$367,587	\$343,278
Actuarial asset value	279,590	267,042
Tier 1/Tier 2 Unfunded actuarial accrued liability	87,997	76,236
Tier 1/ Tier 2 Funded status	76%	78%
Combined valuation payroll	\$152,862	\$149,211
Tier 1/Tier 2 UAL as a percentage of payroll	58%	51%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	2.64%	2.68%
Tier 1/Tier 2 active members <sup>1</sup>	2	2
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	2	2

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	152,862	149,211
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

## Tier 1/Tier 2 Valuation Results

### Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$21,383	\$20,778
2. Employer reserves	205,831	187,257
3. Benefits in force reserve	52,376	59,007
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$279,590</b>	<b>\$267,042</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$267,042
2. Regular employer contributions	14,764
3. Benefit payments and expense	(9,525)
4. Adjustments <sup>1</sup>	2,199
5. Interest credited	5,109
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$279,590</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.



# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	15,321	14,968
<b>Total</b>	<b>\$15,321</b>	<b>\$14,968</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$15,321	\$15,321	\$0

# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	254,498	228,806
▪ <b>Total Active Members</b>	<b>\$254,498</b>	<b>\$228,806</b>
Dormant Members	0	0
Retired Members and Beneficiaries	113,089	114,472
<b>Total Actuarial Accrued Liability</b>	<b>\$367,587</b>	<b>\$343,278</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$367,587	\$367,587	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$367,587	\$343,278
2. Actuarial value of assets	279,590	267,042
3. Unfunded accrued liability (1. – 2.)	87,997	76,236
4. Funded percentage (2. ÷ 1.)	76%	78%
5. Combined valuation payroll	\$152,862	\$149,211
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	58%	51%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$37,246	\$2,790	\$2,682	\$37,138	\$2,888
December 31, 2015	N/A	N/A	N/A	\$50,859	\$3,680
<b>Total</b>				<b>\$87,997</b>	<b>\$6,568</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$343,278
b. Normal cost at December 31, 2014 (excluding assumed expenses)	14,318
c. Benefit payments during 2015	(9,451)
d. Interest at 7.50% to December 31, 2015	25,928
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	374,073
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	374,073
2. Actuarial accrued liability at December 31, 2015	367,587
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	6,486
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	267,042
b. Contributions for 2015 <sup>1</sup>	14,764
c. Benefit payments and expenses during 2015	(9,525)
d. Interest at 7.50% to December 31, 2015	20,225
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	292,506
5. Actuarial value of assets at December 31, 2015	279,590
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(12,916)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$6,430)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$76,236</b>
2. Expected increase	5,331
3. Liability (gain)/loss	(6,486)
4. Asset (gain)/loss	12,916
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$87,997</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	15,321	107,328	14.27%	14,968	105,198	14.23%
<b>Total</b>	<b>\$15,321</b>	<b>\$107,328</b>	<b>14.27%</b>	<b>\$14,968</b>	<b>\$105,198</b>	<b>14.23%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$87,997	\$76,236
2. Next year's Tier 1/Tier 2 UAL payment	6,568	5,611
3. Combined valuation payroll	152,862	149,211
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	4.30%	3.76%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.27%	14.23%
b. Tier 1/Tier 2 UAL rate	4.30%	3.76%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	18.72%	18.14%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		13.91%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		13.91%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.78%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		76%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	10.91%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	16.91%
7. July 1, 2017 total pension rate, before adjustment		18.72%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(1.81%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		4.30%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	2.49%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		16.91%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		14.27%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		14.27%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	16.91%



# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.27%	14.23%
b. Tier 1/Tier 2 UAL rate	2.49%	2.53%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	16.91%	16.91%

# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	107,328	0	107,328
Tier 1/Tier 2 valuation payroll	107,328	0	107,328
OPSRP valuation payroll	45,534	0	45,534
<b>Combined valuation payroll</b>	<b>\$152,862</b>	<b>\$0</b>	<b>\$152,862</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	2	1	3	0	2	1	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	1	3	0	2	1	3
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	2	0	0	2	2	0	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	0	2	2	0	0	2
<b>Grand Total Number of Members</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>5</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59				1						1
60-64			1							1
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69	1	321
45-49			70-74		
50-54			75-79		
55-59			80-84	1	811
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>	<b>2</b>	<b>566</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.

