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# OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

## TIER 1/TIER 2 AND OPSRP PENSION BENEFITS RHIA/RHIPA RETIREE MEDICAL BENEFITS

**December 31, 2013 Actuarial Valuation**

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September 29, 2014

Retirement Board  
Oregon Public Employees Retirement System

Dear Members of the Board,

As part of our engagement with the Board, we performed an actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2013. Our findings are set forth in this actuarial valuation report. This report reflects the benefit provisions in effect as of December 31, 2013, including the 2013 legislative changes discussed within the report.

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.

This 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 the 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 herein in September 2013.



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Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2015 to June 2017 for System employers. Other actuarial computations presented in this report under GASB Statements No. 43 and 45 are for purposes of assisting the System and participating 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 as summarized in this report, and of GASB Statements No. 43 and 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.

Milliman's work is prepared solely for the use and benefit of the Oregon Public Employees Retirement System.

Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. No third party recipient of Milliman's work product should rely upon this report. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

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

The signing actuaries are independent of the plan sponsor. 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.

Sincerely,



Matthew R. Larrabee, FSA, EA, MAAA  
Principal and Consulting Actuary



Scott D. Preppernau, FSA, EA, MAAA  
Consulting Actuary

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# Executive Summary

## Executive Summary

Milliman has prepared this report for the Oregon Public Employees Retirement System to:

- Present Milliman's actuarial estimates of the system-wide liabilities and expenses of the Oregon Public Employees Retirement System (PERS), including pension benefits provided through Tier 1/Tier 2 and the Oregon Public Service Retirement Plan (OPSRP), and retiree medical benefits provided through the Retiree Health Insurance Account (RHIA) and the Retiree Health Insurance Premium Account (RHIPA), as of December 31, 2013 for PERS to incorporate, as PERS deems appropriate, in its financial statements; and
- Provide information on system-wide average employer contribution rates and employer contribution rates for the School District rate pool and the State and Local Government Rate Pool (SLGRP) for the period beginning July 1, 2015.

This valuation does not cover the Individual Account Program (IAP). Except where otherwise explicitly noted, contribution rates in this valuation do not include contributions to the IAP. In addition, the valuation does not include an allowance for employer debt service payments on pension obligation bonds.

### Projected Benefit Payments and the Fundamental Cost Equation

The actuarial liabilities contained in this report are calculated from a projection of benefit payments. This projection reflects the current plan provisions, assumptions, and demographic information documented herein. The stream of projected future benefit payments is converted to a net present value as of the valuation date based on the valuation discount rate, which currently is 7.75%. The total net present value is then assigned to past, present, and future service according to the actuarial cost method. The portion assigned to the past is called the **actuarial accrued liability**<sup>1</sup>, while the portion assigned to the current year is referred to as the **normal cost**.

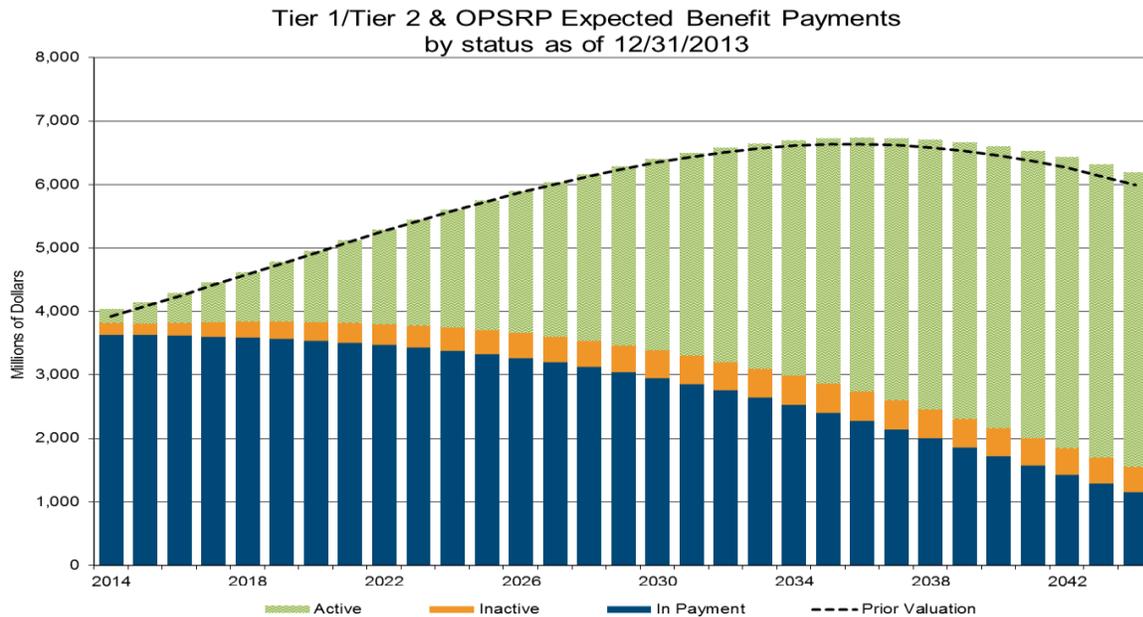
Actuarial valuations provide a tool for measuring a System's progress towards funding its benefit obligations and adjusting budgeted contributions as needed to reflect changing circumstances. However, assumptions regarding plan investment returns and participant experience do not affect the long-term cost of the program, which is governed by the following **fundamental cost equation**:

$$\text{Benefits} + \text{Expenses} = \text{Contributions} + \text{Investment Earnings}$$

From a plan funding perspective, contributions are the balancing item in the equation. To the extent plan investment earnings underperform compared to assumption, contributions must increase to fund the same level of benefits; if investments outperform the assumption, contributions can decrease.

The graph below illustrates projected benefit payments from the System calculated in both the current and prior valuation, organized by member status as of the actuarial valuation date. The graph includes the estimated effects on projected benefits of anticipated future service by current active members, including the assumed effects of future salary increases. The graph does not include expected benefit payments for members hired after the valuation date. The dotted line illustrates the shape of the graph from the prior valuation. The similarity of the shapes between current and prior valuations is evidence of the level of predictability in projected benefits. The only visually notable difference between the graphs are in the latter years of the graph, with those differences primarily caused by projected benefits for members that entered PERS as new hires between the prior and current valuation dates.

<sup>1</sup> *Bolded terms from the Executive Summary are defined in the report glossary.*



## Employer Contribution Rates

### *Pension Contribution Rates*

This report presents system average employer contribution rates calculated as of December 31, 2013. When adopted by the PERS Board, the employer contribution rates presented will be first effective on July 1, 2015. The December 31, 2011 valuation presented the employer contribution rates that were scheduled to be in effect from July 1, 2013 through June 30, 2015. The rates from that valuation were further modified by Senate Bill 822 passed by the Oregon Legislature in May 2013. Senate Bill 861, passed by the Oregon Legislature in October 2013, further lowered projected benefit levels but did not make any additional modifications to rates effective in the 2013-2015 biennium beyond those already made by Senate Bill 822.

Employer pension contribution rates consist of a normal cost rate and a rate to amortize the Unfunded Accrued Liability (UAL). Normal cost rates are calculated and charged separately to the Tier 1/Tier 2, OPSRP general service and OPSRP police and fire payrolls. UAL rates are calculated separately for Tier 1/Tier 2 and OPSRP, but each UAL rate so developed is then charged across all payrolls. Rates for individual employers are adjusted if the employer maintains a side account or has a **pre-SLGRP liability or surplus**. The table below compares the average employer contribution rates for each type of payroll calculated for this valuation compared to the rates in effect from July 1, 2013 through June 30, 2015. The estimated system average effect of Senate Bill 822 is also shown in the table for the 2013 – 2015 biennium.

Pension Contribution Rates (Excludes IAP)						
Payroll	Effective July 1, 2015			Effective July 1, 2013		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
Normal Cost Rate	13.18%	7.33%	11.44%	9.00%	6.27%	9.00%
Tier 1/Tier 2 UAL Rate <sup>1</sup>	5.91%	5.91%	5.91%	12.47%	12.47%	12.47%
OPSRP UAL Rate	0.61%	0.61%	0.61%	0.15%	0.15%	0.15%
<b>Total Pension Rate</b>	<b>19.70%</b>	<b>13.85%</b>	<b>17.96%</b>	<b>21.62%</b>	<b>18.89%</b>	<b>21.62%</b>
Senate Bill 822 Adjustment	N/A	N/A	N/A	(4.28%)	(4.28%)	(4.28%)
<b>Total Pension Rate (Post-SB 822)</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>17.34%</b>	<b>14.61%</b>	<b>17.34%</b>
Average Adjustment <sup>2</sup>	(6.85%)	(6.85%)	(6.85%)	(5.70%)	(5.70%)	(5.70%)
<b>Net Pension Rate (Post-SB 822)</b>	<b>12.85%</b>	<b>7.00%</b>	<b>11.11%</b>	<b>11.64%</b>	<b>8.91%</b>	<b>11.64%</b>

1. Includes Multnomah Fire District #10

2. Adjustments shown are for side accounts and pre-SLGRP liabilities and are shown on system-wide average basis. For this purpose, adjustments are not assumed to be limited when an individual employer reaches a 0% contribution rate.

Normal cost rates calculated in this valuation increased compared to the contribution rates calculated in the December 31, 2011 valuation, which produced rates effective July 1, 2013. This is primarily due to a change in actuarial cost method and a resulting difference in the allocation of Money Match benefits between past and future service.

Tier 1/Tier 2 UAL rates decreased in this valuation compared to the prior rate-setting valuation due to legislative changes to future COLA amounts and investment returns above assumption during 2012 and 2013. OPSRP UAL rates increased because the change in actuarial cost method worked to increase the actuarial accrued liability calculated for OPSRP.

Pension contribution rates differ for each Tier 1/Tier 2 rate pool. This report calculates the specific rates for each rate pool. Tier 1/Tier 2 rates for independent employers (employers that do not participate in a Tier 1/Tier 2 rate pool) are calculated in separate reports for each employer. Changes from biennium to biennium in pension contribution rates for each rate pool (or independent employer) are confined to a **rate collar** depending on **funded status**. The table below shows the employer pension contribution rates for each Tier 1/Tier 2 rate pool calculated in this valuation compared to the rates in effect as of July 1, 2013 and the average adjustment to that rate for side account rate offsets and pre-SLGRP and transition liability charges and credits.

Tier 1/Tier 2 Pension Contribution Rates (Excludes IAP)				
	Effective July 1, 2015		Effective July 1, 2013	
	SLGRP	School Districts	SLGRP	School Districts
Normal Cost Rate	13.66%	11.94%	9.15%	8.17%
Tier 1/Tier 2 UAL Rate <sup>1</sup>	4.57%	9.25%	10.42%	17.78%
<b>Total Pension Rate</b>	<b>18.23%</b>	<b>21.19%</b>	<b>19.57%</b>	<b>25.95%</b>
Senate Bill 822 Adjustment	N/A	N/A	(4.38%)	(4.40%)
<b>Total Pension Rate (Post-SB 822)</b>	<b>N/A</b>	<b>N/A</b>	<b>15.19%</b>	<b>21.55%</b>
Average Adjustment <sup>2</sup>	(5.79%)	(10.62%)	(5.02%)	(8.35%)
<b>Net Pension Rate (Post-SB 822)</b>	<b>12.44%</b>	<b>10.57%</b>	<b>10.17%</b>	<b>13.20%</b>

1. Includes Multnomah Fire District #10

2. Adjustments shown are for side accounts and pre-SLGRP liabilities and are shown on a system-wide average basis. For this purpose, adjustments are not assumed to be limited when an individual employer reaches a 0% contribution rate.

The Tier 1/Tier 2 contribution rates shown here are after reflecting the effects of the rate collar. Due to the significant investment losses first recognized in contribution rates in the December 31, 2009 actuarial valuation, the rate collar had deferred a significant portion of the rate increase calculated in the two previous rate-setting valuations. In this December 31, 2013 valuation, the SLGRP has a calculated contribution rate, prior to application of the rate collar, which still exceeds the maximum rate allowed by the collar. By contrast, the contribution rate calculated for the School District pool is no longer limited by the collar. The impact of the adjustment for each group is shown below. The contribution rate increase deferred for the SLGRP will be reflected in future rate-setting periods. In other words, if all assumptions are met, in addition to the increases effective for the July 1, 2015 to June 30, 2017 biennium presented in this report, we would expect additional increases for SLGRP employers in the July 1, 2017 to June 30, 2019 biennium.

Collar Impact on Tier 1/Tier 2 Pension Contribution Rates		
Effective July 1, 2015		
	SLGRP	School Districts
<b>Total Pension Rate Before Collar</b>	19.37%	21.19%
Collar Adjustment	(1.14%)	0.00%
<b>Total Pension Rate After Collar</b>	<b>18.23%</b>	<b>21.19%</b>
Average Adjustment	(5.79%)	(10.62%)
<b>Net Pension Rate</b>	<b>12.44%</b>	<b>10.57%</b>

*Retiree Healthcare Contribution Rates*

In addition to the pension contribution rates, all employers also contribute to the Retirement Health Insurance Account (RHIA). Further, State Agencies and State Judiciary contribute to the Retiree Health Insurance Premium Account (RHIPA). Only Tier 1 and Tier 2 members are eligible for these benefits, so the normal cost

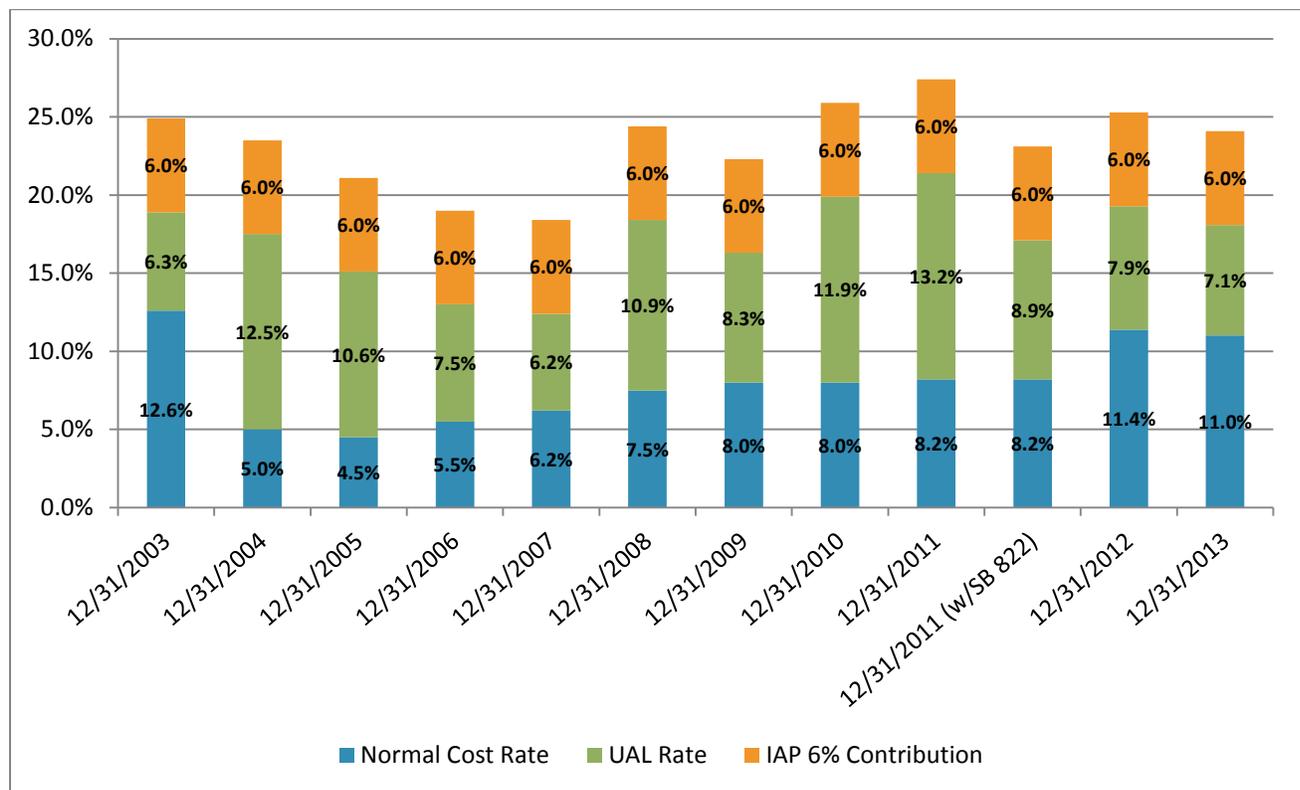
rates are only charged to Tier 1/Tier 2 payroll, but the UAL rates are charged to all payrolls. For each type of payroll used in this valuation the table below compares the employer contribution rates calculated in this valuation to the rates in effect from July 1, 2013 through June 30, 2015. The funded status for both retiree healthcare programs is lower than those of the defined benefit pension programs. In response to this, the UAL on the retiree healthcare programs is amortized over a ten-year period, which is shorter than the pension program amortization periods, in an effort to more rapidly improve funded status.

Retiree Healthcare Contribution Rates						
Payroll	Effective July 1, 2015			Effective July 1, 2013		
	Tier 1/Tier 2	OPSRP General	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General	OPSRP Police & Fire
RHIA Normal Cost Rate	0.08%	0.00%	0.00%	0.10%	0.00%	0.00%
RHIA UAL Rate	0.45%	0.45%	0.45%	0.49%	0.49%	0.49%
<b>Total RHIA rate</b>	<b>0.53%</b>	<b>0.45%</b>	<b>0.45%</b>	<b>0.59%</b>	<b>0.49%</b>	<b>0.49%</b>
RHIPA Normal Cost Rate	0.09%	0.00%	0.00%	0.07%	0.00%	0.00%
RHIPA UAL Rate	0.35%	0.35%	0.35%	0.20%	0.20%	0.20%
<b>Total RHIPA rate</b>	<b>0.44%</b>	<b>0.35%</b>	<b>0.35%</b>	<b>0.27%</b>	<b>0.20%</b>	<b>0.20%</b>

*Combined Pension and Retiree Healthcare Contribution Rates*

The system-wide average combined pension and retiree healthcare contribution rates are shown below for each valuation since December 31, 2003. As shown below, the average normal cost rate declined dramatically after the 2003 valuation, primarily due to the change in the actuarial cost method from EAN to PUC made in the December 31, 2004 valuation. The PUC method allocates benefits projected to be paid under the Money Match formula to past service with a 0% normal cost allocation to current year service. As additional long-service Tier 1 members retired under the Money Match formula, the normal cost rate gradually increased over the subsequent valuations. The change back to the EAN method in the December 31, 2012 valuation accelerated the increase in the normal cost rate to a full career level, reflecting the current weightings of Tier 1, Tier 2, and OPSRP payrolls. It is now expected to drift down gradually in the future toward the OPSRP normal cost rate (currently 7.79%) as new OPSRP members replace retiring Tier 1 and Tier 2 members. The UAL rate has decreased since the prior rate-setting valuation at December 31, 2011, as modified by Senate Bill 822, due both to legislative changes to future COLA amounts and investment returns above assumption during 2012 and 2013. This decrease was partially offset by increases calculated in the prior rate-setting valuation before application of the rate collar which were deferred to subsequent biennia by the rate collar contribution stabilization method.

**System-Wide Average Contribution Rates – Combined Pension and Retiree Healthcare**



For an individual employer, base pension rates are adjusted for side accounts rate offsets to develop net pension rates paid by the employer. Side accounts are the result of employer supplemental deposits, typically financed through a pension obligation bond. When a supplemental deposit is made, a side account is established (after any transition liabilities related to joining the SLGRP have been paid) and used to offset the otherwise required contribution. As of December 31, 2013, the system has approximately \$5.9 billion in unamortized side accounts, an increase of about \$0.4 billion in the last year. Side accounts now reduce the

average employer contribution effective rate July 2015 by 6.38% of payroll, but there is wide variation between employers.

For individual employers in the SLGRP, the rates shown above are also adjusted for amortization payments on pre-SLGRP liabilities. The average adjustment to individual employer rates due to side accounts and pre-SLGRP liabilities is shown on a combined basis in the table on page 3.

*Limits on Future Pension Contribution Rates*

The minimum and maximum rates that can be effective July 1, 2017 for each Tier 1/Tier 2 rate pool (prior to adjustments) are shown in the table below. The limits are calculated and applied on an individual employer basis for independent employers. The contribution rates for individual employers are adjusted from the rates of the pool to reflect side account rate offsets, charges or credits for pre-SLGRP liabilities, and adjustments to the normal cost rates of SLGRP employers to reflect the employer’s ratio of general service to police and fire payroll. These adjustments are not limited by the rate collar.

The size of the rate collar depends on the funded status of a rate pool or employer. When funded status is less than 60 percent or above 140 percent, the size of the rate collar is twice the size of the “single collar” that applies when funded status is between 70 percent and 130 percent. The rate collar provides a graded schedule between the single and double rate collars if the funded status, excluding side accounts, is between 60% and 70% or 130% and 140%.

<b>Limits on Future Pension Contribution Rates</b>		
<b>Effective July 1, 2017</b>		
	<b>Tier 1/Tier 2</b>	
	<b>SLGRP</b>	<b>School Districts</b>
<b>Between 70% and 130% Funded</b>		
Minimum Rate	14.58%	16.95%
Maximum Rate	21.88%	25.43%
<b>Less than 60% or Greater than 140% Funded</b>		
Minimum Rate	10.93%	12.71%
Maximum Rate	25.53%	29.67%

*For Rate Pools funded between 60% and 70% or between 130% and 140% the limits vary linearly between the rates shown above.*

**Funded Status**

The table below shows the funded status of the various pension rate pools both on the basis used to calculate the contribution rate for each rate pool and after adjustment for side accounts (assuming side accounts offset Tier 1/Tier 2 liabilities). For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	SLGRP	School Districts	Independent Employers	OPSRP	Pension System Totals <sup>1</sup>
<b>December 31, 2013</b>					
Actuarial accrued liability	\$ 31,738.8	\$ 23,392.6	\$ 5,164.3	\$ 2,243.3	\$ 62,593.6
Actuarial value of assets	\$ 27,855.3	\$ 19,967.8	\$ 4,757.2	\$ 1,630.2	\$ 54,090.1
<b>Funded status</b>	<b>87.8%</b>	<b>85.4%</b>	<b>92.1%</b>	<b>72.7%</b>	<b>86.4%</b>
Side accounts	\$ 2,734.9	\$ 3,095.4	\$ 93.8	\$ -	\$ 5,924.0
<b>Funded status reflecting side accounts</b>	<b>96.4%</b>	<b>98.6%</b>	<b>93.9%</b>	<b>72.7%</b>	<b>95.9%</b>
<b>December 31, 2012</b>					
Actuarial accrued liability	\$ 30,601.9	\$ 22,908.0	\$ 5,043.4	\$ 1,795.6	\$ 60,405.2
Actuarial value of assets	\$ 25,464.1	\$ 18,329.6	\$ 4,392.0	\$ 1,190.0	\$ 49,265.9
<b>Funded status</b>	<b>83.2%</b>	<b>80.0%</b>	<b>87.1%</b>	<b>66.3%</b>	<b>81.6%</b>
Side accounts	\$ 2,558.3	\$ 2,872.5	\$ 87.4	\$ -	\$ 5,518.2
<b>Funded status reflecting side accounts</b>	<b>91.6%</b>	<b>92.6%</b>	<b>88.8%</b>	<b>66.3%</b>	<b>90.7%</b>
<i>Amounts in millions</i>					

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

As shown in the graph below, the funded status of the system generally improved until the market decline of 2000-2002. The restatement of the December 31, 2001 actuarial valuation to reflect the impact of the 2003 reforms mitigates the impact on the reported funded status of the market downturn. Funded status generally improved for several years due to better than expected investment returns until 2008, when it decreased significantly due to investment losses. The funded status improved in the December 31, 2012 valuation due to legislative changes in plan provisions and investment gains during 2012, and increased further in the current valuation due to investment gains during 2013.



The retiree medical benefits are funded using a 401(h) account within the pension trust. The table below shows the funded status of the retiree medical programs. The funded status of the RHIA program improved since the prior valuation due to the investment gains and favorable demographic experience. The funded status of the RHIPA program improved since the prior valuation in part due to the increase in RHIPA contribution rates effect July 1, 2013, which reversed the program's negative cash flow.

	December 31, 2013			December 31, 2012		
	RHIA	RHIPA	Total	RHIA	RHIPA	Total
Actuarial accrued liability	\$473.6	\$61.2	\$534.7	\$471.8	\$60.3	\$532.2
Actuarial value of assets	\$353.5	\$5.2	\$358.8	\$291.6	\$4.4	\$296.0
<b>Funded status</b>	<b>74.7%</b>	<b>8.6%</b>	<b>67.1%</b>	<b>61.8%</b>	<b>7.4%</b>	<b>55.6%</b>
<i>Amounts in millions</i>						

### Asset Changes

Since December 31, 2012, contributions (including supplemental deposits but excluding side account rate offset transfers) for pension benefits have increased assets by 2.8% while benefit payments decreased assets by about 6.7%. On the whole, assets increased by 11% due to investment returns of approximately 15.6%.

All Reserves	Amount	Percentage of 12/31/2012 Market Value
<b>Market value, December 31, 2012</b>	<b>\$ 56,117.6</b>	
Contributions	1,567.1	2.8%
Investment Income	8,607.3	15.3%
Benefit Payments	(3,769.8)	(6.7%)
<b>Market value, December 31, 2013</b>	<b>\$ 62,522.2</b>	<b>111.4%</b>
<i>Amounts in millions</i>		

The Tier 1 Rate Guarantee Reserve that is used to pay for the interest crediting rate guarantee on active Tier 1 member accounts when actual investment earnings are below the assumed rate has improved from a deficit of \$300,000 as of December 31, 2012 to a positive reserve of \$434 million as of December 31, 2013 due to investment performance above assumption in 2013. Tier 1 active member accounts that are linked to the Rate Guarantee Reserve decreased from \$6.3 billion on December 31, 2012 to \$6.0 billion on December 31, 2013 due to retirements during the year of some Tier 1 active members.

Market values are reported to Milliman by PERS. It is our understanding that the December 31 market values of select real estate and private equity investments are reported on a three-month lag basis. This valuation report does not attempt to quantify any such effects.

### Liability Changes

Since December 31, 2012, the system-wide actuarial accrued liability has increased primarily due to the interest on the liability as current active members get closer to retirement. The normal cost, or the value of benefits assigned to that year of service, was about one-quarter of the value of benefits paid out during the year. The remaining 0.5% increase in the actuarial accrued liability was attributable to "other" demographic experience, which includes both actual experience differing from assumption and the effect of new members

joining the system during the year. The most significant single demographic experience event during the year 2013 interest crediting above long-term assumption for Tier 2 members and Tier 1 members with variable accounts.

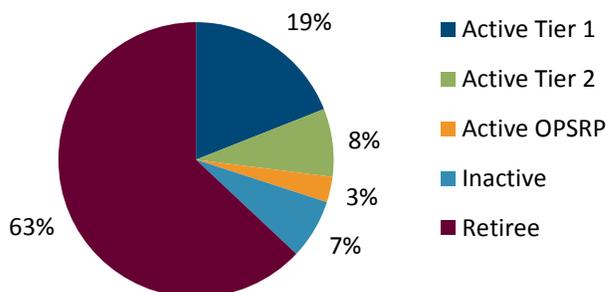
	Amount	Percentage of 12/31/2012 AAL
<b>Actuarial Accrued Liability, December 31, 2012</b>	<b>\$ 60,937.3</b>	
Normal Cost	978.0	1.6%
Benefit Payments	(3,769.8)	(6.2%)
Interest	4,652.4	7.6%
Assumption & Method Changes	0.0	0.0%
Plan Changes	0.0	0.0%
Other	330.5	0.5%
<b>Actuarial Accrued Liability, December 31, 2013</b>	<b>\$ 63,128.4</b>	<b>103.6%</b>
<i>Amounts in millions</i>		

The Oregon Public Employees Retirement System is a very mature system. There are currently 1.27 active members in the system for every annuitant (including retired members and beneficiaries). By comparison, the average ratio in NASRA's 2012 Public Fund Survey is 1.65. Since contributions to the system are based on active payroll, a lower ratio means there are fewer active member payroll dollars to support any gains or losses, such as investment experience varying from assumption, in comparison to other systems. The ratio of active members to annuitants may decline further as a significant portion of the active members are currently eligible to retire.

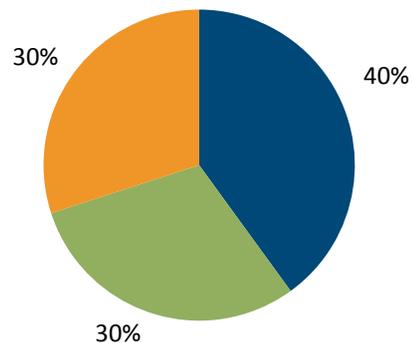
The left-hand chart below illustrates the distribution of the system's actuarial accrued liability by member pension tier and status. While the majority of active liability is attributable to Tier 1 members, 70% of the system's total actuarial accrued liability is due to members who are no longer actively working in covered employment. Only 11% of the liability is attributable to active Tier 2 and OPSRP members. Of the actuarial accrued liability that is attributable to actives, a large portion is located at or near prime retirement ages.

The right-hand chart below illustrates the distribution of the system's normal cost. Tier 2 members account for nearly a third of the system's normal cost compared to about 8% of the system's actuarial accrued liability. OPSRP members account for 30% of the normal cost compared to just 3% of the actuarial accrued liability.

**Actuarial Accrued Liability by Member Category**



**Normal Cost by Member Category**



### 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 after the summary. **Combined valuation payroll** includes Tier 1/Tier 2 payroll and OPSRP payroll.

	Actuarial Valuation as of		Percent Change
	December 31, 2013	December 31, 2012	
<b>Tier 1/Tier 2 Pension</b>			
Actuarial accrued liability	\$ 60,350.3	\$ 58,609.6	3%
Actuarial value of assets	\$ 52,459.9	\$ 48,075.9	9%
Unfunded actuarial accrued liability	\$ 7,890.4	\$ 10,533.7	(25%)
Funded status	87%	82%	
UAL as a percentage of payroll	91%	123%	
Normal cost	\$ 668.7	\$ 718.6	(7%)
Tier 1/Tier 2 valuation payroll	\$ 5,073.7	\$ 5,341.7	(5%)
Normal cost rate	13.18%	13.45%	
<b>OPSRP Pension</b>			
Actuarial accrued liability	\$ 2,243.3	\$ 1,795.6	25%
Actuarial value of assets	\$ 1,630.2	\$ 1,190.0	37%
Unfunded actuarial accrued liability	\$ 613.2	\$ 605.5	1%
Funded status	73%	66%	
UAL as a percentage of payroll	7%	7%	
Normal cost	\$ 280.2	\$ 253.6	10%
OPSRP valuation payroll	\$ 3,598.1	\$ 3,249.2	11%
Normal cost rate	7.79%	7.81%	
<b>Combined Pension</b>			
Actuarial accrued liability	\$ 62,593.6	\$ 60,405.2	4%
Actuarial value of assets	\$ 54,090.1	\$ 49,265.9	10%
Unfunded actuarial accrued liability	\$ 8,503.5	\$ 11,139.3	(24%)
Funded status	86%	82%	
Combined valuation payroll	\$ 8,671.8	\$ 8,590.9	1%
UAL as a percentage of payroll	98%	130%	
Normal cost	\$ 948.9	\$ 972.2	(2%)
Combined valuation payroll	\$ 8,671.8	\$ 8,590.9	1%
Normal cost rate	10.94%	11.32%	
<i>Amounts in millions</i>			

Actuarial Valuation as of					
	December 31, 2013		December 31, 2012		Percent Change
<b>RHIA</b>					
Actuarial accrued liability	\$	473.6	\$	471.8	0%
Actuarial asset value	\$	353.5	\$	291.6	21%
Unfunded actuarial accrued liability	\$	120.0	\$	180.2	(33%)
Funded status		75%		62%	
Combined valuation payroll	\$	8,671.8	\$	8,590.9	1%
UAL as a percentage of payroll		1%		2%	
Normal cost	\$	4.0	\$	4.4	(9%)
Tier 1/Tier 2 valuation payroll	\$	5,073.7	\$	5,341.7	(5%)
Normal cost rate		0.08%		0.08%	
<b>RHIPA</b>					
Actuarial accrued liability	\$	61.2	\$	60.3	1%
Actuarial asset value	\$	5.2	\$	4.4	18%
Unfunded actuarial accrued liability	\$	55.9	\$	55.9	0%
Funded status		9%		7%	
Combined valuation payroll	\$	2,531.5	\$	2,432.4	4%
UAL as a percentage of payroll		2%		2%	
Normal cost	\$	1.3	\$	1.4	(1%)
Tier 1/Tier 2 valuation payroll	\$	1,434.5	\$	1,478.4	(3%)
Normal cost rate		0.09%		0.09%	
<i>Amounts in millions</i>					

## Data Summary

A brief summary of the data underlying the current and prior valuations follows. As shown below, the active member count decreased by approximately 5,000 during the year, which is nearly a 3.0% decrease. The data section of this report provides additional detail. State Judiciary is included in the Tier 1 counts.

	<u>December 31, 2013</u>				<u>December 31, 2012</u>
	Tier 1	Tier 2	OPSRP	Total	Total
<b>Active Members</b>					
Count	37,585	44,297	80,303	162,185	167,103
Average age	54.7	49.0	42.2	46.9	46.9
Average total service	22.7	13.2	5.3	11.5	11.4
Average prior year covered salary	\$ 68,000	\$ 58,640	\$ 42,239	\$ 52,688	\$ 50,768
<b>Inactive Members<sup>1</sup></b>					
Count	17,034	15,985	8,194	41,213	41,871
Average age	56.9	51.2	46.0	52.5	53.0
Average monthly deferred benefit	\$ 1,966	\$ 678	\$ 301	\$ 1,135	\$ 1,284
<b>Retired Members and Beneficiaries<sup>1</sup></b>					
Count	120,051	7,063	1,003	128,117	122,037
Average age	71.2	66.0	65.4	70.8	70.8
Average monthly benefit	\$ 2,477	\$ 745	\$ 363	\$ 2,365	\$ 2,318
<b>Total members</b>	<b>174,670</b>	<b>67,345</b>	<b>89,500</b>	<b>331,515</b>	<b>331,011</b>

1. Inactive and Retiree counts are shown by lives within the system. In other words, a member is counted once for purposes of this exhibit, regardless of their service history for different rate pools. This contrasts with the method used to count inactive participants in some of the later exhibits of this report.

## Effects of Changes

Effective with the December 31, 2013 actuarial valuation the following changes were made:

### Assumption Changes

There were no changes to actuarial assumptions since the December 31, 2012 actuarial valuation.

### Method Changes

There were no changes to actuarial methods since the December 31, 2012 actuarial valuation.

### Plan Changes

There were no changes to plan provisions since the December 31, 2012 actuarial valuation.

The effects of Senate Bills 822, 861, and 862, all signed into law in 2013, were reflected in both the December 31, 2012 actuarial valuation and this valuation.

# System-Wide Assets

## System-Wide Assets

The table below reconciles the market value of assets, as provided by PERS, to the asset values used in this valuation.

	Tier 1/Tier 2	OPSRP	Side Accounts	Contingency and Capital Preservation Reserve	Rate Guarantee Reserve	RHIA and RHIPA	System Totals
<b>Amount reported by PERS December 31, 2013</b>	\$ 53,507.3	\$ 1,630.2	\$ 5,924.0	\$ 667.7	\$ 434.2	\$ 358.8	\$ 62,522.2
Adjustment for Recognized Transition Liability Receivable	\$ (606.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (606.5)
Adjustment for Negative Rate Guarantee Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Pre-SLGRP Liabilities	\$ (440.9)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (440.9)
<b>December 31, 2013 Actuarial Value of Assets</b>	\$ 52,459.9	\$ 1,630.2	\$ 5,924.0	\$ 667.7	\$ 434.2	\$ 358.8	\$ 61,474.8
<i>Amounts in millions</i>							

PERS calculates the amount that should be transferred from side accounts to employer reserves in Tier 1/ Tier 2 and OPSRP for rate relief on a monthly basis. PERS does not track net Pre-SLGRP liabilities.

Employer supplemental deposits establish individual side accounts within the pension trust. The side accounts are treated as prepaid contributions. Employer contribution rates are first determined excluding side accounts. Then, an amortized portion of the side account is used to offset the contribution otherwise required for the individual employers that have side accounts. While side accounts are excluded from valuation assets in determining contribution rates for each of the rate pools, side accounts are included in valuation assets for financial reporting purposes such as the reporting of funded status.

In addition, pension assets are held in the Contingency Reserve, the Capital Preservation Reserve, and the Tier 1 Rate Guarantee Reserve (RGR). As shown below, at December 31, 2012 the RGR was in deficit status of \$300,000. Because the earnings on Tier 1 member reserves in 2013 were greater than the assumed rate with which they are credited, additional amounts were credited to the RGR, which made the reserve a positive \$434 million. It is our understanding that if a RGR deficit arose and then persisted for five years, employers may be required to restore the Tier 1 Rate Guarantee Reserve.

Tier 1/Tier 2 assets are adjusted by the net outstanding balance of pre-SLGRP liabilities to arrive at the actuarial value of assets. These notional employer-specific balances, created at the formation of the SLGRP and at later dates when additional employers join the pool, are treated akin to receivables to the SLGRP from individual employers (for pre-SLGRP liabilities) or payables – in the form of future rate offsets – from the SLGRP assets to individual employers (for pre-SLGRP surpluses). A recent change in accounting interpretation led PERS to recognize outstanding pre-SLGRP liabilities as receivables in the system financial statements. However, for funding purposes, future contributions associated with pre-SLGRP liabilities are not current assets of the system. The resulting adjustment for Transition Liability receivables is shown above.

Finally, assets are held in separate accounts established under Internal Revenue Code Section 401(h) (the Retirement Health Insurance Account (RHIA) and the Retiree Health Insurance Premium Account (RHIPA)) to provide retiree medical benefits.

The following table reconciles the changes in the system-wide assets from December 31, 2012 to December 31, 2013. The reconciliation of assets is provided by PERS.

Reconciliation of Pension and Retiree Healthcare Assets	Tier 1/Tier 2	OPSRP	Side Accounts	Contingency Reserve	Capital Preservation Reserve	Rate Guarantee Reserve	RHIA and RHIPA	System Totals
<b>Additions</b>								
1. Contributions								
a. Employer	\$ 652.8	\$ 229.3	\$ 7.5	\$ -	\$ -	\$ -	\$ 52.4	\$ 942.0
b. Transfer from side accounts <sup>1</sup>	\$ 448.0	\$ -	\$ (448.0)	\$ -	\$ -	\$ -	\$ -	\$ -
c. Judge member contributions	\$ 1.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.5
d. Member service purchases	\$ 17.1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17.1
e. Recognized transition liability receivable	\$ 606.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 606.5
f. Total	\$ 1,725.9	\$ 229.3	\$ (440.5)	\$ -	\$ -	\$ -	\$ 52.4	\$ 1,567.1
2. Net investment income								
a. Transfers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
b. From investments	\$ 7,022.0	\$ 222.1	\$ 846.6	\$ 67.5	\$ -	\$ 434.6	\$ 47.0	\$ 8,639.8
c. Total	\$ 7,022.0	\$ 222.1	\$ 846.6	\$ 67.5	\$ -	\$ 434.6	\$ 47.0	\$ 8,639.8
3. Other <sup>2</sup>	\$ 2.1	\$ 0.8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3.0
<b>4. Total additions</b>	<b>\$ 8,750.1</b>	<b>\$ 452.3</b>	<b>\$ 406.1</b>	<b>\$ 67.5</b>	<b>\$ -</b>	<b>\$ 434.6</b>	<b>\$ 99.4</b>	<b>\$ 10,209.9</b>
<b>Deductions</b>								
5. Retirement and survivor benefits	\$ (3,696.8)	\$ (7.7)	\$ -	\$ -	\$ -	\$ -	\$ (35.5)	\$ (3,739.9)
6. Death Benefits	\$ (4.4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4.4)
7. Refund of contributions	\$ (25.5)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (25.5)
9. Administrative expenses	\$ (29.6)	\$ (4.5)	\$ (0.2)	\$ -	\$ -	\$ -	\$ (1.3)	\$ (35.5)
<b>10. Total deductions</b>	<b>\$ (3,756.3)</b>	<b>\$ (12.1)</b>	<b>\$ (0.2)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (36.7)</b>	<b>\$ (3,805.4)</b>
<b>11. Net change</b>	<b>\$ 4,993.8</b>	<b>\$ 440.1</b>	<b>\$ 405.9</b>	<b>\$ 67.5</b>	<b>\$ -</b>	<b>\$ 434.6</b>	<b>\$ 62.7</b>	<b>\$ 6,404.6</b>
12. Net assets held in trust for pension benefits								
a. Beginning of year	\$ 48,513.5	\$ 1,190.0	\$ 5,518.2	\$ 600.2	\$ -	\$ (0.3)	\$ 296.0	\$ 56,117.6
b. End of year	<u>\$ 53,507.3</u>	<u>\$ 1,630.2</u>	<u>\$ 5,924.0</u>	<u>\$ 667.7</u>	<u>\$ -</u>	<u>\$ 434.2</u>	<u>\$ 358.8</u>	<u>\$ 62,522.2</u>
<i>Amounts in millions</i>								

<sup>1</sup> Side account transfers shown in this exhibit are all credited to Tier 1/Tier 2 assets. We understand the portion to be credited to OPSRP is credited through the employer contribution line of the exhibit.

<sup>2</sup> Includes TRFA transfer from Metlife and adjustments by PERS.

## Reconciliation of Side Accounts

Side accounts are established for employers who make supplemental payments (a lump sum payment in excess of the required employer contribution). For SLGRP employers, this supplemental payment is first applied toward the employer's Transition Liability, and any excess is established in a Side Account. A reconciliation of the side accounts from December 31, 2012 to December 31, 2013, is shown below on a rate pool basis. For this exhibit, all independent employers are grouped together.

	SLGRP	School Districts	Independent Employers	System Totals
<b>Side Accounts, December 31, 2012</b>	<b>2,558.3</b>	<b>2,872.5</b>	<b>87.4</b>	<b>5,518.2</b>
Deposits during 2013	7.5	-	-	7.5
Interest	391.3	441.8	13.4	846.6
Administrative expenses	(0.0)	(0.1)	(0.0)	(0.2)
Transfers to employer reserves	(222.2)	(218.8)	(7.0)	(448.0)
<b>Side Accounts, December 31, 2013</b>	<b>2,734.9</b>	<b>3,095.4</b>	<b>93.8</b>	<b>5,924.0</b>

*Amounts in millions*

## Development of Side Account Rate Relief

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 on or before December 31, 2009, the fixed period ends December 31, 2027. For side accounts established later, the fixed period ends 18 years after the first rate-setting valuation following its creation. The table below shows the average rate relief attributable to side accounts for each rate pool.

	December 31, 2013			
	SLGRP	School Districts	Independent Employers	System Totals
1. Side Account	\$ 2,734.9	\$ 3,095.4	\$ 93.8	\$ 5,924.0
2. Combined valuation payroll	\$ 5,121.9	\$ 2,723.5	\$ 826.4	\$ 8,671.8
3. Average Amortization Factor <sup>1</sup>	10.709	10.705	10.703	10.707
4. Average Side Account Rate Relief (1. ÷ 2. ÷ 3.)	4.99%	10.62%	1.06%	6.38%

*Amounts in millions*

<sup>1</sup> Weighted average

# Pension Plan Valuation



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.

## Tier 1/Tier 2 Pension Assets

### Summary of Actuarial Value of Assets

This section summarizes the current Tier 1/Tier 2 pension valuation assets as of the current and prior actuarial valuation. For valuation purposes, pension assets are divided among the State & Local Government Rate Pool (SLGRP), the School District Pool, and various independent employers to determine employer contribution rates. For this system-wide report, all independent employers, including State Judiciary, have been grouped together as if they were a rate pool.

	SLGRP	School Districts	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
<b>December 31, 2013</b>				
Member reserves	\$ 4,167.2	\$ 2,337.9	\$ 614.9	\$ 7,120.1
Employer reserves	12,170.2	7,330.9	2,167.9	21,514.6
Benefit in force reserves	11,958.8	10,299.1	1,974.5	24,266.1
Net outstanding pre-SLGRP liabilities	(440.9)			(440.9)
<b>Total actuarial value of assets</b>	<b>\$ 27,855.3</b>	<b>\$ 19,967.8</b>	<b>\$ 4,757.2</b>	<b>\$ 52,459.9</b>
<b>December 31, 2012</b>				
Member reserves	\$ 4,460.3	\$ 2,575.3	\$ 668.6	\$ 7,704.5
Employer reserves	10,941.5	6,457.5	1,965.7	19,221.5
Benefit in force reserves	10,499.6	9,296.9	1,757.8	21,587.2
Net outstanding pre-SLGRP liabilities	(437.3)			(437.3)
<b>Total actuarial value of assets</b>	<b>\$ 25,464.1</b>	<b>\$ 18,329.6</b>	<b>\$ 4,392.0</b>	<b>\$ 48,075.9</b>
<i>Amounts in millions</i>				

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

Please note that pre-SLGRP liabilities and surpluses are notional balances specific to specific employers or groups of employers. For contribution rate calculations, pre-SLGRP liabilities are treated akin to receivables to the SLGRP from the individual employers and pre-SLGRP surpluses are treated akin to payables (in the form of future rate offsets) from the SLGRP assets to individual employers. The assets of the SLGRP used to calculate the pooled contribution rate reflect the net outstanding balance of these items.

Side accounts are treated as pre-paid contributions. Consequently, they are not reflected in the actuarial value of assets shown above. The actuarial value of assets for each rate pool is used to develop the contribution rate for that pool. Side accounts are used by employers to pay a portion of the base contribution rate via a side account rate offset and deduction mechanism. The net impact of side accounts is shown in a separate section of this report.

**Reconciliation of Actuarial Value of Assets**

The table below shows a reconciliation of the actuarial value of assets from the prior valuation to the current valuation for each of the rate pools. Again, independent employers, including State Judiciary, are treated as if they were a single rate pool for purposes of the system-wide report.

	SLGRP	School Districts	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
<b>Actuarial value of assets, December 31, 2012</b>	<b>\$ 25,464.1</b>	<b>\$ 18,329.6</b>	<b>\$ 4,392.0</b>	<b>\$ 48,075.9</b>
<b>Contributions</b>				
Employer	\$ 364.7	\$ 244.5	\$ 81.3	\$ 690.4
Side account transfers	222.2	218.8	7.0	448.0
Member	0.0	0.0	1.5	1.5
Total contributions	586.9	463.3	89.8	1,139.9
Investment income	3,652.0	2,617.4	633.0	6,882.4
Benefit payments and expenses	(1,847.6)	(1,594.3)	(309.4)	(3,756.5)
Adjustments <sup>2</sup>	(59.6)	151.9	13.2	120.1
<b>Actuarial value of assets, December 31, 2013</b>	<b>\$ 27,795.7</b>	<b>\$ 19,967.8</b>	<b>\$ 4,818.7</b>	<b>\$ 52,461.8</b>
Employers joining the SLGRP	59.6		(61.5)	(1.9)
<b>Actuarial value of assets, January 1, 2014</b>	<b>\$ 27,855.3</b>	<b>\$ 19,967.8</b>	<b>\$ 4,757.2</b>	<b>\$ 52,459.9</b>
<i>Amounts in millions</i>				

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

<sup>2</sup> Adjustments include a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, member service purchases, an employer merger, and other adjustments made by PERS.

### Employers Joining the SLGRP

Effective January 1, 2014, three independent employers joined the State & Local Government Rate Pool (SLGRP). Their experience through December 31, 2013 was maintained independently, but they are included with the SLGRP in this report in order to develop contribution rates that will become effective July 1, 2014. The table below summarizes the changes to assets and liabilities for the SLGRP due to these employers joining the SLGRP. Note that, by design, the UAL as a percentage of payroll does not change for the SLGRP, ensuring the SLGRP's UAL rate is not affected by employers joining the pool. This is accomplished by calculating a Transition Liability/(Surplus) for each new employer joining the pool.

State & Local Government Rate Pool				
Tier 1/Tier 2 Pension	12/31/2013	Employers Joining Pool		1/1/2014
<b>Actuarial Accrued Liability</b>				
<b>Active Members</b>				
Tier 1 General Service	\$ 5,596.2	\$ 7.0	\$	5,603.2
Tier 1 P&F	1,160.1	9.4		1,169.5
<b>Tier 1 Total</b>	<b>\$ 6,756.3</b>	<b>\$ 16.4</b>	<b>\$</b>	<b>6,772.7</b>
Tier 2 General Service	2,288.5	4.2		2,292.8
Tier 2 P&F	774.3	5.2		779.4
<b>Tier 2 Total</b>	<b>\$ 3,062.8</b>	<b>\$ 9.4</b>	<b>\$</b>	<b>3,072.2</b>
<b>Total active members</b>	<b>\$ 9,819.1</b>	<b>\$ 25.8</b>	<b>\$</b>	<b>9,845.0</b>
<b>Dormant Members</b>	<b>\$ 2,611.5</b>	<b>\$ 5.2</b>	<b>\$</b>	<b>2,616.6</b>
<b>Retired Members and Beneficiaries</b>	<b>\$ 19,238.7</b>	<b>\$ 38.6</b>	<b>\$</b>	<b>19,277.2</b>
<b>Total Actuarial Accrued Liability</b>	<b>\$ 31,669.3</b>	<b>\$ 69.5</b>	<b>\$</b>	<b>31,738.8</b>
<b>Market Value of Assets</b>				
Member reserves	\$ 4,158.1	\$ 9.1	\$	4,167.2
Employer reserves	12,141.7	28.4		12,170.2
Benefit in force reserves	11,934.9	23.9		11,958.8
Net outstanding pre-SLGRP liabilities	(439.0)	(1.9)		(440.9)
<b>Total market value of assets</b>	<b>\$ 27,795.7</b>	<b>\$ 59.6</b>	<b>\$</b>	<b>27,855.3</b>
<b>Unfunded Accrued Liability</b>	<b>\$ 3,873.6</b>	<b>\$ 9.9</b>	<b>\$</b>	<b>3,883.5</b>
Funded Percentage	87.8%	85.7%		87.8%
Combined Valuation Payroll	\$ 5,108.8	\$ 13.1	\$	5,121.9
<b>Unfunded accrued liability as % of combined valuation payroll</b>	<b>75.8%</b>	<b>75.8%</b>		<b>75.8%</b>
<i>Amounts in millions</i>				

## Outstanding Balance of Pre-SLGRP Liabilities

In the valuation, pre-SLGRP liabilities are treated as assets of the SLGRP. That is, a pre-SLGRP liability is treated as a receivable owed to the SLGRP by the employer. Pre-SLGRP surpluses are treated as payables from the SLGRP to employers.