September 2016

Yamhill County/2015  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Yamhill County/2015

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Yamhill County/2015

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Yamhill County -- #2015**

**September 2016**

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

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# Executive Summary

Milliman has prepared this report for Yamhill County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Yamhill County.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### *Employer Rates Effective July 1, 2017 for Yamhill County*

	Payroll		
	Tier 1/Tier 2	OPSRP	
		General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	15.69%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(0.98%)	(0.98%)	(0.98%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>15.98%</b>	<b>8.31%</b>	<b>13.08%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>16.48%</b>	<b>8.74%</b>	<b>13.51%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 80%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.71%	14.71%
Minimum 2019-2021 Rate	11.71%	8.71%
Maximum 2019-2021 Rate	17.71%	20.71%



# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (b - a)</b>	<b>Funded Ratio (a ÷ b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)</b>
12/31/2010	\$50,594,864	\$50,082,170	(\$512,694)	101%	\$22,476,974	(2%)
12/31/2011	49,368,116	53,073,411	3,705,295	93%	21,695,391	17%
12/31/2012	55,280,975	58,352,215	3,071,240	95%	21,979,926	14%
12/31/2013	61,606,382	62,439,555	833,172	99%	22,587,423	4%
12/31/2014	64,662,813	74,720,280	10,057,467	87%	23,980,678	42%
12/31/2015	63,565,447	79,347,419	15,781,972	80%	26,264,266	60%

# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Yamhill County***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$15,781,972	\$10,057,467
Allocated pooled OPSRP UAL	3,733,832	2,741,514
Side account	0	0
Net unfunded pension actuarial accrued liability	19,515,804	12,798,981
Combined valuation payroll	26,264,266	23,980,678
Net pension UAL as a percentage of payroll	74%	53%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$127,530	\$190,613

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$1,700,899	\$1,822,249
Tier 1/Tier 2 valuation payroll	10,843,447	11,342,126
Tier 1/Tier 2 pension normal cost rate	15.69%	16.07%
Tier 1/ Tier 2 Actuarial accrued liability	\$79,347,419	\$74,720,280
Actuarial asset value	63,565,447	64,662,813
Tier 1/Tier 2 Unfunded actuarial accrued liability	15,781,972	10,057,467
Tier 1/ Tier 2 Funded status	80%	87%
Combined valuation payroll	\$26,264,266	\$23,980,678
Tier 1/Tier 2 UAL as a percentage of payroll	60%	42%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.98%)	(1.36%)
Tier 1/Tier 2 active members <sup>1</sup>	168	179
Tier 1/Tier 2 dormant members	93	100
Tier 1/Tier 2 retirees and beneficiaries	221	200

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	26,264,266	23,980,678
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$7,347,426	\$8,118,709
2. Employer reserves	40,624,148	41,142,480
3. Benefits in force reserve	15,593,873	15,401,624
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$63,565,447</b>	<b>\$64,662,813</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$64,662,813
2. Regular employer contributions	704,951
3. Benefit payments and expense	(2,835,766)
4. Adjustments <sup>1</sup>	(261,293)
5. Interest credited	1,294,741
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$63,565,447</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.



# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$277,325	\$284,204
Tier 1 General Service	98,124	114,960
Tier 2 Police & Fire	364,112	356,063
Tier 2 General Service	961,338	1,067,022
<b>Total</b>	<b>\$1,700,899</b>	<b>\$1,822,249</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$1,700,899	\$1,700,899	\$0

# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$9,274,952	\$9,060,670
▪ Tier 1 General Service	2,226,273	2,130,589
▪ Tier 2 Police & Fire	7,029,801	6,416,482
▪ Tier 2 General Service	21,890,508	21,146,595
▪ <b>Total Active Members</b>	<b>\$40,421,534</b>	<b>\$38,754,336</b>
Dormant Members	5,255,726	6,087,175
Retired Members and Beneficiaries	33,670,159	29,878,769
<b>Total Actuarial Accrued Liability</b>	<b>\$79,347,419</b>	<b>\$74,720,280</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$79,347,419	\$79,347,419	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$79,347,419	\$74,720,280
2. Actuarial value of assets	63,565,447	64,662,813
3. Unfunded accrued liability (1. – 2.)	15,781,972	10,057,467
4. Funded percentage (2. ÷ 1.)	80%	87%
5. Combined valuation payroll	\$26,264,266	\$23,980,678
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	60%	42%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$834,950	\$62,543	\$60,123	\$832,530	\$64,733
December 31, 2015	N/A	N/A	N/A	\$14,949,442	\$1,081,725
<b>Total</b>				<b>\$15,781,972</b>	<b>\$1,146,458</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$74,720,280
b. Normal cost at December 31, 2014 (excluding assumed expenses)	1,743,321
c. Benefit payments during 2015	(2,813,862)
d. Interest at 7.50% to December 31, 2015	5,563,876
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	79,213,615
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	79,213,615
2. Actuarial accrued liability at December 31, 2015	79,347,419
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(133,804)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	64,662,813
b. Contributions for 2015 <sup>1</sup>	704,951
c. Benefit payments and expenses during 2015	(2,835,766)
d. Interest at 7.50% to December 31, 2015	4,769,805
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	67,301,804
5. Actuarial value of assets at December 31, 2015	63,565,447
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(3,736,357)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$3,870,161)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$10,057,467</b>
2. Expected increase	1,854,344
3. Liability (gain)/loss	133,804
4. Asset (gain)/loss	3,736,357
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$15,781,972</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$277,325	\$1,241,841	22.33%	\$284,204	\$1,280,583	22.19%
Tier 1 General Service	98,124	493,513	19.88%	114,960	655,398	17.54%
Tier 2 Police & Fire	364,112	1,897,648	19.19%	356,063	1,866,809	19.07%
Tier 2 General Service	961,338	7,210,445	13.33%	1,067,022	7,539,336	14.15%
<b>Total</b>	<b>\$1,700,899</b>	<b>\$10,843,447</b>	<b>15.69%</b>	<b>\$1,822,249</b>	<b>\$11,342,126</b>	<b>16.07%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$15,781,972	\$10,057,467
2. Next year's Tier 1/Tier 2 UAL payment	1,146,458	729,874
3. Combined valuation payroll	26,264,266	23,980,678
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	4.37%	3.04%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.69%	16.07%
b. Tier 1/Tier 2 UAL rate	4.37%	3.04%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	20.21%	19.26%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		11.71%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		11.71%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.34%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		80%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	8.71%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	14.71%
7. July 1, 2017 total pension rate, before adjustment		20.21%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		(5.50%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		4.37%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(1.13%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		14.71%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		15.69%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		15.69%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	14.71%



# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.69%	16.07%
b. Tier 1/Tier 2 UAL rate	(1.13%)	(1.51%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	14.71%	14.71%

# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$493,513	\$1,241,841	\$1,735,354
Tier 2	7,210,445	1,897,648	9,108,093
Tier 1/Tier 2 valuation payroll	7,703,958	3,139,489	10,843,447
OPSRP valuation payroll	12,487,479	2,933,340	15,420,819
<b>Combined valuation payroll</b>	<b>\$20,191,437</b>	<b>\$6,072,829</b>	<b>\$26,264,266</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	10	120	279	409	12	128	241	381
Police & Fire	14	24	41	79	15	24	40	79
Total	24	144	320	488	27	152	281	460
<b>Active Members with previous service segments with the employer</b>								
General Service	19	59	N/A	78	20	63	N/A	83
Police & Fire	12	19	N/A	31	12	20	N/A	32
Total	31	78	N/A	109	32	83	N/A	115
<b>Dormant Members</b>								
General Service	11	64	18	93	13	69	16	98
Police & Fire	8	10	2	20	9	9	5	23
Total	19	74	20	113	22	78	21	121
<b>Retired Members and Beneficiaries</b>								
General Service	35	115	7	157	30	103	5	138
Police & Fire	65	6	0	71	64	3	0	67
Total	100	121	7	228	94	106	5	205
<b>Grand Total Number of Members</b>	<b>174</b>	<b>417</b>	<b>347</b>	<b>938</b>	<b>175</b>	<b>419</b>	<b>307</b>	<b>901</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34			1							1
35-39			11	4						15
40-44			6	7						13
45-49		1	6	25	8	1				41
50-54			3	17		5	1			26
55-59		1	3	23		3				30
60-64		1	2	25	1		1			30
65-69			2	6						8
70-74			1	2						3
75+			1							1
<b>Total</b>	<b>0</b>	<b>3</b>	<b>36</b>	<b>109</b>	<b>9</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>168</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45	1	1,194
20-24			45-49	2	133
25-29			50-54	11	1,303
30-34	1	876	55-59	17	1,257
35-39	9	409	60-64	40	986
40-44	10	693	65-69	62	1,084
45-49	17	520	70-74	50	850
50-54	11	873	75-79	27	607
55-59	20	424	80-84	7	596
60-64	18	457	85-89	4	1,378
65-69	4	505	90-94		
70-74	3	592	95-99		
75+			100+		
<b>Total</b>	<b>93</b>	<b>542</b>	<b>Total</b>	<b>221</b>	<b>961</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.

September 2016

Yamhill Fire Protection District/2878  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
Yamhill Fire Protection District/2878

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Yamhill Fire Protection District/2878

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Yamhill Fire Protection District -- #2878**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Yamhill Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Yamhill Fire Protection District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Yamhill Fire Protection District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	Police & Fire
<b>Pension</b>			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	0.15%	0.15%	0.15%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>18.13%</b>	<b>9.44%</b>	<b>14.21%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>18.63%</b>	<b>9.87%</b>	<b>14.64%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.86%	16.86%
Minimum 2019-2021 Rate	13.49%	10.12%
Maximum 2019-2021 Rate	20.23%	23.60%



# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$0	\$0	\$0	0%	\$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	0	0	0	0%	31,785	0%
12/31/2013	1	0	(1)	100%	74,622	0%
12/31/2014	4	0	(4)	0%	113,496	0%
12/31/2015	11	0	(11)	100%	94,927	0%

# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Yamhill Fire Protection District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$11)	(\$4)
Allocated pooled OPSRP UAL	13,495	12,975
Side account	0	0
Net unfunded pension actuarial accrued liability	13,484	12,971
Combined valuation payroll	94,927	113,496
Net pension UAL as a percentage of payroll	14%	11%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$461	\$902

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$0	\$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	\$0	\$0
Actuarial asset value	11	4
Tier 1/Tier 2 Unfunded actuarial accrued liability	(11)	(4)
Tier 1/ Tier 2 Funded status	0%	0%
Combined valuation payroll	\$94,927	\$113,496
Tier 1/Tier 2 UAL as a percentage of payroll	0%	0%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	0.15%	0.15%
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	94,927	113,496
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	11	4
3. Benefits in force reserve	0	0
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$11</b>	<b>\$4</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$4
2. Regular employer contributions	125
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	(123)
5. Interest credited	5
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$11</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.



# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$0	\$0	\$0

# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$0</b>	<b>\$0</b>
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
<b>Total Actuarial Accrued Liability</b>	<b>\$0</b>	<b>\$0</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$0	\$0	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$0	\$0
2. Actuarial value of assets	11	4
3. Unfunded accrued liability (1. – 2.)	(11)	(4)
4. Funded percentage (2. ÷ 1.)	100%	100%
5. Combined valuation payroll	\$94,927	\$113,496
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	0%	0%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$1)	\$0	\$0	(\$1)	\$0
December 31, 2015	N/A	N/A	N/A	(\$10)	(\$1)
<b>Total</b>				<b>(\$11)</b>	<b>(\$1)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### **Actuarial Gain or Loss since Prior Valuation**

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$0
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	0
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	0
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	0
2. Actuarial accrued liability at December 31, 2015	0
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	0
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4
b. Contributions for 2015 <sup>1</sup>	125
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	5
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	134
5. Actuarial value of assets at December 31, 2015	11
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(123)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$123)</b>

### **Unfunded Accrued Liability Reconciliation**

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$4)</b>
2. Expected increase	(130)
3. Liability (gain)/loss	0
4. Asset (gain)/loss	123
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$11)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>16.71%</b>	<b>\$0</b>	<b>\$0</b>	<b>17.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$11)	(\$4)
2. Next year's Tier 1/Tier 2 UAL payment	(1)	0
3. Combined valuation payroll	94,927	113,496
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	0.00%	0.00%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	16.86%	17.16%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		14.39%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		14.39%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		2.88%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		100%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		3.00%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	11.39%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	17.39%
7. July 1, 2017 total pension rate, before adjustment		16.86%
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		0.00%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		0.00%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	0.00%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		16.86%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		16.71%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.71%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	16.86%



# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	16.86%	17.16%

# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	94,927	94,927
<b>Combined valuation payroll</b>	<b>\$0</b>	<b>\$94,927</b>	<b>\$94,927</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	3	3	0	0	3	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>
<b>Active Members with previous service segments with the employer</b>								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>0</b>
<b>Dormant Members</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total Number of Members</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49			70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69			90-94		
70-74			95-99		
75+			100+		
<b>Total</b>			<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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September 2016  
Wiard Memorial Park District/2733

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
Wiard Memorial Park District/2733

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

**Wiard Memorial Park District -- #2733**

**September 2016**

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# Executive Summary

Milliman has prepared this report for Wiard Memorial Park District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Wiard Memorial Park District.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### ***Employer Rates Effective July 1, 2017 for Wiard Memorial Park District***

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	11.97%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	66.48%	66.48%	66.48%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>79.72%</b>	<b>75.77%</b>	<b>80.54%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>80.22%</b>	<b>76.20%</b>	<b>80.97%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is -120%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	78.45%	78.45%
Minimum 2019-2021 Rate	62.76%	47.07%
Maximum 2019-2021 Rate	94.14%	109.83%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$66,578	\$318,856	\$252,278	21%	\$0	0%
12/31/2011	41,873	312,467	270,594	13%	0	0%
12/31/2012	23,846	290,571	266,725	8%	0	0%
12/31/2013	31,577	327,757	296,180	10%	0	0%
12/31/2014	(1,544)	354,440	355,984	0%	0	0%
12/31/2015	(184,910)	154,045	338,955	(120%)	39,386	861%



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### ***Wiard Memorial Park District***

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	\$338,955	\$355,984
Allocated pooled OPSRP UAL	5,599	0
Side account	0	0
Net unfunded pension actuarial accrued liability	344,554	355,984
Combined valuation payroll	39,386	0
Net pension UAL as a percentage of payroll	875%	0%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$191	\$0