Prior to the formation of the SLGRP, the State and Community Colleges were pooled together and some employers participated in the Local Government Rate Pool (LGRP). The UAL attributable to the State and Community Colleges or the LGRP at the time the SLGRP was formed is maintained separately from the SLGRP, and is reduced by contributions and increased for interest charges at the assumed interest rate.

Similarly, when an independent employer joins the SLGRP, a transition liability or surplus is calculated to ensure that each employer enters the pool on a comparable basis. The transition liability is maintained separately from the SLGRP, and is reduced by contributions and increased for interest charges at the assumed interest rate. The table below shows the reconciliation of the pre-SLGRP pooled liability attributable to the State and Community Colleges and the LGRP from the last valuation to the current valuation. It also shows the reconciliation of the total transition liability or surplus from the last valuation to the current valuation.

	State and Community Colleges	Local Government Rate Pool	Transition	Total
<b>1. Pre-SLGRP liability/(surplus), January 1, 2013</b>	\$ 588.9	\$ (246.7)	\$ (779.5)	\$ (437.3)
2. Employer contributions	(52.9)	21.5	66.3	34.8
3. Supplemental payments	0.0	0.0	(4.8)	(4.8)
4. Interest	41.5	(17.5)	(55.3)	(31.2)
5. Employer merger	0.0	0.0	(0.5)	(0.5)
<b>6. Pre-SLGRP liability/(surplus), December 31, 2013 (1. + 2. + 3. + 4. + 5.)</b>	\$ 577.5	\$ (242.7)	\$ (773.8)	\$ (439.0)
7. Employers joining the SLGRP			\$ (1.9)	\$ (1.9)
<b>8. Pre-SLGRP liability/(surplus), January 1, 2014 (6. + 7.)</b>	\$ 577.5	\$ (242.7)	\$ (775.7)	\$ (440.9)
<i>Amounts in millions</i>				

## Tier 1/Tier 2 Pension 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 percent of payroll that would need to be contributed each year to fund plan benefits.

A summary of the normal cost by decrement is shown below on a system-wide basis for the Tier 1/Tier 2 pension benefits.

	December 31, 2013	December 31, 2012	Percent Change
Normal Cost			
Service Retirement	440.5	469.0	(6.1%)
Withdrawal	203.2	222.8	(8.8%)
Duty Disability	3.2	3.3	(4.5%)
Nonduty Disability	15.3	16.1	(4.6%)
Death	6.6	7.3	(10.7%)
<b>Total Normal Cost</b>	<b>668.7</b>	<b>718.6</b>	<b>(6.9%)</b>
<i>Amounts in millions</i>			

The decrease in normal cost since the prior valuation is primarily due to the reduction in active Tier 1/Tier 2 members as members retire from the closed group.

The table below reconciles the normal cost from the prior valuation to the current valuation.

Reconciliation of Change in Normal Cost

Tier 1/Tier 2 Pension	
<b>Normal Cost, December 31, 2012</b>	<b>\$ 718.6</b>
Expected increase (decrease)	(28.5)
Assumption and method changes	0.0
Plan changes	0.0
<b>Deviations from expected experience</b>	
Pay increases	(0.6)
Interest crediting experience	4.5
All other sources	(25.2)
<b>Total demographic (gains) and losses</b>	<b>(21.4)</b>
<b>Normal Cost, December 31, 2013</b>	<b>\$ 668.7</b>
<i>Amounts in millions</i>	

A summary of the normal cost by tier and employment category for each rate pool is shown below. Again, independent employers, including State Judiciary, are treated as if they were a single rate pool for purposes of the system-wide report.

	Summary of Pension Normal Cost by Group and Tier				December 31, 2012 Tier 1/ Tier 2 Totals	Percent Change
	December 31, 2013			Tier 1/ Tier 2 Totals		
	SLGRP	School Districts	Independent Employers	Tier 1/ Tier 2 Totals	Tier 1/ Tier 2 Totals	
<b>Normal Cost</b>						
Tier 1 General Service	186.9	113.5	26.3	326.7	369.8	(11.7%)
Tier 2 General Service	123.9	84.6	17.9	226.4	229.0	(1.2%)
Tier 1 Police & Fire	41.3	0.2	14.6	56.1	60.9	(7.9%)
Tier 2 Police & Fire	46.1	0.2	13.2	59.6	58.8	1.3%
<b>Total Normal Cost</b>	<b>398.2</b>	<b>198.6</b>	<b>71.9</b>	<b>668.7</b>	<b>718.6</b>	<b>(6.9%)</b>
<i>Amounts in millions</i>						

**Actuarial Accrued Liability**

The actuarial accrued liability represents the value of benefits attributed to prior years of service by the actuarial cost method. A summary of the actuarial accrued liability is shown below on a system-wide basis for the Tier 1/Tier 2 pension benefits.

	December 31, 2013	December 31, 2012	Percent Change
<b>Active Members</b>	17,027.4	17,554.9	(3.0%)
<b>Inactive Members</b>	4,206.7	4,677.4	(10.1%)
<b>Retired Members and Beneficiaries</b>	39,116.2	36,377.3	7.5%
<b>Total Actuarial Accrued Liability</b>	60,350.3	58,609.6	3.0%
<i>Amounts in millions</i>			

**Actuarial Accrued Liability**

A summary of actuarial accrued liabilities based on member status, tier and employment category is shown in the table below. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2013				December 31, 2012		Percent Change
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>	Tier 1 / Tier 2 Totals <sup>1</sup>		
<b>Active Members</b>							
Tier 1 General Service	5,596.2	3,883.6	708.0	10,187.8	11,074.1	(8.0%)	
Tier 1 Police & Fire	1,160.1	3.7	444.3	1,608.3	1,663.4	(3.3%)	
<b>Tier 1 Total</b>	<b>6,756.3</b>	<b>3,887.3</b>	<b>1,152.3</b>	<b>11,796.1</b>	<b>12,737.6</b>	<b>(7.4%)</b>	
Tier 2 General Service	2,288.5	1,602.7	341.5	4,232.7	3,918.1	8.0%	
Tier 2 Police & Fire	774.3	3.5	220.9	998.7	899.2	11.1%	
<b>Tier 2 Total</b>	<b>3,062.8</b>	<b>1,606.1</b>	<b>562.4</b>	<b>5,231.3</b>	<b>4,817.3</b>	<b>8.6%</b>	
<b>Total Active Members</b>	<b>9,819.1</b>	<b>5,493.5</b>	<b>1,714.7</b>	<b>17,027.4</b>	<b>17,554.9</b>	<b>(3.0%)</b>	
<b>Inactive Members</b>	<b>2,611.5</b>	<b>1,297.4</b>	<b>297.8</b>	<b>4,206.7</b>	<b>4,677.4</b>	<b>(10.1%)</b>	
<b>Retired Members and Beneficiaries</b>	<b>19,238.7</b>	<b>16,601.7</b>	<b>3,221.3</b>	<b>39,116.2</b>	<b>36,377.3</b>	<b>7.5%</b>	
<b>Total Tier 1/ Tier 2 Pension Liability, December 31,</b>	<b>31,669.3</b>	<b>23,392.6</b>	<b>5,233.9</b>	<b>60,350.3</b>	<b>58,609.6</b>	<b>3.0%</b>	
Employers joining the SLGRP	69.5	-	(69.5)	-	-		
<b>Total Tier 1/ Tier 2 Pension Liability, January 1,</b>	<b>31,738.8</b>	<b>23,392.6</b>	<b>5,164.3</b>	<b>60,350.3</b>	<b>58,609.6</b>	<b>3.0%</b>	
<i>Amounts in millions</i>							

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

## Actuarial Accrued Liability

The change in actuarial accrued liability since the last valuation reflects the experience of the system. The table below reconciles the actuarial accrued liability from the last valuation to this valuation. The actuarial accrued liability is expected to increase due to benefits earned during the year and interest, and to decrease due to benefits paid during the year.

	Tier 1/Tier 2 Pension
<b>Actuarial Accrued Liability December 31, 2012</b>	<b>58,609.6</b>
Expected change	1,445.5
Assumption and method changes	0.0
Plan changes	0.0
<b>Deviations from expected experience</b>	
Retirements from active status	97.4
Disability retirements	(3.6)
Active mortality and withdrawal	34.2
Pay increases	(26.0)
Interest crediting experience	125.0
Inactive mortality	85.9
COLA experience	0.0
Data corrections	19.2
Other	(36.9)
<b>Total demographic (gains) and losses</b>	<b>295.2</b>
<b>Actuarial Accrued Liability December 31, 2013</b>	<b>60,350.3</b>
<i>Amounts in millions</i>	

**Tier 1/Tier 2 Pension Unfunded Accrued Liability (UAL)****Calculation of UAL**

The Unfunded Accrued Liability (UAL) represents the difference between the actuarial accrued liability and the valuation assets. To determine employer contribution rates, the UAL is calculated excluding side accounts. The calculated contribution rate is later offset by an amortized portion of the side accounts for individual employers with such accounts. A summary of the UAL by rate pool is shown on the following table. All independent employers, including State Judiciary, have been grouped together.

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>December 31, 2013</b>				
1. Actuarial accrued liability	31,738.8	23,392.6	5,164.3	60,350.3
2. Actuarial value of assets	27,855.3	19,967.8	4,757.2	52,459.9
3. Unfunded accrued liability	3,883.5	3,424.8	407.1	7,890.4
4. Funded percentage (2. ÷ 1.)	87.8%	85.4%	92.1%	86.9%
5. Combined Valuation Payroll	5,121.9	2,723.5	826.4	8,671.8
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	75.8%	125.7%	49.3%	91.0%
<b>December 31, 2012</b>				
1. Actuarial accrued liability	30,601.9	22,908.0	5,043.4	58,609.6
2. Actuarial value of assets	25,464.1	18,329.6	4,392.0	48,075.9
3. Unfunded accrued liability	5,137.8	4,578.3	651.4	10,533.7
4. Funded percentage (2. ÷ 1.)	83.2%	80.0%	87.1%	82.0%
5. Combined Valuation Payroll	5,018.0	2,731.5	841.3	8,590.9
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	102.4%	167.6%	77.4%	122.6%
<i>Amounts in millions</i>				

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

**Reconciliation of UAL Bases**

Beginning with the December 31, 2007 actuarial valuation, each odd-year valuation has established a 20-year closed-period amortization schedule for outstanding regular Tier 1/Tier 2 UAL amounts. As part of the 2012 review of actuarial methods and assumption, the PERS Board decided to reset the Tier 1/Tier 2 amortization period to 20 years effective with the current valuation. This means the entire unamortized Tier 1/Tier 2 UAL for each rate pool and independent employer is re-amortized over a 20 year period. For subsequent odd-year valuations, amortization schedules will be 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.

The UAL amortization schedules are shown for the SLGRP and School District rate pools below. UAL bases for independent employers are developed individually for each employer, and are shown in the employer's individual valuation report.

<b>SLGRP</b>					
Amortization Base	UAL December 31, 2012	Payment	Interest	UAL December 31, 2013	Next Year's Payment
December 31, 2013	N/A	N/A	N/A	3,883.5	281.1
<b>Total</b>		<b>\$ 0.0</b>	<b>\$ 0.0</b>	<b>\$ 3,883.5</b>	<b>\$ 281.1</b>
<b>School Districts</b>					
Amortization Base	UAL December 31, 2012	Payment	Interest	UAL December 31, 2013	Next Year's Payment
December 31, 2013	N/A	N/A	N/A	3,424.8	247.9
<b>Total</b>		<b>\$ 0.0</b>	<b>\$ 0.0</b>	<b>\$ 3,424.8</b>	<b>\$ 247.9</b>
<i>Amounts in millions</i>					

**Actuarial Gain or Loss since Prior Valuation**

In every actuarial valuation, assumptions are made as to the future experience of the plan and covered group of participants. Whenever there is a difference between the actual experience and that anticipated by the actuarial assumptions, there is a gain or loss to the plan. Gains are the result of experience that is more favorable than anticipated (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of unfavorable experience.

The table below shows the development of the actuarial gain (or loss) for the Tier 1/Tier 2 pension benefits for the year ending December 31, 2013. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2013			
	SLGRP	School District	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
1. Expected actuarial accrued liability				
a. Actuarial accrued liability at January 1, 2013	\$ 30,601.9	\$ 22,908.0	\$ 5,043.4	\$ 58,609.6
b. Normal cost at January 1, 2013	424.1	217.2	77.3	718.6
c. Benefit payments for fiscal year ending December 31, 2013	(1,832.9)	(1,581.7)	(306.9)	(3,726.7)
d. Interest	2,333.5	1,730.9	385.0	4,453.5
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 31,526.6	\$ 23,274.4	\$ 5,198.8	\$ 60,055.1
f. Change in actuarial accrued liability at December 31, 2013, due to assumption, method, and plan changes	0.0	0.0	0.0	0.0
g. Expected actuarial accrued liability at December 31, 2013 (e. + f.)	\$ 31,526.6	\$ 23,274.4	\$ 5,198.8	\$ 60,055.1
2. Actuarial accrued liability at December 31, 2013	\$ 31,669.3	\$ 23,392.6	\$ 5,233.9	\$ 60,350.3
<b>3. Liability gain/(loss) (1.g. - 2)</b>	<b>\$ (142.7)</b>	<b>\$ (118.2)</b>	<b>\$ (35.1)</b>	<b>\$ (295.2)</b>
4. Expected actuarial value of assets				
a. Actuarial value of assets at January 1, 2013	\$ 25,464.1	\$ 18,329.6	\$ 4,392.0	\$ 48,075.9
b. Actual contributions for 2013	586.9	463.3	89.8	1,139.9
c. Benefit payments and expenses for fiscal year ending December 31, 2013	(1,847.6)	(1,594.3)	(309.4)	(3,756.5)
d. Assumed investment return	1,924.6	1,376.7	331.9	3,624.5
e. Expected actuarial value of assets before changes (a. + b. + c. + d.)	\$ 26,128.0	\$ 18,575.3	\$ 4,504.3	\$ 49,083.8
f. Change in actuarial value of assets at December 31, 2013, due to assumption changes	0.0	0.0	0.0	0.0
g. Expected actuarial value of assets at December 31, 2013 (e. + f.)	\$ 26,128.0	\$ 18,575.3	\$ 4,504.3	\$ 49,083.8
5. Actuarial value of assets as of December 31, 2013	\$ 27,795.7	\$ 19,967.8	\$ 4,818.7	\$ 52,461.8
<b>6. Asset gain/(loss) (5. - 4.g.)</b>	<b>\$ 1,667.7</b>	<b>\$ 1,392.6</b>	<b>\$ 314.4</b>	<b>\$ 3,378.0</b>
<b>7. Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ 1,525.0</b>	<b>\$ 1,274.4</b>	<b>\$ 279.3</b>	<b>\$ 3,082.8</b>
<i>Amounts in millions</i>				

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

**Reconciliation of the UAL**

The table below develops the UAL. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>UAL, December 31, 2012</b>	5,137.8	4,578.3	651.4	10,533.7
Normal cost	424.1	217.2	77.3	718.6
Administrative expenses	14.7	12.6	2.5	29.8
Contributions	(586.9)	(463.3)	(89.8)	(1,139.9)
Liability (gain) or loss	142.7	118.2	35.1	295.2
Asset (gain) or loss	(1,667.7)	(1,392.6)	(314.4)	(3,378.0)
Assumption, method, and plan changes	0.0	0.0	0.0	0.0
Interest at 7.75%	408.9	354.2	53.1	829.0
<b>UAL, December 31, 2013</b>	<b>3,873.6</b>	<b>3,424.8</b>	<b>415.1</b>	<b>7,888.5</b>
Employers joining SLGRP	9.9	0.0	(8.0)	1.9
<b>UAL, January 1, 2014</b>	<b>3,883.5</b>	<b>3,424.8</b>	<b>407.1</b>	<b>7,890.4</b>
<i>Amounts in millions</i>				

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

## Tier 1/Tier 2 Pension Contribution Rate Development

### Normal Cost Rates

The table below shows the development of the system-wide weighted average normal cost rate.

	December 31, 2013	December 31, 2012	Percent Change
<b>Normal Cost</b>			
a. Service Retirement	440.5	469.0	(6.1%)
b. Withdrawal	203.2	222.8	(8.8%)
c. Duty Disability	3.2	3.3	(4.5%)
d. Nonduty Disability	15.3	16.1	(4.6%)
e. Death	6.6	7.3	(10.7%)
<b>f. Total Normal Cost</b>	<b>668.7</b>	<b>718.6</b>	<b>(6.9%)</b>
<b>Tier 1/ Tier 2 Valuation Payroll</b>	<b>5,073.7</b>	<b>5,341.7</b>	<b>(5.0%)</b>
Average Normal Cost Rate			
a. Service Retirement	8.68%	8.78%	
b. Withdrawal	4.00%	4.17%	
c. Duty Disability	0.06%	0.06%	
d. Nonduty Disability	0.30%	0.30%	
e. Death	0.13%	0.14%	
<b>f. Average Normal Cost Rate</b>	<b>13.18%</b>	<b>13.45%</b>	
<i>Amounts in millions</i>			

The table below shows the development of the normal cost rate for the various rate pools. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals
<b>Normal Cost</b>				
Tier 1 General Service	186.9	113.5	26.3	326.7
Tier 2 General Service	123.9	84.6	17.9	226.4
Tier 1 Police & Fire	41.3	0.2	14.6	56.1
Tier 2 Police & Fire	46.1	0.2	13.2	59.6
<b>Total Normal Cost</b>	<b>398.2</b>	<b>198.6</b>	<b>71.9</b>	<b>668.7</b>
<b>Tier 1/ Tier 2 Valuation Payroll</b>				
Tier 1 General Service	1,213.8	813.3	159.5	2,186.6
Tier 2 General Service	1,172.5	847.3	166.4	2,186.2
Tier 1 Police & Fire	234.4	1.1	81.6	317.1
Tier 2 Police & Fire	295.2	1.3	87.3	383.7
<b>Total Valuation Payroll</b>	<b>2,915.9</b>	<b>1,663.0</b>	<b>494.8</b>	<b>5,073.7</b>
<b>Average Normal Cost Rates</b>				
Tier 1 General Service	15.39%	13.96%	16.46%	14.94%
Tier 2 General Service	10.57%	9.99%	10.73%	10.35%
Tier 1 Police & Fire	17.62%	17.28%	17.88%	17.68%
Tier 2 Police & Fire	15.63%	17.72%	15.17%	15.53%
<b>Average Rates</b>				
Tier 1 Average	15.75%	13.97%	16.94%	15.29%
Tier 2 Average	11.59%	10.00%	12.26%	11.13%
General Service Average	13.02%	11.93%	13.53%	12.65%
Police & Fire Average	16.51%	17.52%	16.48%	16.50%
<b>System Average</b>	<b>13.66%</b>	<b>11.94%</b>	<b>14.54%</b>	<b>13.18%</b>
Member Contributions			0.30%	0.03%
<b>Employer System Average</b>	<b>13.66%</b>	<b>11.94%</b>	<b>14.24%</b>	<b>13.15%</b>
<i>Amounts in millions</i>				

**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.

The following table develops the UAL rate separately for each of the rate pools. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>December 31, 2013</b>				
1. Total UAL	\$ 3,883.5	\$ 3,424.8	\$ 407.1	\$ 7,890.4
2. Next year's UAL payment	\$ 281.1	\$ 247.9	\$ 29.5	\$ 558.4
3. Combined valuation payroll	\$ 5,121.9	\$ 2,723.5	\$ 826.4	\$ 8,671.8
<b>4. UAL rate (2 ÷ 3)</b>	<b>5.49%</b>	<b>9.10%</b>	<b>3.57%</b>	<b>6.44%</b>
<b>December 31, 2012</b>				
1. Total UAL	\$ 5,137.8	\$ 4,578.3	\$ 651.4	\$ 10,533.7
2. Next year's UAL payment	\$ 371.9	\$ 331.4	\$ 47.2	\$ 750.4
3. Combined valuation payroll	\$ 5,018.0	\$ 2,731.5	\$ 841.3	\$ 8,590.9
<b>4. UAL rate (2 ÷ 3)</b>	<b>7.41%</b>	<b>12.13%</b>	<b>5.60%</b>	<b>8.73%</b>
<i>Amounts in millions</i>				

<sup>1</sup> While the Tier 1/Tier 2 Total UAL amount includes the UAL for Multnomah Fire District #10 (MFD), the UAL rate for MFD is developed separately in this report and is added to the rates shown in this table.

**Pre-SLGRP Pooled Rate**

Prior to the formation of the SLGRP, the State and Community Colleges were pooled together and some employers participated in the Local Government Rate Pool (LGRP). The UAL attributable to the State and Community Colleges and the LGRP at the time the SLGRP was formed is maintained separately from the UAL for the SLGRP. The balance of the pre-SLGRP pooled liability attributable to the State and Community Colleges or the LGRP on the valuation date is amortized over the period ending December 31, 2027 and expressed as a percentage of combined valuation payroll.

	December 31, 2013		December 31, 2012	
<b>State and Community College Pool</b>				
1. Total pre-SLGRP pooled liability	\$	577.5	\$	588.9
2. Combined valuation payroll	\$	2,918.8	\$	2,824.7
3. Amortization Factor		10.703		11.272
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷ 3.)		1.85%		1.85%
<b>Local Government Rate Pool</b>				
1. Total pre-SLGRP pooled liability	\$	(242.7)	\$	(246.7)
2. Combined valuation payroll	\$	1,256.4	\$	1,245.2
3. Amortization Factor		10.703		11.272
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷ 3.)		(1.81%)		(1.76%)
<i>Amounts in millions</i>				

**Transition Liability or Surplus Rate**

When an employer joins the SLGRP, a transition liability or surplus is calculated to ensure that each employer enters the pool on a comparable basis. The transition liability is maintained separately from the UAL for the SLGRP. The transition liability is amortized over a fixed period, and is expressed as a percentage of combined valuation payroll. For employers joining the SLGRP prior to December 31, 2009, the fixed period ends December 31, 2027. For all others, the fixed period ends 18 years after the date the employer joined the pool. The amortization factor below reflects the weighted average of the amortization periods for all employers.

	December 31, 2013	December 31, 2012
1. Total transition liability / (surplus)	\$ (775.7)	\$ (779.5)
2. Combined valuation payroll	\$ 2,027.5	\$ 2,027.8
3. Average Amortization Factor <sup>1</sup>	10.711	11.272
4. <b>Average transition liability/(surplus) rate (1. ÷ 2. ÷ 3.)</b>	<b>(3.57%)</b>	<b>(3.41%)</b>
<i>Amounts in millions</i>		

<sup>1</sup> Weighted average

**Multnomah Fire District #10 UAL Rate**

The Multnomah Fire District #10 UAL rate is determined by amortizing Multnomah Fire District #10's unfunded accrued liability over the period ending December 31, 2027, and expressing the result as a percentage of combined valuation payroll.

As part of the 2003 Legislation, the Multnomah Fire District #10 UAL was allocated to Tier 1/Tier 2 employers. Multnomah Fire District #10 was allocated \$50,000 of the outstanding UAL, which was fully paid in November, 2003. Of the remaining UAL, City of Portland is allocated 21.8743%, while all Tier 1/Tier 2 employers, including City of Portland, share in the remaining 78.1257%. In addition, four other employers (City of Gresham, City of Fairview, City of Wood Village, and City of Troutdale) are required to pay twice the rate that is determined under item 6.b. below. Thus, the combined valuation payroll for all Tier 1/Tier 2 employers, shown below in item 4.b., includes twice the valuation payroll for those four employers.

	December 31, 2013	December 31, 2012
1. Actuarial accrued liability		
a. Active members	\$ 0.1	\$ 0.1
b. Dormant members	0.0	0.8
c. Retired members and beneficiaries	54.5	55.4
d. Total actuarial accrued liability	\$ 54.6	\$ 56.4
2. Actuarial value of assets		
a. Employer reserve	\$ (154.3)	\$ (143.2)
b. Members reserve	0.1	0.4
c. Benefits in force reserve	33.8	32.9
d. Total actuarial value of assets	\$ (120.4)	\$ (109.8)
3. Multnomah FD #10 UAL	\$ 175.0	\$ 166.2
a. Portion allocated to City of Portland (21.8743% x 3.)	\$ 38.3	\$ 36.4
b. Portion allocated to all T1/T2 employers (78.1257% x 3.)	\$ 136.8	\$ 129.8
4. Combined valuation payroll		
a. City of Portland	\$ 313.3	\$ 311.7
b. All employers	\$ 8,719.8	\$ 8,638.0
5. Amortization factor	10.703	11.272
6. Multnomah FD #10 UAL Rate		
a. City of Portland (3.a. ÷ 4.a. ÷ 5.)	1.14%	1.03%
b. All Tier 1 / Tier 2 employers (3.b. ÷ 4.b. ÷ 5.)	0.15%	0.13%
7. Total Multnomah FD #10 UAL Rate		
a. City of Portland (6.a. + 6.b.)	1.29%	1.16%
b. City of Gresham, City of Fairview, City of Wood Village, City of Troutdale (2 x 6.b.)	0.30%	0.26%
c. All other Tier 1 / Tier 2 employers (6.b.)	0.15%	0.13%
<i>Amounts in millions</i>		

**Calculated Employer Contribution Rate Summary (Pre-Rate Collar)**

The following table summarizes the development of the total Tier 1/Tier 2 contribution rate for each rate pool as of the valuation date. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates are applied to combined valuation payroll. These rates are adjusted on an individual employer basis for side accounts and pre-SLGRP liabilities, if applicable. Weighted average adjustments for side accounts and pre-SLGRP liabilities are shown in the table. For individual employers, these adjustments cannot reduce the pension contribution rate below 0.0%. Note that independent employers, other than the State Judiciary, are subject to a minimum employer contribution rate of 6.0% that is not taken into account in the average rates below.

<b>July 1, 2015 Rates Calculated as of December 31, 2013</b>				
	<b>SLGRP</b>	<b>School Districts</b>	<b>Independent Employers</b>	<b>Tier 1 / Tier 2 Totals</b>
<b>Tier 1/Tier 2 pension contribution rates</b>				
Employer normal cost rate	13.66%	11.94%	14.24%	13.15%
Member normal cost rate			0.30%	0.03%
UAL rate	5.49%	9.10%	3.57%	6.44%
Multnomah FD #10 rate	0.22%	0.15%	0.16%	0.19%
<b>Total Tier 1/Tier 2 pension rate</b>	<b>19.37%</b>	<b>21.19%</b>	<b>18.27%</b>	<b>19.81%</b>
<b>Average adjustments</b>				
Pre-SLGRP liability/(surplus) rate	(0.80%)	N/A	N/A	(0.47%)
Side account rate	(4.99%)	(10.62%)	(1.06%)	(6.38%)
<b>Total average adjustment</b>	<b>(5.79%)</b>	<b>(10.62%)</b>	<b>(1.06%)</b>	<b>(6.85%)</b>
<b>Net pension contribution rate</b>	<b>13.58%</b>	<b>10.57%</b>	<b>17.21%</b>	<b>12.96%</b>

**Calculation of Rate Collar**

Employer contribution rates cannot change by more than the greater of 3 percentage points or 20% of the current contribution rate. However, if the funded percentage is below 60% or above 140%, the size of the collar is doubled. If the funded percentage is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale. All collar calculations are performed excluding amounts and contribution rates attributable to pre-SLGRP liabilities, side accounts and member contributions. Retiree medical rates are also excluded from the rate collar calculation.

The table below develops the impact of the collar for each of the Tier 1/Tier 2 rate pools. Although the calculation is performed individually for independent employers, the table shows the calculation as if independent employers were a pool. Note that independent employers, other than the State Judiciary, are subject to a minimum employer contribution rate of 6.0% that is not taken into account in the calculation below.

July 1, 2015 Rates Calculated as of December 31, 2013				
Calculation of Collar Adjustments	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
1. Current employer contribution rate <sup>2</sup>	15.19%	21.55%	14.51%	17.12%
2. Size of rate collar				
a. Preliminary size of rate collar <i>(maximum of 3% or 20% x 1.)</i>	3.04%	4.31%	3.00%	3.42%
b. Funded percentage	88%	85%	92%	87%
<b>c. Size of rate collar (If b. &lt; 60% or b. &gt; 140%, 2 x a. If b. is 70%-130%, a. Otherwise, a graded rate between a. and 2 x a.)</b>	<b>3.04%</b>	<b>4.31%</b>	<b>3.00%</b>	
3. July 1, 2015 Minimum employer contribution rate (1. - 2.c.)	12.15%	17.24%	11.51%	
4. July 1, 2015 Maximum employer contribution rate (1. + 2.c.)	18.23%	25.86%	17.51%	
5. July 1, 2015 employer contribution rate before collar	19.37%	21.19%	17.97%	
6. July 1, 2015 employer contribution rate after collar <i>(5., but not less than 3. or more than 4.)</i>	18.23%	21.19%	17.51%	
<b>7. Impact of collar (6. - 5.)<sup>3</sup></b>	<b>(1.14%)</b>	<b>0.00%</b>	<b>(0.46%)</b>	<b>(0.72%)</b>

<sup>1</sup> The average Tier 1/Tier 2 rate has been recalculated based on current valuation payroll.

<sup>2</sup> Current employer contribution rates reflect changes to actual 2013-2015 contributions made by Senate Bill 822.

<sup>3</sup> The impact of collar shown for the system-wide column is the weighted average of the impact shown for each rate pool.

**Calculated Employer Contribution Rate Summary (Post Rate Collar)**

Any adjustment for the collar is made to the UAL rate. The table below summarizes the average rates effective July 1, 2015 by pool and component. Although the rate collar is applied individually for independent employers, the table shows the average rates as if independent employers were a pool. Note that independent employers, other than the State Judiciary, are subject to a minimum employer contribution rate of 6.0% that is not taken into account in the average rates below.

<b>July 1, 2015 Rates</b>				
<b>Calculated as of December 31, 2013</b>				
	<b>SLGRP</b>	<b>School Districts</b>	<b>Independent Employers</b>	<b>Tier 1 / Tier 2 Totals</b>
<b>Tier 1/Tier 2 pension contribution rates</b>				
Employer normal cost rate	13.66%	11.94%	14.24%	13.15%
Member normal cost rate			0.30%	0.03%
UAL rate	4.35%	9.10%	3.11%	5.72%
Multnomah FD #10 rate	0.22%	0.15%	0.16%	0.19%
<b>Total Tier 1/Tier 2 pension rate</b>	<b>18.23%</b>	<b>21.19%</b>	<b>17.81%</b>	<b>19.09%</b>
<b>Average adjustments</b>				
Pre-SLGRP liability/(surplus) rate	(0.80%)	N/A	N/A	(0.47%)
Side account rate	(4.99%)	(10.62%)	(1.06%)	(6.38%)
<b>Total average adjustment</b>	<b>(5.79%)</b>	<b>(10.62%)</b>	<b>(1.06%)</b>	<b>(6.85%)</b>
<b>Net pension contribution rate</b>	<b>12.44%</b>	<b>10.57%</b>	<b>16.75%</b>	<b>12.24%</b>

## OPSRP Assets

Information on OPSRP assets is shown in the section of this report covering the system-wide assets. As of December 31, 2013, the actuarial value of assets for OPSRP is \$1,630.2 million.

## OPSRP 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 percent of payroll that would need to be contributed each year to fully fund each member's plan benefits during his or her working career.

A summary of the normal cost by decrement is shown below for the current and prior year.

	December 31, 2013			December 31, 2012		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
<b>Pre-Retirement Disability</b>						
Duty	\$ 0.5	\$ 0.6	\$ 1.1	\$ 0.5	\$ 0.5	\$ 1.0
Non-Duty	5.1	0.6	5.8	4.6	0.6	5.2
<b>Total Pre-Retirement Disability</b>	<b>\$ 5.6</b>	<b>\$ 1.2</b>	<b>\$ 6.8</b>	<b>\$ 5.0</b>	<b>\$ 1.1</b>	<b>\$ 6.1</b>
<b>Other Benefits</b>						
Service Retirement	\$ 198.8	\$ 40.5	\$ 239.2	\$ 180.6	\$ 35.6	\$ 216.2
Withdrawal	20.2	2.1	22.4	18.2	1.9	20.1
Death	2.4	0.4	2.8	2.2	0.3	2.5
Duty Disability Retirement	0.2	0.3	0.5	0.2	0.3	0.4
Non-Duty Disability Retirement	2.6	0.4	3.0	2.4	0.4	2.7
<b>Total Other Benefits</b>	<b>\$ 224.2</b>	<b>\$ 43.7</b>	<b>\$ 267.9</b>	<b>\$ 203.6</b>	<b>\$ 38.4</b>	<b>\$ 242.0</b>
Assumed Administrative Expenses	\$ 4.9	\$ 0.6	\$ 5.5	\$ 4.9	\$ 0.6	\$ 5.5
<b>Total Normal Cost</b>	<b>\$ 234.7</b>	<b>\$ 45.5</b>	<b>\$ 280.2</b>	<b>\$ 213.5</b>	<b>\$ 40.1</b>	<b>\$ 253.6</b>

*Amounts in millions*

The increase in the normal cost since the prior valuation is primarily attributable to the effect of new entrants to the OPSRP program. The table below reconciles the normal cost from the prior valuation to the current valuation.

	OPSRP
<b>Normal Cost, December 31, 2012</b>	<b>\$ 253.6</b>
Expected increase	(8.1)
Assumption and method changes	0.0
Plan changes	0.0
New entrants	31.0
Deviations from expected experience	3.7
<b>Normal Cost, December 31, 2013</b>	<b>\$ 280.2</b>

*Amounts in millions*

**Actuarial Accrued Liability**

The actuarial accrued liability represents the value of benefits attributed to prior years of service by the actuarial cost method. A summary of the actuarial accrued liability by decrement is shown below for the current and prior year.

	December 31, 2013			December 31, 2012		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
Active Members						
Pre-retirement Duty Disability	\$ 0.7	\$ 1.0	\$ 1.7	\$ 0.5	\$ 0.8	\$ 1.4
Pre-retirement Non-Duty Disability	43.1	4.6	47.6	34.4	3.5	38.0
Service Retirement	1,602.0	280.2	1,882.2	1,304.8	220.2	1,524.9
Withdrawal	102.0	9.7	111.7	91.5	8.4	99.9
Death	18.5	2.3	20.8	15.4	1.9	17.2
Duty Disability Retirement	1.4	1.8	3.2	1.2	1.5	2.7
Non-Duty Disability Retirement	22.2	3.0	25.2	17.8	2.3	20.1
<b>Total Active Members</b>	<b>\$ 1,789.8</b>	<b>\$ 302.6</b>	<b>\$ 2,092.4</b>	<b>\$ 1,465.6</b>	<b>\$ 238.6</b>	<b>\$ 1,704.2</b>
Inactive Members			\$ 99.6			\$ 62.7
Retired Members and Beneficiaries			\$ 51.2			\$ 28.6
<b>Total Actuarial Accrued Liability</b>			<b>\$ 2,243.3</b>			<b>\$ 1,795.6</b>

*Amounts in millions*

The change in actuarial accrued liability since the last valuation reflects the experience of the system. The table below reconciles the actuarial accrued liability from the last valuation to this valuation. The actuarial accrued liability is expected to increase due to benefits earned during the year and interest, and to decrease due to benefits paid during the year.

	OPSRP
<b>Actuarial Accrued Liability December 31, 2012</b>	<b>\$ 1,795.6</b>
Expected change	388.9
Assumption and method changes	0.0
Plan changes	0.0
<b>Deviations from expected experience</b>	
Retirements from active status	(1.6)
Active mortality and withdrawal	5.5
Pay increases	6.3
Other	(4.9)
<b>Total demographic (gains) and losses</b>	<b>5.2</b>
New entrants	53.6
<b>Actuarial Accrued Liability December 31, 2013</b>	<b>\$ 2,243.3</b>

*Amounts in millions*

## OPSRP Unfunded Accrued Liability (UAL)

### Calculation of UAL

The Unfunded Accrued Liability (UAL) represents the difference between the actuarial accrued liability and the valuation assets. The UAL is amortized over combined valuation payroll. The table below shows the OPSRP UAL, funded status, and UAL as a percentage of combined valuation payroll.

	December 31, 2013		December 31, 2012	
1. Actuarial accrued liability	\$	2,243.3	\$	1,795.6
2. Actuarial value of assets	\$	1,630.2	\$	1,190.0
3. Unfunded accrued liability	\$	613.2	\$	605.5
4. Funded percentage (2. ÷ 1.)		73%		66%
5. Combined valuation payroll	\$	8,671.8	\$	8,590.9
6. Unfunded accrued liability as % of combined valuation payroll		7%		7%

*Amounts in millions*

### Reconciliation of UAL Bases

Beginning with the December 31, 2007, actuarial valuation, each odd-year valuation establishes a 16-year closed-period amortization base for outstanding OPSRP UAL amounts. For odd-year valuations subsequent to December 31, 2007, this amortization base will be calculated based on the total OPSRP UAL as of that valuation date less the remaining unamortized balance of any OPSRP UAL bases established at previous odd-year valuation dates. In other words, OPSRP experience from December 31, 2011 to December 31, 2013 is amortized based on a 16-year amortization schedule beginning December 31, 2013.

Reconciliation of UAL Bases								
Amortization Base	UAL, December 31, 2012		Payment	Interest	UAL, December 31, 2013		Next Year's Payment	
December 31, 2007	\$	(65.2)	\$	(7.4)	\$	(62.6)	\$	(7.6)
December 31, 2009		153.7		15.2		149.8		15.8
December 31, 2011		56.0		5.0		55.2		5.2
December 31, 2013		N/A		N/A		470.8		39.8
<b>Total</b>			<b>\$</b>	<b>12.8</b>	<b>\$</b>	<b>613.2</b>	<b>\$</b>	<b>53.1</b>

*Amounts in millions*

**Actuarial Gain or Loss since Prior Valuation**

In every actuarial valuation, assumptions are made as to the future experience of the plan and covered group of participants. Whenever there is a difference between the actual experience and that anticipated by the actuarial assumptions, there is a gain or loss to the plan. Gains are the result of experience that is more favorable than anticipated (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of unfavorable experience. The 2013 liability loss is primarily due to new entrants to the OPSRP program.

The table below develops the actuarial gain or loss for OPSRP for the year ending December 31, 2013.

	OPSRP
1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2012	\$ 1,795.6
b. Normal cost at December 31, 2012 (excluding administrative expenses)	\$ 248.1
c. Benefit payments (excluding administrative expenses) for year ending December 31, 2013	\$ (7.7)
d. Interest	\$ 148.5
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 2,184.5
f. Change in actuarial accrued liability at December 31, 2013, due to assumption and method changes	\$ 0.0
g. Change in actuarial accrued liability at December 31, 2013, due to plan changes	\$ 0.0
h. Expected actuarial accrued liability at December 31, 2013 (e. + f. + g.)	\$ 2,184.5
2. Actuarial accrued liability at December 31, 2013	\$ 2,243.3
<b>3. Liability gain/(loss) (1.h. - 2)</b>	<b>\$ (58.8)</b>
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2012	\$ 1,190.0
b. Actual contributions for 2013	\$ 229.3
c. Benefit payments and administrative expenses for fiscal year ending December 31, 2013	\$ (12.1)
d. Assumed investment return	\$ 100.6
e. Expected actuarial value of assets at December 31, 2013 (a. + b. + c. + d.)	\$ 1,507.9
5. Actuarial value of assets as of December 31, 2013	\$ 1,630.2
<b>6. Asset gain/(loss) (5. - 4.e.)</b>	<b>\$ 122.3</b>
<b>7. Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ 63.5</b>
<i>Amounts in millions</i>	

**Reconciliation of the UAL**

The table below summarizes the changes in UAL since the prior valuation.

	OPSRP
<b>UAL, December 31, 2012</b>	<b>\$ 605.5</b>
Normal Cost (including actual administrative expenses)	252.6
Contributions	(229.3)
Liability (gain) or loss	58.8
Asset (gain) or loss	(122.3)
Assumption and method changes	0.0
Plan changes	0.0
Interest at 7.75%	47.8
<b>UAL, December 31, 2013</b>	<b>\$ 613.2</b>
<i>Amounts in millions</i>	

## OPSRP Contribution Rate Development

### Normal Cost Rates

The table below shows the development of the OPSRP normal cost rates.

Development of Normal Cost Rate	December 31, 2013			December 31, 2012		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
<b>Normal Cost</b>						
Pre-retirement Disability Benefits	\$ 5.6	\$ 1.2	\$ 6.8	\$ 5.0	\$ 1.1	\$ 6.1
All Other Benefits	224.2	43.7	267.9	203.6	38.4	242.0
Assumed Administrative Expenses	4.9	0.6	5.5	4.9	0.6	5.5
<b>Total Normal Cost</b>	<b>\$ 234.7</b>	<b>\$ 45.5</b>	<b>\$ 280.2</b>	<b>\$ 213.5</b>	<b>\$ 40.1</b>	<b>\$ 253.6</b>
OPSRP Valuation Payroll	\$ 3,200.0	\$ 398.1	\$ 3,598.1	\$ 2,899.3	\$ 349.9	\$ 3,249.2
<b>Normal Cost Rate</b>						
Pre-retirement Disability Benefits	0.18%	0.31%	0.19%	0.17%	0.31%	0.19%
All Other Benefits	7.01%	10.98%	7.45%	7.02%	10.99%	7.45%
Assumed Administrative Expenses	0.15%	0.15%	0.15%	0.17%	0.17%	0.17%
<b>Total Normal Cost</b>	<b>7.33%</b>	<b>11.44%</b>	<b>7.79%</b>	<b>7.36%</b>	<b>11.46%</b>	<b>7.81%</b>

*Amounts in millions*

### 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, 2013	December 31, 2012
1. Total UAL	\$ 613.2	\$ 605.5
2. Next year's UAL payment	\$ 53.1	\$ 51.8
3. Combined valuation payroll	\$ 8,671.8	\$ 8,590.9
4. UAL rate (2 ÷ 3)	0.61%	0.60%

*Amounts in millions*

**Calculated Employer Contribution Rates (Pre-Rate Collar)**

The following table summarizes the OPSRP contribution rate for general service and police & fire members as of the valuation date prior to application of the collar.

The normal cost rates apply to OPSRP payroll only, but the UAL rate is applied to combined valuation payroll. These rates, after the application of the collar, are combined with each employer’s Tier 1/Tier 2 rates (other than Tier 1/Tier 2 normal cost rate) to determine each employer’s contribution rate on OPSRP payroll.

July 1, 2015 Rates Calculated as of December 31, 2013			
	General Service	Police & Fire	Average Rate
<b>OPSRP pension contribution rates</b>			
Employer normal cost rate	7.33%	11.44%	7.79%
Employer UAL rate	0.61%	0.61%	0.61%
<b>Total OPSRP pension rate</b>	<b>7.94%</b>	<b>12.05%</b>	<b>8.40%</b>

**Calculation of Rate Collar**

The rate collar restricts the average OPSRP contribution rate so it generally cannot change by more than the greater of 3 percentage points or 20% of the current average OPSRP contribution rate. However, if the funded percentage is below 60% or above 140%, the size of the collar is doubled. If the funded percentage is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale. All collar calculations are performed based on the weighted average OPSRP contribution rate, and any adjustment due to the collar is applied to the OPSRP UAL rate.

The table below shows the calculation of and any adjustment for the rate collar.

July 1, 2015 Rates Calculated as of December 31, 2013			
	General Service	Police & Fire	Average Rate
1. Current employer contribution rate	6.42%	9.15%	6.71%
2. Size of rate collar			
a. Preliminary size of rate collar (Maximum of 3% or 20% of 1.)			3.00%
b. Funded percentage			73%
c. <b>Size of rate collar (If b. &lt; 60% or b. &gt; 140%, 2 x a.. If b. is 70%-130%, a., otherwise a graded rate between a. and b.)</b>			<b>3.00%</b>
3. July 1, 2015 Minimum contribution rate (1. - 2.c.)			3.71%
4. July 1, 2015 Maximum contribution rate (1. + 2.c.)			9.71%
5. July 1, 2015 employer contribution rate before collar	7.94%	12.05%	8.40%
6. July 1, 2015 employer contribution rate after collar	7.94%	12.05%	8.40%
<b>7. Impact of collar (6. - 5.)</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

**Calculated Employer Contribution Rates (Post-Rate Collar)**

The table below summarizes the employer's pension contribution rate for OPSRP after adjustments for the rate collar.

July 1, 2015 Rates Calculated as of December 31, 2013			
	General Service	Police & Fire	Average Rate
<b>OPSRP pension contribution rates</b>			
Employer normal cost rate	7.33%	11.44%	7.79%
Employer UAL rate	0.61%	0.61%	0.61%
<b>Total OPSRP pension rate</b>	<b>7.94%</b>	<b>12.05%</b>	<b>8.40%</b>

# Retiree Healthcare Valuation

## Retiree Healthcare Assets

### Assets

A reconciliation of retiree healthcare assets is shown below. The reconciliation of assets is provided by PERS.

	RHIA	RHIPA	Retiree Healthcare Totals
<b>Additions</b>			
1. Employer contributions	\$ 47.7	\$ 4.7	\$ 52.4
2. Net investment income	\$ 46.4	\$ 0.6	\$ 47.0
3. Other	\$ 0.0	\$ 0.0	\$ 0.0
<b>4. Total additions</b>	<b>\$ 94.2</b>	<b>\$ 5.3</b>	<b>\$ 99.4</b>
<b>Deductions</b>			
4. Healthcare Premium Subsidies	\$ (31.1)	\$ (4.3)	(35.5)
5. Administrative expenses	\$ (1.1)	\$ (0.2)	(1.3)
<b>6. Total deductions</b>	<b>\$ (32.2)</b>	<b>\$ (4.5)</b>	<b>(36.7)</b>
<b>7. Net change</b>	<b>\$ 61.9</b>	<b>\$ 0.8</b>	<b>62.7</b>
8. Net assets held in trust for benefits			
a. Beginning of year	\$ 291.6	\$ 4.4	296.0
<b>b. End of year</b>	<b><u>\$ 353.5</u></b>	<b><u>\$ 5.2</u></b>	<b><u>358.8</u></b>
<i>Amounts in millions</i>			

### Retiree Healthcare Liabilities

#### Normal Cost

A summary of the normal cost by decrement is shown below for the retiree healthcare benefits.

	RHIA			RHIPA		
	12/31/2013	12/31/2012	Percent Change	12/31/2013	12/31/2012	Percent Change
<b>Normal Cost</b>						
Service Retirement	\$ 3.0	\$ 3.3		\$ 1.2	\$ 1.3	
Withdrawal	0.9	0.9		0.0	0.0	
Duty Disability	0.0	0.0		0.0	0.0	
Nonduty Disability	0.0	0.0		0.1	0.0	
Death	0.1	0.1		0.0	0.0	
<b>Total Normal Cost</b>	<b>\$ 4.0</b>	<b>\$ 4.4</b>	<b>(9.0%)</b>	<b>\$ 1.3</b>	<b>\$ 1.4</b>	<b>(0.8%)</b>
<i>Amounts in millions</i>						

The table below reconciles the normal cost from the prior valuation to the current valuation.

	RHIA	RHIPA
<b>Normal Cost December 31, 2012</b>	<b>\$4.4</b>	<b>\$1.4</b>
Expected increase/(decrease)	(0.2)	(0.0)
Assumption and method changes	0.0	0.0
Plan changes	0.0	0.0
<b>Deviations from expected experience</b>		
Demographic (gains) or losses	(0.2)	0.0
<b>Normal Cost December 31, 2013</b>	<b>\$4.0</b>	<b>\$1.3</b>
<i>Amounts in millions</i>		

**Actuarial Accrued Liability**

A summary of the actuarial accrued liability by status is shown below for the retiree healthcare benefits.

	RHIA			RHIPA		
	12/31/2013	12/31/2012	Percent Change	12/31/2013	12/31/2012	Percent Change
<b>Actives</b>	\$ 99.5	\$ 105.3	(5.6%)	\$ 45.1	\$ 45.3	(0.4%)
<b>Inactive Members</b>	26.1	28.2	(7.3%)	0.0	0.0	0.0%
<b>Retired Members and Beneficiaries</b>	348.0	338.3	2.8%	16.1	15.1	6.9%
<b>Total Actuarial Accrued Liability</b>	\$ 473.6	\$ 471.8	0.4%	\$ 61.2	\$ 60.3	1.4%
<i>Amounts in millions</i>						

The change in actuarial accrued liability since the last valuation reflects the experience of the system. The table below reconciles the actuarial accrued liability from the last valuation to this valuation. The actuarial accrued liability is expected to increase due to benefits earned during the year and interest, and to decrease due to benefits paid during the year.

	RHIA	RHIPA	Total
<b>Actuarial Accrued Liability December 31, 2012</b>	\$ 471.8	\$ 60.3	\$ 532.2
Expected change	9.0	1.6	10.6
Assumption and method changes	0.0	0.0	0.0
Plan changes	0.0	0.0	0.0
<b>Deviations from expected experience</b>			
Demographic (gains) or losses	(7.2)	(0.8)	(8.1)
<b>Actuarial Accrued Liability December 31, 2013</b>	\$ 473.6	\$ 61.2	\$ 534.7
<i>Amounts in millions</i>			

## Retiree Healthcare Unfunded Accrued Liability (UAL)

### Calculation of UAL

The Unfunded Accrued Liability (UAL) represents the difference between the actuarial accrued liability and the valuation assets. A summary of the UAL by program is shown on the following table.

	RHIA			RHIPA		
	12/31/2013	12/31/2012	Percent Change	12/31/2013	12/31/2012	Percent Change
1. Actuarial accrued liability	\$ 473.6	\$ 471.8	0.4%	\$ 61.2	\$ 60.3	1.4%
2. Actuarial value of assets	\$ 353.5	\$ 291.6	21.2%	\$ 5.2	\$ 4.4	18.0%
3. Unfunded accrued liability	\$ 120.0	\$ 180.2	(33.4%)	\$ 55.9	\$ 55.9	0.1%
4. Funded percentage (2. ÷ 1.)	74.7%	61.8%	20.8%	8.6%	7.4%	16.4%
5. Combined valuation payroll	\$ 8,671.8	\$ 8,590.9	0.9%	\$ 2,531.5	\$ 2,432.4	4.1%
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	1.4%	2.1%	(34.0%)	2.2%	2.3%	(3.8%)
<i>Amounts in millions</i>						

### Reconciliation of UAL Bases

Beginning with the December 31, 2007 actuarial valuation, each rate-setting valuation establishes a 10-year amortization base for outstanding RHIA and RHIPA UAL amounts. For odd-year valuations subsequent to December 31, 2007, this amortization base will be calculated based on the total UAL as of that valuation date less the remaining unamortized balance of any UAL bases established at previous odd-year valuation dates. In other words, RHIA and RHIPA experience from December 31, 2011 to December 31, 2013 is amortized on a 10-year amortization beginning December 31, 2013.