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$2,589	\$0
Tier 1/Tier 2 valuation payroll	21,629	0
Tier 1/Tier 2 pension normal cost rate	11.97%	5.85%
Tier 1/ Tier 2 Actuarial accrued liability	\$154,045	\$354,440
Actuarial asset value	(184,910)	(1,544)
Tier 1/Tier 2 Unfunded actuarial accrued liability	338,955	355,984
Tier 1/ Tier 2 Funded status	(120%)	0%
Combined valuation payroll	\$39,386	\$0
Tier 1/Tier 2 UAL as a percentage of payroll	861%	0%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	66.48%	0.15%
Tier 1/Tier 2 active members <sup>1</sup>	0	0
Tier 1/Tier 2 dormant members	2	0
Tier 1/Tier 2 retirees and beneficiaries	0	1

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	39,386	0
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$0	\$0
2. Employer reserves	(184,910)	(184,247)
3. Benefits in force reserve	0	182,703
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>(\$184,910)</b>	<b>(\$1,544)</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	(\$1,544)
2. Regular employer contributions	2,963
3. Benefit payments and expense	0
4. Adjustments <sup>1</sup>	(182,944)
5. Interest credited	(3,385)
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>(\$184,910)</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	2,589	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
<b>Total</b>	<b>\$2,589</b>	<b>\$0</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$2,589	\$2,589	\$0



# Tier 1/Tier 2 Valuation Results

## Liabilities

### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

### *Summary of Actuarial Accrued Liability by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	33,519	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ <b>Total Active Members</b>	<b>\$33,519</b>	<b>\$0</b>
Dormant Members	120,526	0
Retired Members and Beneficiaries	0	354,440
<b>Total Actuarial Accrued Liability</b>	<b>\$154,045</b>	<b>\$354,440</b>

### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$154,045	\$154,045	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$154,045	\$354,440
2. Actuarial value of assets	(184,910)	(1,544)
3. Unfunded accrued liability (1. – 2.)	338,955	355,984
4. Funded percentage (2. ÷ 1.)	(120%)	0%
5. Combined valuation payroll	\$39,386	\$0
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	861%	0%

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	\$296,812	\$22,233	\$21,373	\$295,952	\$23,012
December 31, 2015	N/A	N/A	N/A	\$43,003	\$3,112
<b>Total</b>				<b>\$338,955</b>	<b>\$26,124</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$354,440
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	26,583
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	381,023
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	381,023
2. Actuarial accrued liability at December 31, 2015	154,045
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	226,978
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	(1,544)
b. Contributions for 2015 <sup>1</sup>	2,963
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	(5)
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	1,414
5. Actuarial value of assets at December 31, 2015	(184,910)
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(186,324)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>\$40,654</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>\$355,984</b>
2. Expected increase	23,625
3. Liability (gain)/loss	(226,978)
4. Asset (gain)/loss	186,324
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>\$338,955</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	2,589	21,629	11.97%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
<b>Total</b>	<b>\$2,589</b>	<b>\$21,629</b>	<b>11.97%</b>	<b>\$0</b>	<b>\$0</b>	<b>17.01%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	\$338,955	\$355,984
2. Next year's Tier 1/Tier 2 UAL payment	26,124	26,515
3. Combined valuation payroll	39,386	0
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	66.33%	0.00%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.97%	N/A
b. Tier 1/Tier 2 UAL rate	66.33%	N/A
c. Multnomah Fire District #10 rate	0.15%	N/A
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	78.45%	N/A

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		78.45%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		78.45%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		N/A
b. Preliminary size of rate collar (maximum of 3% or a.)		N/A
c. Funded percentage		N/A
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		N/A
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	N/A
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	N/A
7. July 1, 2017 total pension rate, before adjustment		N/A
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		N/A
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		N/A
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	N/A
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		N/A
12. Tier 1/Tier 2 retiree healthcare rate		N/A
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		N/A
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		N/A
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		N/A
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	N/A

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.97%	N/A
b. Tier 1/Tier 2 UAL rate	66.33%	N/A
c. Multnomah Fire District #10 rate	0.15%	N/A
d. Total Tier 1/Tier 2 pension rate <i>(a. + b. + c., minimum of 5.50%)</i>	78.45%	N/A



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$21,629	\$0	\$21,629
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	21,629	0	21,629
OPSRP valuation payroll	17,757	0	17,757
<b>Combined valuation payroll</b>	<b>\$39,386</b>	<b>\$0</b>	<b>\$39,386</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	0	0	2	2	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	0	0
<b>Active Members with previous service segments with the employer</b>								
General Service	1	0	N/A	1	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	0	N/A	1	0	0	N/A	0
<b>Dormant Members</b>								
General Service	2	0	1	3	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	1	3	0	0	0	0
<b>Retired Members and Beneficiaries</b>								
General Service	0	0	0	0	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1
<b>Grand Total Number of Members</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59		
35-39			60-64		
40-44			65-69		
45-49	1	0	70-74		
50-54			75-79		
55-59			80-84		
60-64			85-89		
65-69	1	899	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>2</b>	<b>449</b>	<b>Total</b>		

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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.