<i>RHIA</i>						
Amortization Base	UAL, December 31, 2012	Payment	Interest	UAL, December 31, 2013	Next Year's Payment	
December 31, 2007	\$ 173.4	\$ 38.7	\$ 11.8	\$ 146.6	\$ 40.1	
December 31, 2009	51.8	8.5	3.7	46.9	8.9	
December 31, 2011	(29.6)	(3.9)	(2.1)	(27.8)	(4.1)	
December 31, 2013	N/A	N/A	N/A	(45.6)	(5.6)	
<b>Total</b>		<b>\$ 43.3</b>	<b>\$ 13.4</b>	<b>\$ 120.0</b>	<b>\$ 39.3</b>	
<i>RHIPA</i>						
Amortization Base	UAL, December 31, 2012	Payment	Interest	UAL, December 31, 2013	Next Year's Payment	
December 31, 2007	\$ 11.9	\$ 2.6	\$ 0.8	\$ 10.0	\$ 2.7	
December 31, 2009	1.8	0.3	0.1	1.6	0.3	
December 31, 2011	13.8	1.8	1.0	13.0	1.9	
December 31, 2013	N/A	N/A	N/A	31.3	3.8	
<b>Total</b>		<b>\$ 4.8</b>	<b>\$ 1.9</b>	<b>\$ 55.9</b>	<b>\$ 8.8</b>	
<i>Amounts in millions</i>						

### Actuarial Gain or Loss since Prior Valuation

In every actuarial valuation, assumptions are made as to the future experience of the plan and covered group of participants. Whenever there is a difference between the actual experience and that anticipated by the actuarial assumptions, there is a gain or loss to the plan. Gains are the result of experience that is more favorable than anticipated (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of unfavorable experience.

The table below shows the development of the actuarial gain (or loss) for RHIA and RHIPA for the plan year ending December 31, 2013.

	RHIA	RHIPA	Retiree Healthcare Totals
<b>Retiree Healthcare</b>			
1. Expected actuarial accrued liability			
a. Actuarial accrued liability at December 31, 2012	\$ 471.8	\$ 60.3	\$ 532.2
b. Normal cost at December 31, 2012	\$ 4.4	\$ 1.4	\$ 5.7
c. Benefit payments for fiscal year ending December 31, 2013	\$ (31.1)	\$ (4.3)	\$ (35.5)
d. Interest	\$ 35.7	\$ 4.6	\$ 40.3
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 480.8	\$ 62.0	\$ 542.8
f. Change in actuarial accrued liability at December 31, 2013, due to assumption and method changes	\$ 0.0	\$ 0.0	\$ 0.0
g. Change in actuarial accrued liability at December 31, 2013, due to plan changes	\$ 0.0	\$ 0.0	\$ 0.0
h. Expected actuarial accrued liability at December 31, 2013 (e. + f. + g.)	\$ 480.8	\$ 62.0	\$ 542.8
2. Actuarial accrued liability at December 31, 2013	\$ 473.6	\$ 61.2	\$ 534.7
<b>3. Liability gain/(loss) (1.h. - 2.)</b>	<b>\$ 7.2</b>	<b>\$ 0.8</b>	<b>\$ 8.1</b>
4. Expected actuarial value of assets			
a. Actuarial value of assets at December 31, 2012	\$ 291.6	\$ 4.4	\$ 296.0
b. Actual contributions for 2013	\$ 47.7	\$ 4.7	\$ 52.4
c. Benefit payments and expenses for fiscal year ending December 31, 2013	\$ (32.2)	\$ (4.5)	\$ (36.7)
d. Assumed investment return	\$ 23.2	\$ 0.4	\$ 23.6
e. Expected actuarial value of assets before changes (a. + b. + c. + d.)	\$ 330.3	\$ 5.0	\$ 335.3
f. Change in actuarial value of assets at December 31, 2013, due to assumption changes	\$ 0.0	\$ 0.0	\$ 0.0
g. Change in actuarial value of assets at December 31, 2013, due to plan changes	\$ 0.0	\$ 0.0	\$ 0.0
h. Expected actuarial value of assets at December 31, 2013 (e. + f. + g.)	\$ 330.3	\$ 5.0	\$ 335.3
5. Actuarial value of assets at December 31, 2013	\$ 353.5	\$ 5.2	\$ 358.8
<b>6. Actuarial asset gain/(loss) (5. - 4.h.)</b>	<b>\$ 23.2</b>	<b>\$ 0.2</b>	<b>\$ 23.5</b>
<b>7. Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ 30.5</b>	<b>\$ 1.0</b>	<b>\$ 31.5</b>
<i>Amounts in millions</i>			

**Reconciliation of UAL**

The table below summarizes the changes in UAL since the prior valuation.

The significant decrease in the RHIA UAL is due to better than assumed investment and liability experience during the year.

	RHIA	RHIPA
<b>UAL, December 31, 2012</b>	\$ 180.2	\$ 55.9
Normal Cost (including actual administrative expenses)	5.5	1.5
Contributions	(47.7)	(4.7)
Liability (gain) or loss	(7.2)	(0.8)
Asset (gain) or loss	(23.2)	(0.2)
Assumption and method changes	0.0	0.0
Interest	12.5	4.3
<b>UAL, December 31, 2013</b>	<b>\$ 120.0</b>	<b>\$ 55.9</b>
<i>Amounts in millions</i>		

## Retiree Healthcare Contribution Rate Development

### Normal Cost Rate

The table below shows the development of the retiree healthcare normal cost rates. For RHIA, valuation payroll is shown on a system-wide basis. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only.

	RHIA		RHIPA	
	December 31, 2013	December 31, 2012	December 31, 2013	December 31, 2012
Normal Cost	\$ 4.0	\$ 4.4	\$ 1.3	\$ 1.4
Tier 1/Tier 2 Valuation Payroll	\$ 5,073.7	\$ 5,341.7	\$ 1,434.5	\$ 1,478.4
<b>Normal Cost Rate</b>	<b>0.08%</b>	<b>0.08%</b>	<b>0.09%</b>	<b>0.09%</b>
<i>Amounts in millions</i>				

The table below shows the development of the retiree healthcare normal cost rates for the various rate pools. For RHIA, valuation payroll is shown on a system-wide basis. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2013			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
1. Tier 1/ Tier 2 Valuation Payroll				
a. All Employers' Payroll	\$ 2,915.9	\$ 1,663.0	\$ 494.8	\$ 5,073.7
b. RHIPA Employers' Payroll	\$ 1,413.0	\$ 0.0	\$ 21.4	\$ 1,434.5
2. Normal Cost Rate				
a. RHIA	0.08%	0.08%	0.08%	0.08%
b. RHIPA	0.09%	0.00%	0.09%	0.09%
<b>3. Weighted Average Normal Cost Rate</b> <b>[( 1.a. x 2.a + 1.b. x 2.b. ) / 1.a]</b>	<b>0.12%</b>	<b>0.08%</b>	<b>0.08%</b>	<b>0.11%</b>
<i>Amounts in millions</i>				

**UAL Rate**

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only.

	RHIA		RHIPA	
	December 31, 2013	December 31, 2012	December 31, 2013	December 31, 2012
1. Total UAL	120.0	180.2	55.9	55.9
2. Next year's UAL payment	39.3	41.4	8.8	8.2
3. Combined valuation payroll	\$ 8,671.8	\$ 8,590.9	\$ 2,531.5	\$ 2,432.4
4. <b>UAL rate (2 ÷ 3)</b>	<b>0.45%</b>	<b>0.48%</b>	<b>0.35%</b>	<b>0.34%</b>
<i>Amounts in millions</i>				

The table below shows the development of the retiree healthcare UAL rates for the various rate pools. For RHIA, combined valuation payroll is shown on a system-wide basis. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2013			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
1. Combined Valuation Payroll				
a. All Employers' Payroll	\$ 5,121.9	\$ 2,723.5	\$ 826.4	\$ 8,671.8
b. RHIPA Employers' Payroll	\$ 2,510.0	\$ 0	\$ 21.4	\$ 2,531.5
2. UAL Rate				
a. RHIA	0.45%	0.45%	0.45%	0.45%
b. RHIPA	0.35%	0.00%	0.35%	0.35%
3. <b>Weighted Average UAL Rate</b> <b>[( 1.a. x 2.a + 1.b. x 2.b. ) / 1.a]</b>	<b>0.62%</b>	<b>0.45%</b>	<b>0.46%</b>	<b>0.55%</b>
<i>Amounts in millions</i>				

**Calculated Employer Contribution Rate Summary**

The following table summarizes the calculated employer contribution rates for the retiree healthcare programs. The normal cost rates are applied against Tier 1/Tier 2 payroll, but the UAL rates are applied against all payroll. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only.

July 1, 2015 Rates Calculated as of December 31, 2013			
	State Agencies and Judiciary	All Other Employers	Retiree Healthcare Total
<b>Normal Cost Rates</b>			
RHIA	0.08%	0.08%	0.08%
RHIPA	0.09%	0.00%	0.03%
<b>Total normal cost rate</b>	<b>0.17%</b>	<b>0.08%</b>	<b>0.11%</b>
<b>UAL Rates</b>			
RHIA	0.45%	0.45%	0.45%
RHIPA	0.35%	0.00%	0.10%
<b>Total UAL rate</b>	<b>0.80%</b>	<b>0.45%</b>	<b>0.55%</b>
<b>Total retiree healthcare rate</b>	<b>0.97%</b>	<b>0.53%</b>	<b>0.66%</b>

## Accounting / CAFR Exhibits

## Accounting/CAFR Exhibits

The following information as of December 31, 2013 has been prepared and provided to Oregon PERS for inclusion in the Actuarial Section of the 2014 Comprehensive Annual Financial Report (CAFR):

- Schedule of Active Member Valuation Data
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Schedules of Funding Progress by Rate Pool
- Solvency Test
- Analysis of Financial Experience
- Schedules of Funding Progress

In addition, the Schedules of Employer Contributions and the Notes to Required Supplementary Schedules are provided for the Financial Section of the CAFR for retiree healthcare reporting under GASB Statement No. 43. All data and amounts shown for the December 31, 2005 and later actuarial valuations include both Tier 1/Tier 2 and OPSRP member and employer counts, assets, and liabilities.

This information has been prepared under GASB Statements No. 25, 27, 43, and 45 for purposes of assisting the System and participating employers in fulfilling their financial reporting requirements. **These exhibits do not reflect GASB Statements No. 67 and 68, issued by GASB in June 2012 to replace Statements No. 25 and 27.** GASB 67 governs plan financial reporting effective for fiscal years beginning after June 15, 2013, while GASB 68 governs employer financial reporting for fiscal years beginning after June 15, 2014.

Some employers have made supplemental deposits in addition to their regularly scheduled contributions. These deposits are placed in a side account within the pension trust and used to offset future contribution requirements of that employer. The Schedules of Funding Progress and Solvency Test include side accounts as part of the Plan's assets since those amounts are in a restricted trust available exclusively for the benefit of plan members.

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 Oregon PERS in completing its financial statements, but any accounting determination should be reviewed by your auditor.

The exhibits are provided on the following pages.

## Actuarial Schedules

### Schedule of Active Member Valuation Data

Valuation Date	Count	Annual Payroll (in Thousands)	Average Annual Pay	%Increase in Average Pay	Number of Participating Employers <sup>1</sup>
12/31/1993	137,513	\$ 4,466,797	\$ 32,483	4.9%	N/A
12/31/1995	141,471	\$ 4,848,058	\$ 34,269	2.7%	N/A
12/31/1997	143,194	\$ 5,161,562	\$ 36,045	2.6%	N/A
12/31/1999	151,262	\$ 5,676,606	\$ 37,528	2.0%	N/A
12/31/2000	156,869	\$ 6,195,862	\$ 39,497	5.2%	N/A
12/31/2001	160,477	\$ 6,520,225	\$ 40,630	2.9%	N/A
12/31/2001	160,477	\$ 6,253,965	\$ 38,971	—	N/A
12/31/2002	159,287	\$ 6,383,475	\$ 40,075	2.8%	N/A
12/31/2003	153,723	\$ 6,248,550	\$ 40,648	1.4%	N/A
12/31/2004	142,635	\$ 6,306,447	\$ 44,214	8.8%	806
12/31/2005 <sup>3</sup>	156,501	\$ 6,791,891	\$ 43,398	-1.8%	810
12/31/2006	163,261	\$ 7,326,798	\$ 44,878	3.4%	758
12/31/2007	167,023	\$ 7,721,819	\$ 46,232	3.0%	760
12/31/2008	170,569	\$ 8,130,136	\$ 47,665	3.1%	766
12/31/2009	178,606	\$ 8,512,192	\$ 47,659	0.0%	776
12/31/2010	193,569	\$ 8,750,064	\$ 45,204	-5.2%	787
12/31/2011	170,972	\$ 8,550,511	\$ 50,011	10.6%	791
12/31/2012	167,103	\$ 8,590,879	\$ 51,411	2.8%	798
12/31/2013	162,185	\$ 8,671,835	\$ 53,469	4.0%	799

Old Basis  
New Basis<sup>2</sup>

<sup>1</sup> Effective in 2006, participating employers are defined for this purpose as any employer with covered payroll during the prior year. In prior years, employers with liabilities but without covered payroll were included as well.

<sup>2</sup> Effective in 2001, the Annual Payroll excludes the member pick-up, if any.

<sup>3</sup> Effective with the 12/31/2005 valuation, OPSRP members and payroll are included.

## Actuarial Schedules

### Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Annual Allowances are shown in thousands.

Valuation Date	Added to Rolls		Removed from Rolls		Rolls - End of Year		% Increase in Annual Allowances <sup>1</sup>	Average Annual Allowances
	Count	Annual Allowances	Count	Annual Allowances	Count	Annual Allowances		
12/31/1993					60,841	\$ 564,341	27.6%	\$ 9,276
12/31/1995					64,796	\$ 700,171	24.1%	\$ 10,806
12/31/1997					69,624	\$ 919,038	31.3%	\$ 13,200
12/31/1999					82,819	\$ 1,299,380	41.4%	\$ 15,689
12/31/2000					82,458	\$ 1,385,556	6.6%	\$ 16,803
12/31/2001					85,216	\$ 1,514,491	9.3%	\$ 17,772
12/31/2002					89,482	\$ 1,722,865	13.8%	\$ 19,254
12/31/2003					97,777	\$ 2,040,533	8.4%	\$ 20,869
12/31/2004 <sup>2</sup>	6,754	\$ 149,474	2,863	\$ 35,151	101,668	\$ 2,154,856	5.6%	\$ 21,195
12/31/2005 <sup>2</sup>	4,472	\$ 149,127	3,217	\$ 36,784	102,923	\$ 2,267,198	5.2%	\$ 22,028
12/31/2006 <sup>2</sup>	5,060	\$ 151,240	3,263	\$ 39,735	104,720	\$ 2,378,704	4.9%	\$ 22,715
12/31/2007 <sup>2</sup>	5,385	\$ 183,232	3,304	\$ 40,590	106,801	\$ 2,521,345	6.0%	\$ 23,608
12/31/2008 <sup>2</sup>	5,963	\$ 171,484	3,626	\$ 47,062	109,138	\$ 2,645,767	4.9%	\$ 24,242
12/31/2009 <sup>2</sup>	6,377	\$ 226,713	3,374	\$ 46,228	112,141	\$ 2,826,252	6.8%	\$ 25,203
12/31/2010 <sup>2</sup>	6,359	\$ 217,424	3,512	\$ 51,627	114,988	\$ 2,992,048	5.9%	\$ 26,021
12/31/2011 <sup>2</sup>	8,715	\$ 282,098	3,679	\$ 55,633	120,024	\$ 3,218,514	7.6%	\$ 26,816
12/31/2012 <sup>2</sup>	7,023	\$ 235,917	4,875	\$ 59,353	122,172	\$ 3,395,079	5.5%	\$ 27,789
12/31/2013	9,724	\$ 307,551	3,644	\$ 66,607	128,252	\$ 3,636,023	7.1%	\$ 28,351

<sup>1</sup> Since last valuation date.

<sup>2</sup> Annual allowances reflect estimated adjustments to retiree benefits due to the implementation of the Strunk v. PERB, et al. and City of Eugene v. State of Oregon, PERB, et al. decisions.

## Actuarial Schedules

### Schedule of Funding Progress by Rate Pool

The liabilities and assets resulting from the last six actuarial valuations are as follows (dollar amounts in millions):

Actuarial Valuation Date	Actuarial Value of Assets <sup>1,2</sup> (a)	Actuarial Accrued Liability (AAL) <sup>2</sup> (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll <sup>3</sup> (c)	UAAL as a % of Covered Payroll ((b-a)/c)
<b>Tier 1/Tier 2 State &amp; Local Government Rate Pool</b>						
12/31/2008	\$ 22,301.2	\$ 27,551.8	\$ 5,250.6	80.9%	\$ 3,452.7	152.1%
12/31/2009 <sup>4</sup>	\$ 25,068.8	\$ 29,029.1	\$ 3,960.3	86.4%	\$ 3,465.1	114.3%
12/31/2010	\$ 26,499.5	\$ 30,285.0	\$ 3,785.4	87.5%	\$ 3,333.1	113.6%
12/31/2011 <sup>5</sup>	\$ 25,679.2	\$ 31,109.1	\$ 5,429.9	82.5%	\$ 3,179.3	170.8%
12/31/2012 <sup>6</sup>	\$ 28,022.3	\$ 30,601.9	\$ 2,579.5	91.6%	\$ 3,043.7	84.7%
12/31/2013 <sup>7</sup>	\$ 30,590.2	\$ 31,738.8	\$ 1,148.6	96.4%	\$ 2,915.9	39.4%
<b>Tier 1/Tier 2 School District Rate Pool</b>						
12/31/2008	\$ 17,458.5	\$ 21,742.7	\$ 4,284.2	80.3%	\$ 2,153.7	198.9%
12/31/2009	\$ 19,388.0	\$ 22,517.6	\$ 3,129.6	86.1%	\$ 2,079.2	150.5%
12/31/2010	\$ 20,343.5	\$ 23,303.3	\$ 2,959.8	87.3%	\$ 2,027.5	146.0%
12/31/2011	\$ 19,668.2	\$ 23,973.7	\$ 4,305.5	82.0%	\$ 1,880.7	228.9%
12/31/2012 <sup>6</sup>	\$ 21,202.1	\$ 22,908.0	\$ 1,705.8	92.6%	\$ 1,769.0	96.4%
12/31/2013 <sup>7</sup>	\$ 23,063.3	\$ 23,392.6	\$ 329.4	98.6%	\$ 1,663.0	19.8%
<b>Tier 1/Tier 2 Independent Employers and Judiciary</b>						
12/31/2008	\$ 3,576.7	\$ 4,566.0	\$ 989.3	78.3%	\$ 619.4	159.7%
12/31/2009 <sup>4</sup>	\$ 3,926.7	\$ 4,665.9	\$ 739.3	84.2%	\$ 579.1	127.7%
12/31/2010	\$ 4,189.4	\$ 4,913.1	\$ 723.7	85.3%	\$ 569.7	127.0%
12/31/2011 <sup>5</sup>	\$ 4,083.2	\$ 5,069.8	\$ 986.6	80.5%	\$ 547.9	180.1%
12/31/2012 <sup>6</sup>	\$ 4,479.4	\$ 5,043.4	\$ 564.0	88.8%	\$ 529.0	106.6%
12/31/2013 <sup>7</sup>	\$ 4,851.0	\$ 5,164.3	\$ 313.3	93.9%	\$ 494.8	63.3%
<b>OPSRP Rate Pool</b>						
12/31/2008	\$ 270.5	\$ 336.8	\$ 66.3	80.3%	\$ 1,904.3	3.5%
12/31/2009	\$ 445.4	\$ 535.5	\$ 90.1	83.2%	\$ 2,388.8	3.8%
12/31/2010	\$ 659.0	\$ 767.6	\$ 108.6	85.8%	\$ 2,819.8	3.9%
12/31/2011	\$ 840.5	\$ 986.4	\$ 145.9	85.2%	\$ 2,942.6	5.0%
12/31/2012 <sup>6</sup>	\$ 1,190.0	\$ 1,795.6	\$ 605.5	66.3%	\$ 3,249.2	18.6%
12/31/2013	\$ 1,630.2	\$ 2,243.3	\$ 613.2	72.7%	\$ 3,598.1	17.0%
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>						
12/31/2008	\$ 183.8	\$ 494.0	\$ 310.2	37.2%	\$ 6,225.8	5.0%
12/31/2009	\$ 214.1	\$ 511.2	\$ 297.1	41.9%	\$ 6,123.4	4.9%
12/31/2010	\$ 232.3	\$ 547.1	\$ 314.8	42.5%	\$ 5,930.3	5.3%
12/31/2011	\$ 239.6	\$ 461.1	\$ 221.5	52.0%	\$ 5,607.9	3.9%
12/31/2012	\$ 291.6	\$ 471.8	\$ 180.2	61.8%	\$ 5,341.7	3.4%
12/31/2013	\$ 353.5	\$ 473.6	\$ 120.0	74.7%	\$ 5,073.7	2.4%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>						
12/31/2008	\$ 5.7	\$ 21.3	\$ 15.6	26.7%	\$ 1,708.5	0.9%
12/31/2009	\$ 6.4	\$ 24.5	\$ 18.2	25.9%	\$ 1,705.1	1.1%
12/31/2010	\$ 5.7	\$ 33.9	\$ 28.2	16.8%	\$ 1,603.3	1.8%
12/31/2011	\$ 4.5	\$ 34.4	\$ 29.9	13.2%	\$ 1,539.5	1.9%
12/31/2012	\$ 4.4	\$ 60.3	\$ 55.9	7.4%	\$ 1,478.4	3.8%
12/31/2013	\$ 5.2	\$ 61.2	\$ 55.9	8.6%	\$ 1,434.5	3.9%

Notes:

<sup>1</sup> Side account assets are included with Tier 1/Tier 2 assets.

<sup>2</sup> Excludes effect of Multnomah Fire District (net UAAL of \$175 million as of 12/31/2013).

<sup>3</sup> Covered payroll shown is payroll for members of the rate pool benefiting from the specified program. For example, Tier 1/Tier 2 School District payroll is only payroll for Tier 1/Tier 2 members and excludes OPSRP. However, UAAL is amortized using combined Tier 1/Tier 2 and OPSRP

<sup>4</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.

<sup>5</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.

<sup>6</sup> The 12/31/2012 valuation reflects the benefit changes enacted by the 2013 Oregon Legislature in Senate Bills 822 and 861, as well as a change in cost method to Entry Age Normal.

<sup>7</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2014.

## Actuarial Schedules

### Solvency Test

#### Pension and Retiree Healthcare Plans Combined

(dollar amounts in millions)

The schedule below shows results from the defined benefit pension plans and retiree healthcare plans on a consolidated basis. Results are also shown separately for each program: Tier 1/Tier 2, OPSRP, and retiree healthcare. Note that the defined benefit pension plan constitutes over 99% of the consolidated assets and liabilities.

Actuarial Accrued Liability <sup>1</sup>							
Valuation Date <sup>2</sup>	Active Member Contributions	Retired Members and Beneficiaries	Other Members	Valuation Assets <sup>1,3</sup>	Portion of Actuarial Accrued Liabilities Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
12/31/1995	\$ 5,753.0	\$ 7,492.8	\$ 10,002.8	\$ 20,957.6	100%	100%	77%
12/31/1997	\$ 8,135.4	\$ 9,994.9	\$ 13,534.6	\$ 29,108.2	100%	100%	81%
12/31/1999	\$ 8,238.1	\$ 14,333.7	\$ 18,336.1	\$ 39,964.8	100%	100%	95%
12/31/2000	\$ 10,142.5	\$ 15,664.1	\$ 17,543.9	\$ 41,804.6	100%	100%	91%
12/31/2001	\$ 10,252.8	\$ 17,465.9	\$ 18,229.0	\$ 39,852.2	100%	100%	67%
12/31/2001 <sup>4</sup>	\$ 10,252.8	\$ 17,340.0	\$ 10,228.8	\$ 39,852.2	100%	100%	120%
12/31/2002 <sup>4</sup>	\$ 9,940.7	\$ 19,339.0	\$ 10,240.8	\$ 36,316.8	100%	100%	69%
12/31/2003 <sup>4</sup>	\$ 9,005.8	\$ 23,625.9	\$ 11,993.9	\$ 42,874.4	100%	100%	85%
12/31/2004 <sup>5,6</sup>	\$ 9,073.0	\$ 25,363.0	\$ 13,547.6	\$ 45,735.3	100%	100%	83%
12/31/2005 <sup>7,8</sup>	\$ 9,169.7	\$ 26,602.4	\$ 14,044.7	\$ 51,569.6	100%	100%	112%
12/31/2006	\$ 9,410.8	\$ 27,711.3	\$ 14,666.2	\$ 56,844.8	100%	100%	134%
12/31/2007 <sup>9</sup>	\$ 9,225.0	\$ 29,157.3	\$ 15,011.8	\$ 59,586.4	100%	100%	141%
12/31/2008	\$ 8,341.5	\$ 30,537.7	\$ 15,895.7	\$ 43,710.2	100%	100%	30%
12/31/2009 <sup>10</sup>	\$ 8,392.0	\$ 32,484.2	\$ 16,470.1	\$ 48,949.7	100%	100%	49%
12/31/2010	\$ 8,407.9	\$ 34,432.5	\$ 17,070.2	\$ 51,821.6	100%	100%	53%
12/31/2011 <sup>11</sup>	\$ 7,779.7	\$ 37,362.4	\$ 16,551.8	\$ 50,412.4	100%	100%	32%
12/31/2012 <sup>12</sup>	\$ 7,704.9	\$ 36,759.3	\$ 16,473.1	\$ 55,080.1	100%	100%	64%
12/31/2013 <sup>13</sup>	\$ 7,120.1	\$ 39,531.5	\$ 16,476.8	\$ 60,372.9	100%	100%	83%

<sup>1</sup> Includes effect of Multnomah Fire District (net UAAL of \$175 million as of 12/31/2013).

<sup>2</sup> An extensive revision of the actuarial assumptions occurs prior to each odd-year valuation; therefore, the figures are not directly comparable. Effective with the 12/31/2006 valuation, revisions to actuarial assumptions occur prior to each even-year valuation.

<sup>3</sup> Effective with the 12/31/2002 valuation, includes the value of UAL Lump Sum Side Accounts.

<sup>4</sup> The 2001 valuation was revised to include the impact of PERS Reform Legislation enacted in 2003. Figures through 12/31/2003 do not reflect the judicial review or subsequent Board action.

<sup>5</sup> Effective with the 12/31/2004 valuation, the Oregon Supreme Court rulings in *Strunk v. PERB, et al.* (Issued March 8, 2005) and *City of Eugene v. State of Oregon, PERB, et al.* (Issued August 11, 2005) are reflected.

<sup>6</sup> Effective with the 12/31/2004 valuation, the cost method was changed from Entry Age Normal to Projected Unit Credit, and the actuarial value of assets was changed from a 4-year smoothed value to market value.

<sup>7</sup> Assets and liabilities for OPSRP are first valued in the 2005 valuation.

<sup>8</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2006.

<sup>9</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2008.

<sup>10</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.

<sup>11</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.

<sup>12</sup> The 12/31/2012 valuation reflects the benefit changes enacted by the 2013 Oregon Legislature in Senate Bills 822 and 861, as well as a change in cost method to Entry Age Normal.

<sup>13</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2014.

## Actuarial Schedules

### Solvency Test

#### Tier 1/Tier 2 Pension

(dollar amounts in millions)

Actuarial Accrued Liability							
Valuation Date	Active Member Contributions	Retired Members and Beneficiaries	Other Members	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
12/31/2008	\$ 8,341.5	\$ 30,141.3	\$ 15,439.9	\$ 43,250.1	100%	100%	31%
12/31/2009 <sup>1</sup>	\$ 8,392.0	\$ 32,072.7	\$ 15,810.4	\$ 48,283.8	100%	100%	49%
12/31/2010	\$ 8,407.9	\$ 34,000.0	\$ 16,154.0	\$ 50,924.5	100%	100%	53%
12/31/2011 <sup>2</sup>	\$ 7,779.7	\$ 37,001.1	\$ 15,431.2	\$ 49,327.7	100%	100%	29%
12/31/2012 <sup>3</sup>	\$ 7,704.9	\$ 36,377.3	\$ 14,527.4	\$ 53,594.0	100%	100%	65%
12/31/2013 <sup>4</sup>	\$ 7,120.1	\$ 39,116.2	\$ 14,114.1	\$ 58,384.0	100%	100%	86%

<sup>1</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.

<sup>2</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.

<sup>3</sup> The 12/31/2012 valuation reflects the benefit changes enacted by the 2013 Oregon Legislature in Senate Bills 822 and 861, as well as a change in cost method to Entry Age Normal.

<sup>4</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2014.

### OPSRP Pension

(dollar amounts in millions)

Actuarial Accrued Liability							
Valuation Date	Active Member Contributions	Retired Members and Beneficiaries	Other Members	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
12/31/2008	\$ 0.0	\$ 0.3	\$ 336.5	\$ 270.5	100%	100%	80%
12/31/2009	\$ 0.0	\$ 1.5	\$ 534.0	\$ 445.4	100%	100%	83%
12/31/2010	\$ 0.0	\$ 5.7	\$ 762.0	\$ 659.0	100%	100%	86%
12/31/2011	\$ 0.0	\$ 15.2	\$ 971.3	\$ 840.5	100%	100%	85%
12/31/2012 <sup>1</sup>	\$ 0.0	\$ 28.6	\$ 1,766.9	\$ 1,190.0	100%	100%	66%
12/31/2013	\$ 0.0	\$ 51.2	\$ 2,192.1	\$ 1,630.2	100%	100%	72%

<sup>1</sup> The 12/31/2012 valuation reflects the benefit changes enacted by the 2013 Oregon Legislature in Senate Bills 822 and 861, as well as a change in cost method to Entry Age Normal.

### Retiree Healthcare (RHIA and RHIPA)

(dollar amounts in millions)

Actuarial Accrued Liability							
Valuation Date	Active Member Contributions	Retired Members and Beneficiaries	Other Members	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
12/31/2008	\$ 0.0	\$ 396.0	\$ 119.3	\$ 189.5	0%	48%	0%
12/31/2009	\$ 0.0	\$ 410.0	\$ 125.8	\$ 220.5	0%	54%	0%
12/31/2010	\$ 0.0	\$ 426.8	\$ 154.3	\$ 238.0	0%	56%	0%
12/31/2011	\$ 0.0	\$ 346.1	\$ 149.4	\$ 244.1	0%	71%	0%
12/31/2012 <sup>1</sup>	\$ 0.0	\$ 353.4	\$ 178.8	\$ 296.0	0%	84%	0%
12/31/2013	\$ 0.0	\$ 364.1	\$ 170.6	\$ 358.8	0%	99%	0%

<sup>1</sup> The 12/31/2012 valuation reflects a change in cost method to Entry Age Normal.

## Actuarial Schedules

### Analysis of Financial Experience

The schedule below shows results from the defined benefit pension plans and retiree healthcare plans on a consolidated basis. Results are also shown separately for each program below.

### Gains and Losses in Unfunded Accrued Liability Resulting from Differences Between Assumed Experience and Actual Experience and Assumption Changes

(dollar amounts in millions)

Pension and Retiree Healthcare Plans	\$ Gain (or Loss) for Year	
	2013	2012
<b>Type of Activity</b>		
Retirements from Active Status	\$ (91.7)	\$ 48.2
Active Mortality and Withdrawal	(39.7)	(14.1)
Pay Increases	19.7	157.1
Contributions	62.3	47.0
Interest Crediting Experience	(125.0)	(81.3)
Investment Income	3,524.3	2,882.7
Retirement, Mortality and Lump Sums from Dormant Status	35.8	29.2
Retiree and Beneficiary Mortality	(121.7)	101.5
New Entrants	(53.6)	(31.5)
Other	(32.6)	(96.2)
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>\$ 3,177.8</b>	<b>\$ 3,042.5</b>
<b>Non-Recurring Items</b>		
Assumption Changes	0.0	(2,496.6)
Plan Changes	0.0	5,243.5
<b>Composite Gain (or Loss) During Year</b>	<b>\$ 3,177.8</b>	<b>\$ 5,789.4</b>

The schedules below show results from the Tier 1/Tier 2 and OPSRP pension programs separately.

**Gains and Losses in Unfunded Accrued Liability Resulting from Differences Between Assumed Experience and Actual Experience and Assumption Changes**

Tier 1/Tier 2 Pension Program	\$ Gain (or Loss) for Year	
	2013	2012
<b>Type of Activity</b>		
Retirements from Active Status	\$ (93.8)	\$ 46.6
Active Mortality and Withdrawal	(34.2)	(32.4)
Pay Increases	26.0	140.8
Contributions	54.1	31.7
Interest Crediting Experience	(125.0)	(81.3)
Investment Income	3,378.5	2,792.0
Retirement, Mortality and Lump Sums from Dormant Status	35.2	27.7
Retiree and Beneficiary Mortality	(121.1)	101.8
Other	(36.4)	(83.3)
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>\$ 3,083.3</b>	<b>\$ 2,943.7</b>
<b>Non-Recurring Items</b>		
Assumption Changes	-	(1,785.6)
Plan Changes	-	5,100.3
<b>Composite Gain (or Loss) During Year</b>	<b>\$ 3,083.3</b>	<b>\$ 6,258.3</b>

OPSRP Pension Program	\$ Gain (or Loss) for Year	
	2013	2012
Retirements from Active Status	\$ 2.1	\$ 1.5
Active Mortality and Withdrawal	(5.5)	18.3
Pay Increases	(6.3)	16.3
Contributions	8.8	14.9
Investment Income	122.3	75.2
Retirement, Mortality and Lump Sums from Dormant Status	0.6	1.5
Retiree and Beneficiary Mortality	(0.6)	(0.2)
New Entrants	(53.6)	(31.5)
Other	(4.3)	(20.6)
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>\$ 63.5</b>	<b>\$ 75.3</b>
<b>Non-Recurring Items</b>		
Assumption Changes	-	(678.0)
Plan Changes	-	143.2
<b>Composite Gain (or Loss) During Year</b>	<b>\$ 63.5</b>	<b>\$ (459.5)</b>

The schedule below shows results from the retiree healthcare programs.

**Gains and Losses in Unfunded Accrued Liability Resulting from Differences Between Assumed Experience and Actual Experience and Assumption Changes**

Retiree Healthcare Program	\$ Gain (or Loss) for Year	
	2013	2012
Contributions	\$ (0.6)	\$ 0.4
Investment Income	23.5	15.5
Other	8.1	7.7
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>30.9</b>	<b>23.5</b>
<b>Non-Recurring Items</b>		
Assumption Changes	-	(32.9)
<b>Composite Gain (or Loss) During Year</b>	<b>\$ 30.9</b>	<b>\$ (9.4)</b>

## Actuarial Schedules

## Schedules of Funding Progress

(dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
<b>Pension Benefits - Tier 1/Tier 2 and OPSRP<sup>1</sup></b>						
12/31/2003 <sup>2</sup>	42,753.3	44,078.1	1,324.8	97.0%	6,248.5	21.2%
12/31/2004 <sup>3,4</sup>	45,581.1	47,398.6	1,817.5	96.2%	6,772.4 <sup>5</sup>	26.8%
12/31/2005 <sup>5,6</sup>	51,382.6	49,294.0	(2,088.6)	104.2%	6,791.9	(30.8%)
12/31/2006	56,616.5	51,252.9	(5,363.5)	110.5%	7,326.8	(73.2%)
12/31/2007 <sup>7</sup>	59,327.8	52,871.2	(6,456.7)	112.2%	7,721.8	(83.6%)
12/31/2008	43,520.6	54,259.5	10,738.9	80.2%	8,130.1	132.1%
12/31/2009 <sup>8</sup>	48,729.2	56,810.6	8,081.4	85.8%	8,512.2	94.9%
12/31/2010	51,583.6	59,329.5	7,746.0	86.9%	8,750.1	88.5%
12/31/2011 <sup>9</sup>	50,168.2	61,198.4	11,030.2	82.0%	8,550.5	129.0%
12/31/2012 <sup>10</sup>	54,784.1	60,405.2	5,621.1	90.7%	8,590.9	65.4%
12/31/2013 <sup>11</sup>	60,014.1	62,593.6	2,579.5	95.9%	8,671.8	29.7%
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>						
12/31/2003 <sup>2</sup>	117.1	522.5	405.4	22.4%	6,248.5	6.5%
12/31/2004 <sup>4</sup>	148.0	556.9	408.9	26.6%	6,772.4 <sup>5</sup>	6.0%
12/31/2005	181.0	495.9	314.9	36.5%	6,791.9	4.6%
12/31/2006	221.3	511.8	290.5	43.2%	7,326.8	4.0%
12/31/2007	250.8	499.6	248.8	50.2%	7,721.8	3.2%
12/31/2008	183.8	494.0	310.2	37.2%	8,130.1	3.8%
12/31/2009	214.1	511.2	297.1	41.9%	8,512.2	3.5%
12/31/2010	232.3	547.1	314.8	42.5%	8,750.1	3.6%
12/31/2011	239.6	461.1	221.5	52.0%	8,550.5	2.6%
12/31/2012	291.6	471.8	180.2	61.8%	8,590.9	2.1%
12/31/2013	353.5	473.6	120.0	74.7%	8,671.8	1.4%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>						
12/31/2003 <sup>2</sup>	4.0	25.0	21.0	16.0%	1,711.9	1.2%
12/31/2004 <sup>4</sup>	5.2	28.2	23.0	18.4%	1,851.4 <sup>5</sup>	1.2%
12/31/2005	6.1	27.0	20.9	22.7%	1,827.0	1.1%
12/31/2006	7.0	23.4	16.4	30.0%	1,946.8	0.8%
12/31/2007	7.8	23.3	15.5	33.6%	2,080.2	0.7%
12/31/2008	5.7	21.3	15.6	26.7%	2,217.9	0.7%
12/31/2009	6.4	24.5	18.2	25.9%	2,371.8	0.8%
12/31/2010	5.7	33.9	28.2	16.8%	2,379.7	1.2%
12/31/2011	4.5	34.4	29.9	13.2%	2,376.9	1.3%
12/31/2012	4.4	60.3	55.9	7.4%	2,432.4	2.3%
12/31/2013	5.2	61.2	55.9	8.6%	2,531.5	2.2%

## Notes:

<sup>1</sup> Includes UAAL for Multnomah Fire District (\$175 million as of 12/31/2013)<sup>2</sup> The 2001 valuation was revised to include the impact of PERS Reform Legislation enacted in 2003. Figures through 12/31/2003 do not reflect the judicial review or subsequent Board action.<sup>3</sup> Effective with the 2004 valuation, the Oregon Supreme Court rulings in *Strunk v. PERB, et al.* (Issued March 8, 2005) and *City of Eugene v. State of Oregon, PERB, et al.* (Issued August 11, 2005) are reflected.<sup>4</sup> Effective with the 2004 valuation, the cost method was changed from Entry Age Normal to Projected Unit Credit, and the actuarial value of assets was changed from a 4-year smoothed value to market value.<sup>5</sup> Assets and liabilities for OPSRP are first valued in the 2005 valuation. OPSRP payroll, however, was included in the amortization of the UAAL beginning with the 2004 valuation.<sup>6</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2006.<sup>7</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2008.<sup>8</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.<sup>9</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.<sup>10</sup> The 12/31/2012 valuation reflects the benefit changes enacted by the 2013 Oregon Legislature in Senate Bills 822 and 861, as well as a change in cost method to Entry Age Normal.<sup>11</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2014.

**GASB No. 43 Required Supplementary Information**

**Schedules of Employer Contributions**

*(dollar amounts in millions)*

<b>Actuarial Valuation Date</b>	<b>Annual Required Contribution</b>	<b>Percentage Contributed</b>
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>		
12/31/2006	\$44.3	89%
12/31/2007	\$38.8	91%
12/31/2008	\$33.0	85%
12/31/2009	\$29.8	87%
12/31/2010	\$26.5	83%
12/31/2011	\$37.0	88%
12/31/2012	\$47.5	101%
12/31/2013	\$47.1	101%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>		
12/31/2006	\$2.5	90%
12/31/2007	\$2.7	79%
12/31/2008	\$2.9	63%
12/31/2009	\$2.6	68%
12/31/2010	\$2.3	64%
12/31/2011	\$2.8	83%
12/31/2012	\$3.4	101%
12/31/2013	\$4.5	104%

## GASB No. 43 Required Supplementary Information

### Notes to Required Supplementary Schedules

Valuation Date:	December 31, 2013
Actuarial Cost Method:	Entry Age Normal
Amortization Method	The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized as a level percentage of combined payroll over a closed 10 year period.

#### Equivalent Single Amortization Period:

RHIA	3 years
RHIPA	9 years

The Equivalent Single Amortization Period (ESAP) calculation is performed biennially with each rate-setting actuarial valuation. This was calculated most recently in the December 31, 2013 actuarial valuation and the ESAPs for that valuation are shown above. The ARCs for the July 2011-June 2013 and July 2013-June 2015 biennia were based on the December 31, 2009 and December 31, 2011 valuations, respectively.

#### Actuarial Assumptions:

Investment Rate of Return:	7.75 percent
Payroll Growth:	3.75 percent
Consumer Price Inflation:	2.75 percent
Health Cost Inflation:	Graded from 6.1 percent in 2014 to 4.7 percent in 2083.
Method used to Value Assets:	The actuarial value of assets equals the fair market value of assets.

## Data Exhibits

**This valuation is based upon the membership of the System as of December 31, 2013.**

## System Wide Data Exhibits

### Valuation Pay and Census Exhibit

The following tables illustrate the breakdown of member counts and valuation payroll for the SLGRP, School District Pool, and independent employers.

#### SLGRP

	General Service	Police & Fire	Total
Tier 1	\$ 1,213.8	\$ 234.4	\$ 1,448.2
Tier 2	1,172.5	295.2	1,467.7
Tier 1/Tier 2 Valuation Payroll	2,386.3	529.6	2,915.9
OPSRP Valuation Payroll	1,890.7	315.4	2,206.0
<b>Combined Valuation Payroll</b>	<b>\$ 4,277.0</b>	<b>\$ 844.9</b>	<b>\$ 5,121.9</b>

*Amounts in millions*

	December 31					2012
	2013				Total	
	Tier 1	Tier 2	OPSRP	Total		
<b>Active Members in the Pool</b>						
General Service	17,144	18,940	38,778	74,862	76,569	
Police & Fire	2,706	3,878	4,766	11,350	11,451	
Total	19,850	22,818	43,544	86,212	88,020	
Average Age	54.9	49.4	42.0	46.9	46.9	
Average Service	23.0	13.3	5.1	11.4	11.3	
Average prior year Covered Salary	\$ 74,820	\$ 65,386	\$ 47,584	\$ 58,567	\$ 56,338	
<b>Active Members outside the Pool with previous Segments in the Pool</b>						
General Service	3,851	2,572	6,423	6,819		
Police & Fire	345	331	676	716		
Total	4,196	2,903	7,099	7,535		
Average Age	53.5	46.1	50.5	50.3		
Average Service in the Pool	2.8	2.2	2.5	2.5		
<b>Inactive Members<sup>1</sup></b>						
General Service	10,752	8,788	4,113	23,653	24,282	
Police & Fire	674	683	285	1,642	1,665	
Total	11,426	9,471	4,398	25,295	25,947	
Average Age	56.6	51.2	45.6	52.7	53.1	
Average Monthly Benefit	\$ 1,825	\$ 663	\$ 328	\$ 1,129	\$ 1,277	
<b>Retired Members and Beneficiaries<sup>1</sup></b>						
General Service	61,877	3,962	603	66,442	62,567	
Police & Fire	8,595	580	71	9,246	8,710	
Total	70,472	4,542	674	75,688	71,277	
Average Age	70.4	65.9	65.5	70.1	70.1	
Average Monthly Benefit	\$ 2,073	\$ 731	\$ 376	\$ 1,978	\$ 1,935	
<b>Grand Total Number of Members</b>	<b>105,944</b>	<b>39,734</b>	<b>48,616</b>	<b>194,294</b>	<b>192,779</b>	

<sup>1</sup> In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual inactive member with service segments in more than one rate pool will be included in more than one exhibit.

School District Pool

	General Service	Police & Fire	Total
Tier 1	\$ 813.3	\$ 1.1	\$ 814.4
Tier 2	847.3	1.3	848.6
Tier 1/Tier 2 Valuation Payroll	1,660.6	2.4	1,663.0
OPSRP Valuation Payroll	1,059.5	1.0	1,060.5
<b>Combined Valuation Payroll</b>	<b>\$ 2,720.1</b>	<b>\$ 3.4</b>	<b>\$ 2,723.5</b>

*Amounts in millions*

	December 31					2012
	2013				Total	
	Tier 1	Tier 2	OPSRP	Total		
<b>Active Members</b>						
General Service	14,647	17,812	30,633	63,092	65,678	
Police & Fire	16	24	22	62	73	
Total	14,663	17,836	30,655	63,154	65,751	
Average Age	54.6	48.8	42.5	47.1	47.0	
Average Service	22.4	13.0	5.7	11.6	11.5	
Average prior year Covered Salary	\$ 56,217	\$ 47,623	\$ 32,906	\$ 42,474	\$ 40,977	
<b>Active Members outside the Pool with previous Segments in the Pool</b>						
General Service	1,686	1,315		3,001	3,118	
Police & Fire	9	4		13	15	
Total	1,695	1,319		3,014	3,133	
Average Age	55.0	47.3		51.6	51.6	
Average Service	5.1	3.5		4.4	4.2	
<b>Inactive Members<sup>1</sup></b>						
General Service	6,901	6,984	3,167	17,052	17,422	
Police & Fire	17	21	2	40	38	
Total	6,918	7,005	3,169	17,092	17,460	
Average Age	57.2	50.4	46.1	52.4	52.8	
Average Monthly Benefit	\$ 1,496	\$ 524	\$ 259	\$ 868	\$ 953	
<b>Retired Members and Beneficiaries<sup>1</sup></b>						
General Service	59,885	2,235	231	62,351	59,908	
Police & Fire	179	25	3	207	196	
Total	60,064	2,260	234	62,558	60,104	
Average Age	71.5	65.8	65.5	71.3	71.2	
Average Monthly Benefit	\$ 2,127	\$ 586	\$ 333	\$ 2,065	\$ 2,036	
<b>Grand Total Number of Members</b>	<b>83,340</b>	<b>28,420</b>	<b>34,058</b>	<b>145,818</b>	<b>146,448</b>	

<sup>1</sup> In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual inactive member with service segments in more than one rate pool will be included in more than one exhibit.

**Independents**

	General Service	Police & Fire	Total
Tier 1	\$ 159.5	\$ 81.6	\$ 241.2
Tier 2	166.4	87.3	253.7
Tier 1/Tier 2 Valuation Payroll	325.9	168.9	494.8
OPSRP Valuation Payroll	249.9	81.7	331.6
<b>Combined Valuation Payroll</b>	<b>\$ 575.8</b>	<b>\$ 250.6</b>	<b>\$ 826.4</b>

*Amounts in millions*

	December 31					2012
	2013				Total	
	Tier 1	Tier 2	OPSRP	Total		
<b>Active Members</b>						
General Service	2,240	2,665	5,015	9,920	10,337	
Police & Fire	832	978	1,089	2,899	2,995	
Total	3,072	3,643	6,104	12,819	13,332	
Average Age	53.8	48.1	41.5	46.3	46.2	
Average Service	22.1	13.2	5.1	11.5	11.3	
Average prior year Covered Salary	\$ 80,169	\$ 70,331	\$ 50,980	\$ 63,475	\$ 62,282	
<b>Active Members outside the Pool with previous Segments in the Pool</b>						
General Service	1,245	1,156		2,401	2,499	
Police & Fire	283	289		572	622	
Total	1,528	1,445		2,973	3,121	
Average Age	52.9	46.2		49.6	49.5	
Average Service	4.3	3.0		3.6	3.7	
<b>Inactive Members<sup>1</sup></b>						
General Service	1,422	1,390	565	3,377	3,463	
Police & Fire	221	170	62	453	467	
Total	1,643	1,560	627	3,830	3,930	
Average Age	55.5	50.9	47.7	52.3	52.3	
Average Monthly Benefit	\$ 1,394	\$ 567	\$ 328	\$ 883	\$ 1,019	
<b>Retired Members and Beneficiaries<sup>1</sup></b>						
General Service	8,734	745	84	9,563	8,967	
Police & Fire	2,748	92	11	2,851	2,782	
Total	11,482	837	95	12,414	11,749	
Average Age	69.2	65.5	64.6	68.9	68.8	
Average Monthly Benefit	\$ 2,048	\$ 733	\$ 349	\$ 1,946	\$ 1,921	
<b>Grand Total Number of Members</b>	<b>17,725</b>	<b>7,485</b>	<b>6,826</b>	<b>32,036</b>	<b>32,132</b>	

<sup>1</sup> In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual inactive member with service segments in more than one rate pool will be included in more than one exhibit.

**Total**

	General Service	Police & Fire	Total
Tier 1	\$ 2,186.6	\$ 317.1	\$ 2,503.8
Tier 2	2,186.2	383.7	2,569.9
Tier 1/Tier 2 Valuation Payroll	4,372.9	700.9	5,073.7
OPSRP Valuation Payroll	3,200.0	398.1	3,598.1
<b>Combined Valuation Payroll</b>	<b>\$ 7,572.9</b>	<b>\$ 1,099.0</b>	<b>\$ 8,671.8</b>

*Amounts in millions*

	December 31					2012
	2013				Total	
	Tier 1	Tier 2	OPSRP	Total		
<b>Active Members</b>						
General Service	34,031	39,417	74,426	147,874	152,584	
Police & Fire	3,554	4,880	5,877	14,311	14,519	
Total	37,585	44,297	80,303	162,185	167,103	
Average Age	54.7	49.0	42.2	46.9	46.9	
Average Service	22.7	13.2	5.3	11.5	11.4	
Average prior year Covered Salary	\$ 68,000	\$ 58,640	\$ 42,239	\$ 52,688	\$ 50,768	
<b>Inactive Members<sup>1</sup></b>						
General Service	19,075	17,162	7,845	44,082	45,167	
Police & Fire	912	874	349	2,135	2,170	
Total	19,987	18,036	8,194	46,217	47,337	
Average Age	56.7	50.9	46.0	52.5	52.9	
Average Monthly Benefit	\$ 1,675	\$ 601	\$ 301	\$ 1,012	\$ 1,136	
<b>Retired Members and Beneficiaries<sup>1</sup></b>						
General Service	130,496	6,942	918	138,356	131,442	
Police & Fire	11,522	697	85	12,304	11,688	
Total	142,018	7,639	1,003	150,660	143,130	
Average Age	70.8	65.9	65.4	70.5	70.4	
Average Monthly Benefit	\$ 2,094	\$ 689	\$ 363	\$ 2,011	\$ 1,977	
<b>Grand Total Number of Members</b>	<b>199,590</b>	<b>69,972</b>	<b>89,500</b>	<b>359,062</b>	<b>357,570</b>	

<sup>1</sup> In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual inactive member with service segments in more than one rate pool are counted more than once in this exhibit.