September 2016

City of Willamina/2189  
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, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. 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 report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs 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](mailto: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,
- Detailed development of Tier 1/Tier 2 valuation results,
- 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/section/financial\\_reports/financials.aspx](http://www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx).



September 2016  
City of Willamina/2189

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 September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 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.



September 2016  
City of Willamina/2189

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, 2015**

## **OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**INDEPENDENT EMPLOYERS**

City of Willamina -- #2189

September 2016

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# Executive Summary

Milliman has prepared this report for City of Willamina to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, 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 OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Willamina.

## Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

### *Employer Rates Effective July 1, 2017 for City of Willamina*

	Payroll		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
<b>Pension</b>			
Normal cost rate	16.47%	8.02%	12.79%
Tier 1/Tier 2 UAL rate <sup>1</sup>	(10.97%)	(10.97%)	(10.97%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
<b>Net pension contribution rate</b>	<b>6.77%</b>	<b>0.00%</b>	<b>3.09%</b>
<b>Retiree Healthcare</b>			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
<b>Net retiree healthcare rate</b>	<b>0.50%</b>	<b>0.43%</b>	<b>0.43%</b>
<b>Total net employer contribution rate</b>	<b>7.27%</b>	<b>0.43%</b>	<b>3.52%</b>

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.

<sup>1</sup> Includes Multnomah Fire District #10 rate.

# 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, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer'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. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 139%.

<b>Funded Status as of December 31, 2017</b>	<b>70% to 130%</b>	<b>Under 60% or Over 140%</b>
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	5.50%	5.50%
Minimum 2019-2021 Rate	2.50%	0.00%
Maximum 2019-2021 Rate	8.50%	11.50%

# 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.

## Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	\$2,130,802	\$1,190,844	(\$939,958)	179%	\$289,477	(325%)
12/31/2011	2,108,150	1,299,674	(808,476)	162%	315,834	(256%)
12/31/2012	2,290,038	1,461,888	(828,150)	157%	304,738	(272%)
12/31/2013	2,532,731	1,515,499	(1,017,232)	167%	267,216	(381%)
12/31/2014	2,632,412	1,775,684	(856,728)	148%	286,949	(299%)
12/31/2015	2,582,736	1,854,422	(728,314)	139%	319,766	(228%)



# Executive Summary

## Accounting Information (continued)

### *Retiree Healthcare*

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this 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 & 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.

### *City of Willamina*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	(\$728,314)	(\$856,728)
Allocated pooled OPSRP UAL	45,459	32,805
Side account	0	0
Net unfunded pension actuarial accrued liability	(682,855)	(823,923)
Combined valuation payroll	319,766	286,949
Net pension UAL as a percentage of payroll	(214%)	(287%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	\$1,553	\$2,281

*In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer’s combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.*

# Executive Summary

## Principal Valuation Results (continued)

### *Tier 1/Tier 2*

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	\$12,328	\$13,075
Tier 1/Tier 2 valuation payroll	112,428	122,426
Tier 1/Tier 2 pension normal cost rate	16.47%	16.18%
Tier 1/ Tier 2 Actuarial accrued liability	\$1,854,422	\$1,775,684
Actuarial asset value	2,582,736	2,632,412
Tier 1/Tier 2 Unfunded actuarial accrued liability	(728,314)	(856,728)
Tier 1/ Tier 2 Funded status	139%	148%
Combined valuation payroll	\$319,766	\$286,949
Tier 1/Tier 2 UAL as a percentage of payroll	(228%)	(299%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(10.97%)	(10.68%)
Tier 1/Tier 2 active members <sup>1</sup>	3	4
Tier 1/Tier 2 dormant members	3	5
Tier 1/Tier 2 retirees and beneficiaries	15	12

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Executive Summary

## Principal Valuation Results (continued)

### OPSRP

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	\$342.2	\$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	\$69.9	\$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	\$3,742.5	\$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

### Retiree Healthcare

(\$ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
<b>RHIA</b>		
Normal cost	\$3.3	\$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	\$465.6	\$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	\$9,544.1	\$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	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
<b>1. Side account as of December 31, 2014</b>	<b>N/A</b>		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
<b>6. Side account as of December 31, 2015</b> <b>(1. + 2. + 3. + 4. + 5.)</b>			

# Side Account Information

## Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	\$0	\$0
Side account 2	0	0
Side account 3	0	0
<b>Total</b>	<b>\$0</b>	<b>\$0</b>

## 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, 2015	December 31, 2014
1. Total side account	\$0	\$0
2. Combined valuation payroll	319,766	286,949
3. Average Amortization factor	9.504	10.118
<b>4. Total side account rate (-1. ÷ 2. ÷ 3.)<sup>1</sup></b>	<b>0.00%</b>	<b>0.00%</b>

<sup>1</sup> 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.