### Age/Service and Prior Year Covered Payroll by Tier and Job Class

#### Tier 1 General Service Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
30-34	1	0	0	0	0	0	0	0	0	1
\$	16,863	0	0	0	0	0	0	0	0	16,863
35-39	1	3	13	132	13	0	0	0	0	162
\$	122,779	53,805	53,554	58,143	56,596	0	0	0	0	57,969
40-44	6	34	141	1,358	398	6	0	0	0	1,943
\$	62,640	35,188	53,113	66,229	65,979	67,432	0	0	0	64,675
45-49	21	59	177	1,838	2,200	435	8	0	0	4,738
\$	96,880	36,993	51,623	66,672	70,710	66,427	61,175	0	0	67,717
50-54	18	55	222	2,062	3,013	2,377	316	9	0	8,072
\$	86,908	52,130	54,116	62,223	67,654	71,217	68,045	71,089	0	66,900
55-59	5	52	196	2,418	3,665	2,502	1,099	166	2	10,105
\$	72,480	42,045	48,688	56,855	64,835	70,988	72,668	68,912	48,958	64,938
60-64	7	40	126	1,674	2,608	1,647	658	241	30	7,031
\$	65,577	59,141	53,798	57,892	61,045	69,762	74,752	71,636	67,235	63,872
65-69	1	9	38	391	656	362	146	59	24	1,686
\$	122,705	62,058	60,055	59,040	65,334	66,826	81,589	83,021	82,193	66,359
70-74	1	2	8	63	63	51	19	12	15	234
\$	12,290	25,808	61,478	50,891	63,951	63,228	85,063	108,409	91,730	65,421
75+	0	0	4	14	15	11	5	3	7	59
\$	0	0	46,238	27,435	65,246	78,239	69,010	115,668	82,059	62,285
<b>Total</b>	<b>61</b>	<b>254</b>	<b>925</b>	<b>9,950</b>	<b>12,631</b>	<b>7,391</b>	<b>2,251</b>	<b>490</b>	<b>78</b>	<b>34,031</b>
<b>\$</b>	<b>83,127</b>	<b>45,550</b>	<b>52,559</b>	<b>61,258</b>	<b>65,798</b>	<b>70,271</b>	<b>73,263</b>	<b>73,244</b>	<b>77,410</b>	<b>65,590</b>

#### Tier 2 General Service Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	3	16	16	0	0	0	0	0	0	35
\$	11,467	38,186	42,262	0	0	0	0	0	0	37,760
30-34	3	369	684	23	0	0	0	0	0	1,079
\$	8,283	48,465	50,051	50,437	0	0	0	0	0	49,401
35-39	21	784	3,944	496	0	0	0	0	0	5,245
\$	18,878	49,438	58,699	60,331	0	0	0	0	0	57,310
40-44	19	577	4,762	1,686	0	0	0	0	0	7,044
\$	20,745	49,976	61,516	65,897	0	0	0	0	0	61,509
45-49	6	427	4,263	1,544	0	0	0	0	0	6,240
\$	20,506	49,775	57,953	63,056	0	0	0	0	0	58,620
50-54	7	398	4,671	1,727	0	0	0	0	0	6,803
\$	27,010	48,315	52,821	59,268	0	0	0	0	0	54,168
55-59	12	303	4,432	1,985	0	0	0	0	0	6,732
\$	18,050	45,500	52,121	54,480	0	0	0	0	0	52,458
60-64	15	202	2,976	1,353	0	0	0	0	0	4,546
\$	27,293	46,890	52,827	55,729	0	0	0	0	0	53,343
65-69	5	88	891	396	0	0	0	0	0	1,380
\$	31,296	48,057	53,914	56,459	0	0	0	0	0	54,189
70-74	1	15	172	54	0	0	0	0	0	242
\$	71,992	34,546	47,899	51,627	0	0	0	0	0	48,002
75+	0	2	61	8	0	0	0	0	0	71
\$	0	26,087	38,511	37,696	0	0	0	0	0	38,069
<b>Total</b>	<b>92</b>	<b>3,181</b>	<b>26,872</b>	<b>9,272</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39,417</b>
<b>\$</b>	<b>21,917</b>	<b>48,611</b>	<b>55,819</b>	<b>59,415</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>56,004</b>



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.

Tier 1 Police and Fire Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	1	0	0	0	0	0	1
\$	0	0	0	97,634	0	0	0	0	0	97,634
35-39	0	0	2	24	0	0	0	0	0	26
\$	0	0	57,487	100,429	0	0	0	0	0	97,126
40-44	0	0	7	454	112	0	0	0	0	573
\$	0	0	81,847	92,777	97,422	0	0	0	0	93,551
45-49	0	0	7	396	601	104	0	0	0	1,108
\$	0	0	70,058	91,221	96,179	94,613	0	0	0	94,095
50-54	0	1	4	195	451	308	32	1	0	992
\$	0	53,925	65,656	87,440	90,552	96,989	91,614	85,958	0	91,831
55-59	0	2	3	106	216	151	87	10	0	575
\$	0	76,634	82,774	79,493	85,985	87,440	100,179	89,781	0	87,335
60-64	0	0	2	52	84	65	21	12	0	236
\$	0	0	62,284	69,351	76,217	83,626	94,263	80,745	0	78,463
65-69	0	0	1	7	15	8	2	0	4	37
\$	0	0	49,274	67,734	75,932	74,546	85,764	0	109,308	77,500
70-74	0	0	0	1	1	0	1	0	0	3
\$	0	0	0	66,794	73,172	0	63,220	0	0	67,729
75+	0	0	0	1	1	0	0	1	0	3
\$	0	0	0	83,860	107,244	0	0	104,771	0	98,625
<b>Total</b>	<b>0</b>	<b>3</b>	<b>26</b>	<b>1,237</b>	<b>1,481</b>	<b>636</b>	<b>143</b>	<b>24</b>	<b>4</b>	<b>3,554</b>
\$	<b>0</b>	<b>69,065</b>	<b>71,658</b>	<b>89,297</b>	<b>91,727</b>	<b>92,686</b>	<b>96,934</b>	<b>85,729</b>	<b>109,308</b>	<b>91,076</b>

Tier 2 Police and Fire Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
30-34	0	27	133	6	0	0	0	0	0	166
\$	0	72,570	82,106	81,956	0	0	0	0	0	80,550
35-39	3	67	896	174	0	0	0	0	0	1,140
\$	48,947	73,915	84,132	84,978	0	0	0	0	0	83,568
40-44	0	41	887	540	0	0	0	0	0	1,468
\$	0	66,604	83,088	86,519	0	0	0	0	0	83,889
45-49	0	20	526	370	0	0	0	0	0	916
\$	0	66,634	78,549	84,044	0	0	0	0	0	80,508
50-54	0	9	323	199	0	0	0	0	0	531
\$	0	59,314	73,227	75,292	0	0	0	0	0	73,765
55-59	0	11	220	144	0	0	0	0	0	375
\$	0	53,312	67,110	72,775	0	0	0	0	0	68,881
60-64	1	3	143	74	0	0	0	0	0	221
\$	12,049	56,240	65,983	72,152	0	0	0	0	0	67,672
65-69	0	3	38	14	0	0	0	0	0	55
\$	0	68,673	77,268	69,512	0	0	0	0	0	74,825
70-74	0	0	6	0	0	0	0	0	0	6
\$	0	0	66,566	0	0	0	0	0	0	66,566
75+	0	0	2	0	0	0	0	0	0	2
\$	0	0	30,734	0	0	0	0	0	0	30,734
<b>Total</b>	<b>4</b>	<b>181</b>	<b>3,174</b>	<b>1,521</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,880</b>
\$	<b>39,722</b>	<b>68,896</b>	<b>79,574</b>	<b>82,097</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>79,932</b>

All Tier 1/Tier 2 Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	3	16	16	0	0	0	0	0	0	35
\$	11,467	38,186	42,262	0	0	0	0	0	0	37,760
30-34	4	396	817	30	0	0	0	0	0	1,247
\$	10,428	50,109	55,269	58,314	0	0	0	0	0	53,560
35-39	25	854	4,855	826	13	0	0	0	0	6,573
\$	26,642	51,374	63,379	66,338	56,596	0	0	0	0	62,038
40-44	25	652	5,797	4,038	510	6	0	0	0	11,028
\$	30,800	50,251	64,637	71,789	72,884	67,432	0	0	0	66,711
45-49	27	506	4,973	4,148	2,801	539	8	0	0	13,002
\$	79,908	48,951	59,923	69,219	76,175	71,865	61,175	0	0	66,500
50-54	25	463	5,220	4,183	3,464	2,685	348	10	0	16,398
\$	70,137	48,994	54,149	62,800	70,635	74,173	70,212	72,576	0	63,348
55-59	17	368	4,851	4,653	3,881	2,653	1,186	176	2	17,787
\$	34,059	45,414	52,681	56,850	66,012	71,924	74,686	70,098	48,958	61,022
60-64	23	245	3,247	3,153	2,692	1,712	679	253	30	12,034
\$	38,282	49,005	53,450	57,487	61,519	70,289	75,355	72,068	67,235	60,251
65-69	6	100	968	808	671	370	148	59	28	3,158
\$	46,531	49,936	55,067	58,032	65,571	66,992	81,646	83,021	86,067	61,319
70-74	2	17	186	118	64	51	20	12	15	485
\$	42,141	33,518	49,085	51,363	64,095	63,228	83,971	108,409	91,730	56,758
75+	0	2	67	23	16	11	5	4	7	135
\$	0	26,087	38,740	33,457	67,871	78,239	69,010	112,944	82,059	49,889
<b>Total</b>	<b>157</b>	<b>3,619</b>	<b>30,997</b>	<b>21,980</b>	<b>14,112</b>	<b>8,027</b>	<b>2,394</b>	<b>514</b>	<b>82</b>	<b>81,882</b>
\$	<b>46,153</b>	<b>49,428</b>	<b>58,168</b>	<b>63,501</b>	<b>68,519</b>	<b>72,047</b>	<b>74,677</b>	<b>73,827</b>	<b>78,966</b>	<b>62,936</b>

Age/Service and Prior Year Covered Payroll by Rate Pool

Tier 1/Tier 2 SLGRP Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	2	9	8	0	0	0	0	0	0	19
\$	12,616	42,481	51,423	0	0	0	0	0	0	43,102
30-34	1	145	487	25	0	0	0	0	0	658
\$	5,614	52,669	57,696	57,145	0	0	0	0	0	56,488
35-39	10	289	2,284	543	8	0	0	0	0	3,134
\$	22,255	52,978	65,651	68,032	56,219	0	0	0	0	64,732
40-44	7	243	2,900	2,135	357	3	0	0	0	5,645
\$	26,801	55,860	68,127	74,393	73,372	64,075	0	0	0	70,247
45-49	5	213	2,559	2,297	1,419	359	5	0	0	6,857
\$	24,629	54,723	67,180	72,783	79,196	73,643	65,100	0	0	71,462
50-54	5	206	2,522	2,260	1,833	1,292	228	9	0	8,355
\$	51,918	54,830	64,545	71,555	77,004	77,147	72,355	73,371	0	71,099
55-59	3	172	2,410	2,271	1,981	1,474	576	131	1	9,019
\$	37,869	51,036	63,034	67,649	75,902	77,501	76,871	72,345	70,974	70,170
60-64	12	132	1,788	1,654	1,398	1,065	416	152	21	6,638
\$	26,672	50,872	62,316	67,396	71,582	78,035	82,316	75,089	72,005	69,340
65-69	4	54	573	486	418	231	108	48	12	1,934
\$	33,876	55,951	63,373	65,750	76,257	75,730	92,215	90,925	91,306	70,430
70-74	0	10	118	70	44	33	15	12	13	315
\$	0	40,188	56,209	59,549	73,169	74,245	99,210	108,409	100,116	66,549
75+	0	1	47	14	11	8	4	3	6	94
\$	0	23,518	43,256	42,085	78,491	85,805	80,968	137,474	75,303	57,273
<b>Total</b>	<b>49</b>	<b>1,474</b>	<b>15,696</b>	<b>11,755</b>	<b>7,469</b>	<b>4,465</b>	<b>1,352</b>	<b>355</b>	<b>53</b>	<b>42,668</b>
\$	<b>28,427</b>	<b>53,457</b>	<b>64,923</b>	<b>70,430</b>	<b>75,855</b>	<b>77,106</b>	<b>79,227</b>	<b>77,827</b>	<b>83,624</b>	<b>69,775</b>



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Tier 1/Tier 2 School District Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	0	5	5	0	0	0	0	0	0	10
\$	0	23,336	24,679	0	0	0	0	0	0	24,007
30-34	2	232	230	3	0	0	0	0	0	467
\$	9,618	47,856	44,885	44,315	0	0	0	0	0	46,206
35-39	12	516	2,115	178	0	0	0	0	0	2,821
\$	13,957	49,175	57,591	53,565	0	0	0	0	0	55,612
40-44	13	366	2,352	1,500	88	0	0	0	0	4,319
\$	17,268	44,803	57,133	65,157	59,044	0	0	0	0	58,794
45-49	5	270	1,958	1,459	1,111	112	2	0	0	4,917
\$	24,160	43,400	48,088	59,927	69,051	60,677	45,572	0	0	56,341
50-54	5	222	2,324	1,625	1,346	1,195	94	1	0	6,812
\$	16,198	40,318	40,768	48,730	59,843	68,640	62,226	65,423	0	51,593
55-59	11	166	2,112	2,038	1,632	977	519	34	1	7,490
\$	11,391	36,904	39,249	42,732	52,584	62,669	70,357	62,949	26,941	48,326
60-64	4	96	1,243	1,235	1,108	525	218	85	7	4,521
\$	11,483	39,783	39,690	42,138	47,629	52,966	59,486	65,995	51,872	45,291
65-69	1	37	306	250	215	112	32	10	11	974
\$	20,976	35,354	37,568	39,258	44,912	47,546	48,836	41,117	75,413	41,503
70-74	1	6	56	37	16	15	4	0	2	137
\$	71,992	18,119	34,099	28,643	43,061	36,932	27,497	0	37,221	33,412
75+	0	1	15	7	3	3	1	1	0	31
\$	0	28,656	29,939	14,225	21,541	58,060	21,177	39,354	0	28,279
<b>Total</b>	<b>54</b>	<b>1,917</b>	<b>12,716</b>	<b>8,332</b>	<b>5,519</b>	<b>2,939</b>	<b>870</b>	<b>131</b>	<b>21</b>	<b>32,499</b>
\$	<b>16,244</b>	<b>44,367</b>	<b>47,311</b>	<b>50,903</b>	<b>56,434</b>	<b>62,575</b>	<b>65,652</b>	<b>63,097</b>	<b>61,620</b>	<b>51,500</b>

Tier 1/Tier 2 Independent Employers Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
25-29	1	2	3	0	0	0	0	0	0	6
\$	9,169	55,986	47,142	0	0	0	0	0	0	43,761
30-34	1	19	100	2	0	0	0	0	0	122
\$	16,863	58,072	67,334	93,922	0	0	0	0	0	65,914
35-39	3	49	456	105	5	0	0	0	0	618
\$	92,005	65,068	78,847	79,231	57,200	0	0	0	0	77,708
40-44	5	43	545	403	65	3	0	0	0	1,064
\$	71,582	64,918	78,445	82,678	88,942	70,789	0	0	0	80,089
45-49	17	23	456	392	271	68	1	0	0	1,228
\$	112,563	60,661	70,017	82,924	89,557	80,904	72,761	0	0	79,468
50-54	15	35	374	298	285	198	26	0	0	1,231
\$	94,189	69,666	67,196	73,133	80,646	88,163	80,298	0	0	75,795
55-59	3	30	329	344	268	202	91	11	0	1,278
\$	113,362	60,278	63,076	69,196	74,682	75,996	85,554	65,439	0	70,872
60-64	7	17	216	264	186	122	45	16	2	875
\$	73,498	86,585	59,243	67,217	68,618	77,209	87,880	75,637	70,923	68,591
65-69	1	9	89	72	38	27	8	1	5	250
\$	122,705	73,791	61,761	71,125	64,920	72,907	70,195	122,705	96,932	68,036
70-74	1	1	12	11	4	3	1	0	0	33
\$	12,290	59,216	48,967	75,690	48,421	73,524	81,292	0	0	60,220
75+	0	0	5	2	2	0	0	0	1	10
\$	0	0	22,692	40,374	78,953	0	0	0	122,593	47,471
<b>Total</b>	<b>54</b>	<b>228</b>	<b>2,585</b>	<b>1,893</b>	<b>1,124</b>	<b>623</b>	<b>172</b>	<b>28</b>	<b>8</b>	<b>6,715</b>
\$	<b>92,147</b>	<b>65,931</b>	<b>70,556</b>	<b>75,916</b>	<b>79,108</b>	<b>80,465</b>	<b>84,555</b>	<b>73,312</b>	<b>93,637</b>	<b>74,832</b>



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**OPSRP Active General Service Members**

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	91	0	0	0	0	0	0	0	0	91
\$	9,905	0	0	0	0	0	0	0	0	9,905
20-24	1,529	56	0	0	0	0	0	0	0	1,585
\$	21,025	18,075	0	0	0	0	0	0	0	20,920
25-29	5,622	1,805	31	0	0	0	0	0	0	7,458
\$	33,060	37,583	29,433	0	0	0	0	0	0	34,140
30-34	5,923	6,935	271	0	0	0	0	0	0	13,129
\$	38,244	44,676	44,921	0	0	0	0	0	0	41,779
35-39	4,863	6,228	436	0	0	0	0	0	0	11,527
\$	40,078	47,924	50,088	0	0	0	0	0	0	44,696
40-44	4,176	5,509	417	0	0	0	0	0	0	10,102
\$	39,190	47,859	46,023	0	0	0	0	0	0	44,200
45-49	3,479	5,035	529	0	0	0	0	0	0	9,043
\$	37,411	44,083	39,748	0	0	0	0	0	0	41,263
50-54	2,944	4,608	625	0	0	0	0	0	0	8,177
\$	37,205	42,447	36,122	0	0	0	0	0	0	40,076
55-59	2,467	3,789	521	0	0	0	0	0	0	6,777
\$	38,793	42,214	37,951	0	0	0	0	0	0	40,641
60-64	1,586	2,578	325	0	0	0	0	0	0	4,489
\$	35,192	43,718	36,366	0	0	0	0	0	0	40,173
65-69	521	946	135	0	0	0	0	0	0	1,602
\$	32,231	39,134	35,331	0	0	0	0	0	0	36,568
70-74	118	182	37	0	0	0	0	0	0	337
\$	27,452	29,456	25,959	0	0	0	0	0	0	28,371
75+	22	74	13	0	0	0	0	0	0	109
\$	16,447	20,150	20,072	0	0	0	0	0	0	19,394
<b>Total</b>	<b>33,341</b>	<b>37,745</b>	<b>3,340</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74,426</b>
\$	<b>36,459</b>	<b>44,374</b>	<b>40,509</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40,655</b>

**OPSRP Active Police and Fire Members**

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
20-24	106	3	0	0	0	0	0	0	0	109
\$	52,426	49,618	0	0	0	0	0	0	0	52,349
25-29	667	293	4	0	0	0	0	0	0	964
\$	55,537	63,233	78,562	0	0	0	0	0	0	57,972
30-34	527	1,071	38	0	0	0	0	0	0	1,636
\$	58,359	68,870	72,948	0	0	0	0	0	0	65,579
35-39	388	776	49	0	0	0	0	0	0	1,213
\$	57,443	68,057	74,085	0	0	0	0	0	0	64,906
40-44	249	485	40	0	0	0	0	0	0	774
\$	58,593	65,554	73,941	0	0	0	0	0	0	63,748
45-49	168	279	25	0	0	0	0	0	0	472
\$	53,530	61,035	68,219	0	0	0	0	0	0	58,744
50-54	84	199	13	0	0	0	0	0	0	296
\$	62,102	58,265	54,582	0	0	0	0	0	0	59,192
55-59	88	129	13	0	0	0	0	0	0	230
\$	63,615	55,275	62,587	0	0	0	0	0	0	58,879
60-64	29	97	9	0	0	0	0	0	0	135
\$	58,343	56,908	71,404	0	0	0	0	0	0	58,183
65-69	9	29	2	0	0	0	0	0	0	40
\$	69,835	54,855	19,048	0	0	0	0	0	0	56,435
70-74	0	5	0	0	0	0	0	0	0	5
\$	0	30,696	0	0	0	0	0	0	0	30,696
75+	1	2	0	0	0	0	0	0	0	3
\$	10,043	65,957	0	0	0	0	0	0	0	47,319
<b>Total</b>	<b>2,316</b>	<b>3,368</b>	<b>193</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,877</b>
\$	<b>57,155</b>	<b>65,378</b>	<b>70,381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62,302</b>



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## All OPSRP Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	91	0	0	0	0	0	0	0	0	91
\$	9,905	0	0	0	0	0	0	0	0	9,905
20-24	1,635	59	0	0	0	0	0	0	0	1,694
\$	23,060	19,679	0	0	0	0	0	0	0	22,943
25-29	6,289	2,098	35	0	0	0	0	0	0	8,422
\$	35,444	41,165	35,048	0	0	0	0	0	0	36,868
30-34	6,450	8,006	309	0	0	0	0	0	0	14,765
\$	39,888	47,912	48,367	0	0	0	0	0	0	44,416
35-39	5,251	7,004	485	0	0	0	0	0	0	12,740
\$	41,361	50,155	52,513	0	0	0	0	0	0	46,620
40-44	4,425	5,994	457	0	0	0	0	0	0	10,876
\$	40,282	49,291	48,467	0	0	0	0	0	0	45,591
45-49	3,647	5,314	554	0	0	0	0	0	0	9,515
\$	38,154	44,973	41,033	0	0	0	0	0	0	42,130
50-54	3,028	4,807	638	0	0	0	0	0	0	8,473
\$	37,896	43,101	36,498	0	0	0	0	0	0	40,744
55-59	2,555	3,918	534	0	0	0	0	0	0	7,007
\$	39,648	42,644	38,551	0	0	0	0	0	0	41,240
60-64	1,615	2,675	334	0	0	0	0	0	0	4,624
\$	35,607	44,196	37,310	0	0	0	0	0	0	40,699
65-69	530	975	137	0	0	0	0	0	0	1,642
\$	32,870	39,601	35,094	0	0	0	0	0	0	37,052
70-74	118	187	37	0	0	0	0	0	0	342
\$	27,452	29,490	25,959	0	0	0	0	0	0	28,405
75+	23	76	13	0	0	0	0	0	0	112
\$	16,169	21,356	20,072	0	0	0	0	0	0	20,142
<b>Total</b>	<b>35,657</b>	<b>41,113</b>	<b>3,533</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80,303</b>
<b>\$</b>	<b>37,804</b>	<b>46,094</b>	<b>42,141</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>42,239</b>

### Inactive Member Data Exhibits

For the following exhibits, inactive members are counted by lives, not by segments.

#### Total Tier 1/Tier 2

Inactive Members		
	Count	Average Deferred Monthly Benefit
<20	0	\$ 0
20-24	0	0
25-29	43	180
30-34	535	505
35-39	2,226	933
40-44	3,613	1,289
45-49	4,100	1,481
50-54	5,760	1,534
55-59	6,895	1,413
60-64	5,562	1,400
65-69	2,628	1,204
70-74	896	827
75+	761	1,269
<b>Total</b>	<b>33,019</b>	<b>\$ 1,342</b>

Retirees and Beneficiaries		
	Count	Average Monthly Benefit
<45	546	\$ 1,218
45-49	351	1,823
50-54	1,279	2,588
55-59	7,611	3,018
60-64	23,349	2,859
65-69	30,766	2,643
70-74	23,334	2,427
75-79	15,942	2,137
80-84	11,072	1,812
85-89	7,681	1,432
90-94	4,003	1,063
95-99	1,029	834
100+	151	729
<b>Total</b>	<b>127,114</b>	<b>\$ 2,381</b>

#### OPSRP

Inactive Members		
	Count	Average Deferred Monthly Benefit
<20	0	\$ 0
20-24	16	113
25-29	382	205
30-34	1,484	301
35-39	1,265	344
40-44	1,090	351
45-49	934	334
50-54	927	326
55-59	724	325
60-64	523	328
65-69	406	166
70-74	331	82
75+	112	60
<b>Total</b>	<b>8,194</b>	<b>\$ 301</b>

Retirees and Beneficiaries		
	Count	Average Monthly Benefit
<45	1	\$ 1,597
45-49	1	1,224
50-54	4	408
55-59	100	223
60-64	258	319
65-69	492	403
70-74	127	381
75-79	18	437
80-84	2	304
85-89	0	0
90-94	0	0
95-99	0	0
100+	0	0
<b>Total</b>	<b>1,003</b>	<b>\$ 363</b>

System-Wide Totals

Inactive Members		
	Count	Average Deferred Monthly Benefit
<20	0	\$ 0
20-24	16	113
25-29	425	203
30-34	2,019	355
35-39	3,491	720
40-44	4,703	1,071
45-49	5,034	1,268
50-54	6,687	1,366
55-59	7,619	1,310
60-64	6,085	1,308
65-69	3,034	1,065
70-74	1,227	626
75+	873	1,114
<b>Total</b>	<b>41,213</b>	<b>\$ 1,135</b>

Retirees and Beneficiaries		
	Count	Average Monthly Benefit
<45	547	\$ 1,219
45-49	352	1,821
50-54	1,283	2,581
55-59	7,711	2,982
60-64	23,607	2,831
65-69	31,258	2,608
70-74	23,461	2,416
75-79	15,960	2,135
80-84	11,074	1,812
85-89	7,681	1,432
90-94	4,003	1,063
95-99	1,029	834
100+	151	729
<b>Total</b>	<b>128,117</b>	<b>\$ 2,365</b>

## Retiree Healthcare Member Data Exhibits

For the following exhibits, inactive members are counted by lives, not by pool or employer segments.