# Tier 1/Tier 2 Valuation Results

## Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

### Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	\$187,387	\$191,874
2. Employer reserves	1,886,453	1,943,291
3. Benefits in force reserve	508,896	497,247
<b>4. Total market value of assets (1. + 2. + 3.)</b>	<b>\$2,582,736</b>	<b>\$2,632,412</b>

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

### Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	\$2,632,412
2. Regular employer contributions	(8,537)
3. Benefit payments and expense	(92,543)
4. Adjustments <sup>1</sup>	(3,458)
5. Interest credited	54,862
6. Total transferred from side accounts	0
<b>7. Market value of assets at end of year (1. + 2. + 3. + 4. + 5. + 6.)</b>	<b>\$2,582,736</b>

<sup>1</sup> Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.

# Tier 1/Tier 2 Valuation Results

## Liabilities

### *Normal Cost*

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

### *Summary of Normal Cost by Tier/Member Classification*

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	\$0	\$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	12,328	13,075
<b>Total</b>	<b>\$12,328</b>	<b>\$13,075</b>

### *Change in Tier 1/Tier 2 Normal Cost*

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	\$12,328	\$12,328	\$0



## Tier 1/Tier 2 Valuation Results

### Liabilities

#### ***Actuarial Accrued Liability***

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

#### ***Summary of Actuarial Accrued Liability by Tier/Member Classification***

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	\$0	\$0
▪ Tier 1 General Service	207,825	220,954
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	386,222	326,368
▪ <b>Total Active Members</b>	<b>\$594,047</b>	<b>\$547,322</b>
Dormant Members	161,572	263,715
Retired Members and Beneficiaries	1,098,803	964,647
<b>Total Actuarial Accrued Liability</b>	<b>\$1,854,422</b>	<b>\$1,775,684</b>

#### ***Change in Tier 1/Tier 2 Actuarial Accrued Liability***

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	\$1,854,422	\$1,854,422	\$0

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	\$1,854,422	\$1,775,684
2. Actuarial value of assets	2,582,736	2,632,412
3. Unfunded accrued liability (1. – 2.)	(728,314)	(856,728)
4. Funded percentage (2. ÷ 1.)	139%	148%
5. Combined valuation payroll	\$319,766	\$286,949
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	(228%)	(299%)

### Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	(\$1,019,403)	(\$76,360)	(\$73,405)	(\$1,016,448)	(\$79,033)
December 31, 2015	N/A	N/A	N/A	\$288,134	\$20,849
<b>Total</b>				<b>(\$728,314)</b>	<b>(\$58,184)</b>

# Tier 1/Tier 2 Valuation Results

## Unfunded Accrued Liability (UAL)

### ***Actuarial Gain or Loss since Prior Valuation***

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	\$1,775,684
b. Normal cost at December 31, 2014 (excluding assumed expenses)	12,508
c. Benefit payments during 2015	(91,829)
d. Interest at 7.50% to December 31, 2015	130,202
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	1,826,565
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 (e. + f.)	1,826,565
2. Actuarial accrued liability at December 31, 2015	1,854,422
3. Gain/(loss) on actuarial accrued liability (1.g. - 2.)	(27,857)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,632,412
b. Contributions for 2015 <sup>1</sup>	(8,537)
c. Benefit payments and expenses during 2015	(92,543)
d. Interest at 7.50% to December 31, 2015	193,640
e. Expected actuarial value of assets at December 31, 2015 (a. + b. + c. + d.)	2,724,972
5. Actuarial value of assets at December 31, 2015	2,582,736
6. Gain/(loss) on actuarial value of assets (5. - 4.e.)	(142,236)
<b>7. Total actuarial gain/(loss) (3. + 6.)</b>	<b>(\$170,093)</b>

### ***Unfunded Accrued Liability Reconciliation***

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

<b>1. UAL at December 31, 2014</b>	<b>(\$856,728)</b>
2. Expected increase	(41,679)
3. Liability (gain)/loss	27,857
4. Asset (gain)/loss	142,236
5. Change due to changes in assumptions, methods, and plan provisions	0
<b>6. UAL at December 31, 2015 (1. + 2. + 3. + 4. + 5.)</b>	<b>(\$728,314)</b>

<sup>1</sup> Includes rate relief from side accounts.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Normal Cost Rate*

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

### *Development of Tier 1/Tier 2 Normal Cost Rate*

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	\$0	\$0	0.00%	\$0	\$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	12,328	112,428	10.97%	13,075	122,426	10.68%
<b>Total</b>	<b>\$12,328</b>	<b>\$112,428</b>	<b>10.97%</b>	<b>\$13,075</b>	<b>\$122,426</b>	<b>10.68%</b>

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### *Development of Tier 1/Tier 2 UAL Rates*

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	(\$728,314)	(\$856,728)
2. Next year's Tier 1/Tier 2 UAL payment	(58,184)	(64,589)
3. Combined valuation payroll	319,766	286,949
4. Tier 1/Tier 2 UAL rate (2. ÷ 3.)	(18.20%)	(22.51%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)***

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.97%	10.68%
b. Tier 1/Tier 2 UAL rate	(18.20%)	(22.51%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate (a. + b. + c.)	(7.08%)	(11.68%)

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### **Adjustments Due to Rate Collar and Minimum Rate Requirements**

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		5.47%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate (1. – 2.)		5.47%
4. Size of rate collar		
a. 20% of current employer contribution rate (20% x 3.)		1.09%
b. Preliminary size of rate collar (maximum of 3% or a.)		3.00%
c. Funded percentage		139%
d. Size of rate collar (If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)		5.70%
5. July 1, 2017 minimum employer contribution rate	(3. – 4.d. but not < 0%)	0.00%
6. July 1, 2017 maximum employer contribution rate	(3. + 4.d.)	11.17%
7. July 1, 2017 total pension rate, before adjustment		(7.08%)
8. Net adjustment due to rate collar (5. – 7., but not < 0, or 6. – 7., but not > 0)		7.08%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(18.20%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	(8. + 9.)	(11.12%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		0.00%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum (6% - 11. - 12., minimum 0%)		5.50%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		10.97%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment (13. + 14.)		16.47%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	(11. + 13.)	5.50%

# Tier 1/Tier 2 Valuation Results

## Contribution Rate Development

### ***Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)***

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	<b>July 1, 2017 Rates calculated as of December 31, 2015</b>	<b>Advisory July 1, 2017 Rates calculated as of December 31, 2014</b>
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.47%	16.18%
b. Tier 1/Tier 2 UAL rate	(11.12%)	(10.83%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	5.50%	5.50%
<i>(a. + b. + c., minimum of 5.50%)</i>		



# Data

## Demographic Information

### *Employer Valuation Payroll*

	General Service	Police & Fire	Total
Tier 1	\$0	\$0	\$0
Tier 2	112,428	0	112,428
Tier 1/Tier 2 valuation payroll	112,428	0	112,428
OPSRP valuation payroll	207,338	0	207,338
<b>Combined valuation payroll</b>	<b>\$319,766</b>	<b>\$0</b>	<b>\$319,766</b>

### *Employer Member Census*

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
<b>Active Members <sup>1</sup></b>								
General Service	1	2	5	8	1	3	4	8
Police & Fire	0	0	0	0	0	0	0	0
Total	1	2	5	8	1	3	4	8
<b>Active Members with previous service segments with the employer</b>								
General Service	2	2	N/A	4	3	1	N/A	4
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	2	2	N/A	4	3	1	N/A	4
<b>Dormant Members</b>								
General Service	1	2	0	3	2	3	0	5
Police & Fire	0	0	0	0	0	0	0	0
Total	1	2	0	3	2	3	0	5
<b>Retired Members and Beneficiaries</b>								
General Service	7	1	0	8	5	0	0	5
Police & Fire	7	0	0	7	7	0	0	7
Total	14	1	0	15	12	0	0	12
<b>Grand Total Number of Members</b>	<b>18</b>	<b>7</b>	<b>5</b>	<b>30</b>	<b>18</b>	<b>7</b>	<b>4</b>	<b>29</b>

<sup>1</sup> Active counts do not include concurrent employees who have a separate dominant employer.

# Data

## Demographic Information (continued)

### *Employer Tier 1/Tier 2 Active Members as of December 31, 2015*

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<20										
20-24										
25-29										
30-34			1							1
35-39										
40-44										
45-49				1						1
50-54										
55-59										
60-64										
65-69										
70-74					1					1
75+										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

### *Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015*

Dormant Members			Retired Members and Beneficiaries		
Age	Count	Average Deferred Monthly Benefit	Age	Count	Average Monthly Benefit
<20			<45		
20-24			45-49		
25-29			50-54		
30-34			55-59	4	345
35-39			60-64	5	257
40-44			65-69	2	1,415
45-49	1	232	70-74	3	254
50-54			75-79	1	165
55-59			80-84		
60-64	1	844	85-89		
65-69	1	65	90-94		
70-74			95-99		
75+			100+		
<b>Total</b>	<b>3</b>	<b>380</b>	<b>Total</b>	<b>15</b>	<b>428</b>

# Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 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>	7.50% compounded annually on system assets.
<i>Interest crediting</i>	<p>7.50% compounded annually on members' regular account balances.</p> <p>7.50% compounded annually on members' variable account balances.</p>
<i>Consumer price inflation</i>	2.50% per year.
<i>Future general wage inflation</i>	3.50% per year.
<i>Healthcare cost inflation</i>	Ranging from 6.3% in 2016 to 4.4% in 2094.
<i>Administrative Expenses</i>	<p>\$5.5 million added to OPSRP normal cost.</p> <p>\$33.0 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, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

### *Changes in Actuarial Methods and Allocation Procedures*

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

### *Changes in Assumptions*

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

## Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 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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