### RHIA Members

	As of December 31, 2013	As of December 31, 2012
<b>Dormant members</b>		
Number	15,242	16,260
Average Age	53.0	53.2
<b>Retired members under age 65 eligible for deferred RHIA benefits</b>		
Number	29,533	29,007
Average Age	60.3	60.3
<b>Retired members receiving RHIA benefits</b>		
Number	45,428	42,995
Average Age	75.5	75.9

### RHIPA Members

	As of December 31, 2013	As of December 31, 2012
<b>Active Tier 1/Tier 2 employees of RHIPA employers</b>		
Number	22,225	24,115
Average Age	52.3	52.0
Average Service	18.1	17.6
<b>Retired members receiving RHIPA benefits</b>		
Number	1,260	1,148
Average Age	61.3	61.2
Average Monthly Subsidy Amount	297	292

# Actuarial Methods and Assumptions

## Tier 1/Tier 2 (including Retiree Healthcare)

### Actuarial Methods and Valuation Procedures

In September 2013 the Board adopted the following actuarial methods and valuation procedures for the December 31, 2012 and 2013 actuarial valuations of PERS Tier 1/Tier 2 benefits.

<i>Actuarial cost method</i>	<p><b>Entry Age Normal.</b> Under the Entry Age Normal (EAN) cost method, each active member's <b>entry age present value of projected benefits</b> is allocated over the member's service from the member's date of entry until their assumed date of exit, taking into consideration expected future compensation increases. Thus, the total pension to which each member is expected to become entitled at retirement is broken down into units, each associated with a year of past or projected future credited service. Typically, when this method is introduced, there will be an initial liability for benefits credited for service prior to that date, and to the extent that the liability is not covered by assets of the plan, there is an unfunded accrued liability to be funded over a stipulated period in accordance with an amortization schedule.</p> <p>A detailed description of the calculation follows:</p> <ul style="list-style-type: none"> <li>• An individual member's <b>entry age present value of projected benefits</b> is the sum of the present value of the benefit described under the plan at each possible separation date, determined at the member's entry age using the projected compensation and service at each separation date.</li> <li>• An individual member's <b>entry age present value of projected salaries</b> is the sum of the present value of the projected compensation over the member's working career associated with each possible future separation date, determined at the member's entry age.</li> <li>• An individual member's <b>present value of projected benefits</b> is the sum of the present value of the benefit described under the plan at each possible separation date, determined at the valuation date using the projected compensation and service at each separation date.</li> <li>• An individual member's <b>normal cost</b> for a certain year is the member's <b>entry age present value of projected benefits</b> divided by the member's <b>entry age present value of projected salaries</b> and multiplied by the member's projected compensation for the year following the valuation date.</li> <li>• An individual member's <b>actuarial accrued liability</b> is the member's <b>present value of projected benefits</b> less the sum of the present value of the member's <b>normal costs</b> for each future year, determined at the valuation date using the projected compensation and service at each future year.       <ul style="list-style-type: none"> <li>– The plan's <b>normal cost</b> is the sum of the individual member normal costs, and the plan's <b>actuarial accrued liability</b> is the sum of the individual member accrued liabilities.</li> </ul> </li> </ul>
<i>Tier 1/Tier 2 UAL amortization</i>	<p>The Tier 1/Tier 2 UAL amortization period is reset to 20 years as of December 31, 2013. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of combined valuation payroll (Tier 1/ Tier 2 plus OPSRP payroll) over a closed 20 year period from the valuation in which they are first recognized.</p>

<i>Retiree Healthcare UAL amortization</i>	The UAL for Retiree Health Care as of December 31, 2007 is amortized as a level percentage of combined valuation payroll (Tier 1/ Tier 2 plus OPSRP payroll) over a closed 10 year period. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over a closed 10 year period from the valuation in which they are first recognized.
<i>Asset valuation method</i>	The actuarial value of assets equals the market value of assets, excluding the Contingency and Capital Preservation Reserves, and the Rate Guarantee Reserve when it is in positive surplus status.  Market values are reported to Milliman by PERS. It is our understanding that select real estate and private equity investments are reported on a three-month lag basis. This valuation report does not attempt to quantify any effects of the reporting lag.
<i>Contribution rate stabilization method</i>	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) are confined to a collared range based on the prior contribution rate (prior to application of side accounts, pre-SLGRP liabilities, and 6 percent Independent Employer minimum). The new contribution rate will generally not increase or decrease from the prior contribution rate by more than the greater of 3 percentage points or 20 percent of the prior contribution rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funded 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.
<i>Allocation of Liability for Service Segments</i>	For active Tier 1/Tier 2 members who have worked for multiple PERS employers over their career, the calculated actuarial accrued liability is allocated among the employers based on a weighted average of the Money Match methodology, which uses account balance, and the Full Formula methodology, which uses service. The allocation is 30% (5% for police & fire) based on account balance with each employer and 70% (95% for police & fire) based on service with each employer. The entire normal cost is allocated to the current employer.
<i>Allocation of Benefits-In-Force (BIF) Reserve</i>	The BIF reserve is allocated to each rate pool in proportion to the retiree liability attributable to the rate pool.

### Economic Assumptions

The Board adopted the following economic assumptions for the December 31, 2012 and 2013 actuarial valuations. The investment return assumption, health care cost inflation assumption, and interest crediting for account balances was first adopted in 2013. All other economic assumptions were first adopted in 2005.

<i>Investment return</i>	7.75% compounded annually
<i>Pre-2014 Interest crediting</i>	8.00% compounded annually on members' regular account balances 8.25% compounded annually on members' variable account balances
<i>Post-2013 Interest crediting</i>	7.75% compounded annually on members' regular account balances 7.75% compounded annually on members' variable account balances
<i>Inflation</i>	2.75% compounded annually
<i>Payroll growth</i>	3.75% compounded annually. This assumption represents the sum of the inflation assumption and a real wage growth assumption of 100 basis points.
<i>Healthcare cost trend</i>	Health cost trend rates are used to predict increases in the RHIPA Maximum Subsidy. These rates include consideration of the excise tax that will be introduced in 2018 by the Patient Protection and Affordable Care Act.

Year <sup>2</sup>	Rate	Year	Rate
2013	8.0%	2036	6.2%
2014	6.1	2037	6.1
2015	5.9	2038 – 2039	6.0
2016	5.5	2040 – 2041	5.9
2017	6.2	2042 – 2043	5.8
2018	5.9	2044 – 2047	5.7
2019	5.8	2048 – 2052	5.6
2020	5.9	2053 – 2060	5.5
2021 – 2022	6.0	2061 – 2065	5.4
2023	6.5	2066 – 2072	5.3
2024 – 2025	6.9	2073 – 2074	5.2
2026	6.8	2075 – 2076	5.1
2027 – 2029	6.7	2077 – 2078	5.0
2030 – 2031	6.6	2079 – 2080	4.9
2032 – 2033	6.5	2081 – 2082	4.8
2034 – 2035	6.4	2083+	4.7

<sup>2</sup> For valuation purposes, the health cost trend rates are assumed to be applied at the beginning of the plan year.

## Demographic Assumptions

The Board adopted the following demographic assumptions for the December 31, 2012 and 2013 actuarial valuations.

### Mortality

#### Healthy Retired Members

The following healthy retired mortality tables were first adopted in the December 31, 2010 valuation, except for the School District male and Police and Fire male table which were adopted in the December 31, 2012 valuation.

Basic Table	RP 2000, Generational (Scale AA) Combined Active/Healthy Annuitant, Sex Distinct
School District male	No collar, set back 24 months
Other General Service male (including male beneficiary)	Blended 25% blue collar / 75% white collar, set back 12 months
Police & Fire male	Blended 25% blue collar / 75% white collar, set back 12 months
School District female	White collar, set back 24 months
Other female (including female beneficiary)	White collar, no set back

#### Disabled Retired Members

The following disabled retiree mortality rates were first adopted for the December 31, 2012 actuarial valuation.

Basic Table	RP 2000, Static, Combined Disabled, No Collar, Sex Distinct
Male	65% of Disabled table
Female	90% of Disabled table

#### Non-Annuitant Members

The following mortality rates were first adopted for non-annuitant members for the December 31, 2012 actuarial valuation, except for the Other General Service male and School District female rates which were adopted in the December 31, 2010 valuation.

Basic Table	Percent of Healthy Retired Mortality Tables
School District male	70%
Other General Service male	85%
Police & Fire male	95%
School District female	60%
Other female	55%

**Retirement Assumptions**

The retirement assumptions used in the actuarial valuation include the following:

- Retirement from active status/dormant status
- Probability a member will elect a lump sum option at retirement
- Percentage of members who elect to purchase credited service at retirement.

**Rates of Retirement from Active Status**

The following retirement rate assumptions were first adopted in the December 31, 2012 valuation.

Age	Police & Fire			General Service		School Districts		General Service (Including School Districts)	Judges
	< 13 yrs	13-24 yrs	25+ yrs	<15 yrs	15-29 yrs	<15 yrs	15-29 yrs	30+ yrs	
Less than 50								15.00%	
50	1.00%	1.50%	20.00%					15.00%	
51	1.00%	1.50%	14.00%					15.00%	
52	1.00%	1.50%	14.00%					22.00%	
53	1.00%	1.50%	14.00%					22.00%	
54	1.00%	1.50%	14.00%					22.00%	
55	2.00%	7.00%	20.00%	1.00%	2.50%	1.00%	4.00%	22.00%	
56	2.00%	7.00%	20.00%	1.00%	2.50%	1.00%	4.00%	22.00%	
57	2.00%	7.00%	20.00%	1.00%	2.50%	1.00%	4.00%	22.00%	
58	2.00%	7.00%	20.00%	1.00%	8.00%	2.50%	13.00%	26.00%	
59	2.00%	7.00%	20.00%	1.50%	8.00%	2.50%	12.00%	21.00%	
60	5.00%	10.00%	20.00%	4.00%	8.00%	3.50%	12.00%	21.00%	10.00%
61	2.00%	13.00%	20.00%	4.00%	8.00%	5.50%	12.00%	21.00%	10.00%
62	15.00%	20.00%	35.00%	8.50%	16.00%	10.00%	22.00%	29.00%	10.00%
63	7.00%	18.00%	25.00%	8.00%	14.50%	10.00%	18.00%	22.00%	10.00%
64	7.00%	10.00%	15.00%	8.00%	13.00%	8.00%	16.00%	26.00%	10.00%
65	100.00%	100.00%	100.00%	14.00%	22.00%	19.50%	29.00%	30.00%	10.00%
66				19.00%	31.00%	16.00%	32.00%	30.00%	10.00%
67				15.00%	22.00%	16.00%	28.00%	26.00%	10.00%
68				15.00%	22.00%	13.00%	24.00%	22.00%	10.00%
69				15.00%	22.00%	13.00%	24.00%	22.00%	30.00%
70				100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

**Retirement from Dormant Status**

Dormant members are assumed to retire at Normal Retirement Age (age 58 for Tier 1, age 60 for Tier 2, age 60 for Judges, and age 55 for Police & Fire) or at the first unreduced retirement age (30 years of service, or age 50 with 25 years of service for Police & Fire).

**Lump Sum Option at Retirement**

Members retiring may elect to receive a full or partial lump sum at retirement. The probability that a retiring member will elect a lump sum at retirement is summarized in the table below. These rates were first adopted effective December 31, 2012.

Lump Sum Option at Retirement	
Partial Lump Sum:	5% for all years
Total Lump Sum:	3.5% for 2014, declining by 0.5% per year until reaching 0.0%
No Lump Sum:	91.5% in 2014, increasing by 0.5% per year until reaching 95.0%

**Purchase of Credited Service at Retirement**

The following percentages of members are assumed to purchase credit for the six-month waiting period at retirement. These rates were first adopted effective December 31, 2010.

Purchase of Credited Service at Retirement	
Money Match Retirements:	0%
Non-Money Match Retirements:	60%

**Judge Member Plan Election**

All judge members are assumed to elect to retire under the provisions of Plan B.

**Disability Assumptions**

There are two disability assumptions used in the valuation - duty disability and ordinary disability. Duty Disability rates are separated between Police & Fire and General Service, while ordinary disability is the same for all members. The rates for duty disability were first adopted effective December 31, 2012. The rates for ordinary disability were first adopted effective December 31, 2010.

	Percentage of the 1985 Disability Class 1 Rates
Duty Disability Police & Fire	20%
Duty Disability General Service	1.2%
Ordinary Disability	50% with 0.18% cap

**Termination Assumptions**

The termination assumptions were first adopted effective December 31, 2012.

**Termination Rates**

Sample termination rates are shown for each group below:

Duration from Hire Date	School District Male	School District Female	General Service Male	General Service Female	Police & Fire
0	20.00%	15.50%	19.00%	19.23%	10.00%
1	16.00%	14.05%	17.16%	16.99%	8.50%
5	8.24%	8.35%	8.36%	10.02%	4.80%
10	4.23%	4.36%	3.96%	5.18%	2.16%
15	2.78%	2.98%	2.86%	3.00%	1.30%
20	1.82%	2.23%	2.07%	2.04%	1.30%
25	1.20%	1.67%	1.49%	1.50%	1.30%
30+	1.20%	1.50%	1.40%	1.50%	1.30%

For a complete table of rates, please refer to the 2012 Experience Study for the System, which was published on September 18, 2013.

**Oregon Residency Post-Retirement**

For purposes of determining eligibility for SB 656/ HB 3349 benefit adjustments, 85% of retirees are assumed to remain Oregon residents after retirement.

### Salary Increase Assumptions

The salary increase assumptions reflected in the actuarial valuation include:

- Merit scale increases in addition to the payroll growth increase
- Unused Sick Leave adjustments
- Vacation Pay adjustments

#### Merit Increases

Merit increases are based on duration of service for the following groups with sample rates shown in the following table. The school district rates were first adopted effective December 31, 2012. All other rates were first adopted effective December 31, 2010.

Duration	School District	Other General Service	Police & Fire
0	3.37%	3.61%	5.13%
1	3.02%	3.22%	4.50%
5	1.76%	1.97%	2.55%
10	0.55%	1.00%	1.20%
15	-0.31%	0.51%	0.67%
20	-0.86%	0.33%	0.59%
25	-1.00%	0.24%	0.56%
30	-1.00%	0.05%	0.19%
31+	-1.00%	0.00%	0.00%

For a complete table of rates, please refer to the 2012 Experience Study for the System, which was published on September 18, 2013.

#### Unused Sick Leave

Members covered by the provision allowing unused sick leave to be used to increase final average salary are assumed to receive increases in their final average salary in accordance with the table below. This adjustment is not applied to disability benefits. Local general service females were adopted effective December 31, 2001. The state general service male, state general service female and local police and fire rates were adopted effective December 31, 2010. All other rates were adopted effective December 31, 2012.

Unused Sick Leave	
<b>Actives</b>	
• State General Service Male	6.25%
• State General Service Female	3.75%
• School District Male	7.75%
• School District Female	5.75%
• Local General Service Male	4.75%
• Local General Service Female	3.00%
• State Police & Fire	4.75%
• Local Police & Fire	7.50%
<b>Dormant Members</b>	
	2.25%

**Vacation Pay**

Members eligible to receive a lump sum payment of unused vacation pay are assumed to receive increases in their final average salary in accordance with the table below. This adjustment is not applied to disability benefits. These rates were adopted December 31, 2012.

Vacation Pay	
<b>Tier 1</b>	
• State General Service	0.70%
• School District	0.25%
• Local General Service	1.00%
• State Police & Fire	0.80%
• Local Police & Fire	2.00%
<b>Tier 2</b>	
	0.00%

**Retiree Healthcare Participation**

The following percentages of eligible retiring members are assumed to elect RHIPA and RHIA coverage:

Retiree Healthcare Participation	
<b>RHIPA</b>	
• 8 – 9 years of service	10.0%
• 10 – 14 years of service	10.0%
• 15 – 19 years of service	15.0%
• 20 – 24 years of service	22.0%
• 25 – 29 years of service	22.0%
• 30+ years of service	30.0%
<b>RHIA</b>	
• Healthy Retired	45.0%
• Disabled Retired	20.0%

The RHIA disabled retired rate was first adopted December 31, 2008. All other rates were first adopted effective December 31, 2012.

## OPSRP

Most of the methods and assumptions adopted for the OPSRP valuation are the same as those used for Tier 1/ Tier 2. The methods and assumptions that differ for OPSRP are summarized below. The Board adopted the following methods, procedures and assumptions for the December 31, 2012 and December 31, 2013 actuarial valuations.

### Actuarial Methods and Valuation Procedures

<i>OPSRP UAL amortization</i>	The UAL as of December 31, 2007 is amortized as a level percentage of combined valuation payroll (Tier 1/ Tier 2 plus OPSRP payroll) over a closed period 16 year period. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over 16 years from the valuation in which they are first recognized.
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### Economic Assumptions

<i>Administrative expenses</i>	\$5.5 million per year is added to the normal cost.
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### Demographic Assumptions

#### Retirement Assumptions

#### Rates of Retirement from Active Status

Age	Police & Fire			General Service		School Districts		General Service (Including School Districts)
	< 13 yrs	13-24 yrs	25+ yrs	<15 yrs	15-29 yrs	<15 yrs	15-29 yrs	30+ yrs
50	1.00%	1.50%	5.50%					
51	1.00%	1.50%	5.50%					
52	1.00%	1.50%	5.50%					
53	1.00%	1.50%	25.00%					
54	1.00%	1.50%	16.50%					
55	2.00%	5.00%	20.00%	1.00%	2.50%	1.00%	2.50%	5.00%
56	2.00%	5.00%	20.00%	1.00%	2.50%	1.00%	2.50%	5.00%
57	2.00%	5.00%	20.00%	1.00%	2.50%	1.00%	2.50%	7.50%
58	2.00%	5.00%	20.00%	1.00%	3.00%	1.00%	3.00%	35.00%
59	2.00%	5.00%	20.00%	1.50%	3.00%	1.50%	3.00%	25.00%
60	5.00%	15.00%	20.00%	3.00%	3.75%	3.00%	3.75%	20.00%
61	2.00%	8.50%	20.00%	3.00%	5.00%	3.00%	5.00%	20.00%
62	15.00%	20.00%	35.00%	7.00%	12.00%	7.00%	12.00%	30.00%
63	7.00%	18.00%	25.00%	6.00%	10.00%	6.00%	10.00%	20.00%
64	7.00%	10.00%	15.00%	6.00%	10.00%	6.00%	10.00%	20.00%
65	100.00%	100.00%	100.00%	14.00%	40.00%	14.00%	40.00%	20.00%
66				17.25%	33.00%	17.25%	33.00%	20.00%
67				12.00%	22.00%	12.00%	22.00%	30.00%
68				10.00%	17.00%	10.00%	17.00%	20.00%
69				10.00%	17.00%	10.00%	17.00%	20.00%
70				100.00%	100.00%	100.00%	100.00%	100.00%

#### Rates of Retirement from Dormant Status

Dormant members are assumed to retire at their Normal Retirement Age.

## Changes in Actuarial Methods and Assumptions — Tier 1/ Tier 2 and OPSRP

A summary of key changes implemented since the December 31, 2012 valuation are described briefly below.

### Changes in Actuarial Methods and Allocation Procedures

There were no changes to actuarial methods and procedures since the December 31, 2012 valuation.

### Changes in Economic Assumptions

There were no changes to economic assumptions since the December 31, 2012 valuation.

### Changes in Demographic Assumptions

There were no changes to demographic assumptions since the December 31, 2012 valuation.

# Summary of Plan Provisions

### Summary of Plan Provisions

The following section summarizes the plan provisions considered in the actuarial valuation. A more detailed description of plan provisions is available from PERS.

<i>Membership</i>	All employees of public employers participating in this System who are in qualifying positions become members of the System after completing six months of service except those who are eligible for and have elected to participate in an optional retirement plan. Different benefit provisions of the plan apply based on date of hire.	
	<b>Tier 1</b>	Hired prior to 1996
	<b>Tier 2</b>	Hired after 1995 and before August 29, 2003
	<b>OPSRP</b>	Hired after August 28, 2003, and neither a judge nor a former Tier 1/Tier 2 member eligible to reestablish Tier 1/Tier 2 membership
	<b>Judges</b>	Members of the State Judiciary
<i>Member Contributions</i>	<b>Judges</b>	7% of salary
	<b>All others</b>	None
<i>Employer Contributions</i>	Set by the PERS Board based on actuarial calculations that follow Board rate-setting policies for employers.	

**Summary of Chapter 238 Provisions — Tier 1/Tier 2 and Judges**

<i>Normal Retirement Date</i>	<b>Police and Fire</b>	Age 55
	<b>Judges</b>	Age 65
	<b>Tier 1 General Service</b>	Age 58
	<b>Tier 2 General Service</b>	Age 60

*Normal Retirement Allowance* For Members who are not Judges, the greatest of the Full Formula benefit, the Money Match benefit, or the Formula Plus Annuity benefit (only available to Members who made contributions before August 21, 1981). For Members with 15 or more years of creditable service, the benefit will not be less than the minimum service retirement allowance of \$100 per month, as described in ORS 238.310.

**Full Formula** The percentage multiplier from the table below multiplied by final average salary and years of creditable service plus a prior service pension, if applicable.

Percentage Multiplier	Membership Classification
2.00%	Fire, Police and Legislators
1.67%	All other members

**Money Match** The Member’s account balance and a matching employer amount converted to an actuarially equivalent annuity.

**Formula Plus Annuity** The Member’s account balance converted to an actuarially equivalent cash refund annuity plus the percentage multiplier from the table below multiplied by final average salary and years of creditable service, plus a prior service pension, if applicable.

Percentage Multiplier	Membership Classification
1.35%	Fire, Police and Legislators
1.00%	All other members

Normal Retirement Allowance (continued)

**Judges**

Final average salary multiplied by the first percentage multiplier from the table below for up to 16 years of service plus the second percentage multiplier for any service in excess of 16 years, but not to exceed the maximum percentage of final average salary also shown below. Judges must elect Plan A or Plan B no later than age 60. A “Plan B” judge must serve as a pro tem judge for a total of 175 days postretirement.

Plan	Percentage Factor (up to 16 years)	Percentage Factor (after 16 years)	Maximum Percentage of Final Average Salary
A	2.8125%	1.67%	65%
B	3.75%	2.00%	75%

Final Average Salary

The greater of:

- Average salary earned during the three calendar years in which the member was paid the highest salary, even if one of those years is less than a full calendar year.
- Total salary earned over the last 36 months of employment divided by the actual months of service during that 36 month period.

Covered salary for this purpose includes the value of member contributions assumed and paid by employers, any payment due to an employer’s participation in the Unused Sick Leave program, and, for Tier 1 members, lump sum payment of unused vacation time.

Creditable Service

The number of years and months an active Member is paid a salary by a participating PERS employer and PERS benefits are being funded.

Prior Service Pension

Benefits payable on account of Prior Service Credit for a member’s service with a participating employer prior to the employer’s participation in PERS, as described in ORS 238.442.

SB 656/HB 3349 Adjustment

All members receive an increase to their monthly retirement benefit equal to the greater of the increase under Senate Bill 656 (SB 656) or House Bill 3349 (HB 3349). The adjustment for SB 656 only applies to members who established membership prior to July 14, 1995. Senate Bill 822, enacted in 2013, limits eligibility for these adjustments to only PERS beneficiaries who pay Oregon state income tax.

**SB 656 Increase**

Years of Service	General Service	Police & Fire
0-9	0.0%	0.0%
10-14	1.0	1.0
15-19	1.0	1.0
20-24	2.0	2.5
25-29	3.0	4.0
30 & Over	4.0	4.0

**HB 3349 Increase**

$$\left( \frac{1}{1 - \text{maximum Oregon personal income tax rate (limited to 9\%)}} - 1 \right) \times \frac{\text{Service prior to October 1, 1991}}{\text{All Service}}$$

<i>Early Retirement Eligibility</i>	<b>Police and Fire</b>	Age 50 or 30 years of service
	<b>Judges</b>	Age 60
	<b>General Service</b>	Age 55 or 30 years of service
<i>Early Retirement Allowance</i>	Normal retirement allowance, actuarially reduced to early retirement age. However, there is no reduction applied if a member has completed 30 years of service (25 years for police & fire members) or for judges in Plan B.	
<i>Vesting</i>	Contributions made in any part of five calendar years or attainment of age 50 (45 for police & fire) while working in a qualifying position.	
<i>Termination Benefits</i>	<b>Non-Vested</b>	Payment of member's account balance.
	<b>Vested</b>	Same as normal (or early) retirement allowance, but commencement is deferred to normal (or early) retirement date.
<i>Optional Forms of Retirement Allowance</i>	The normal form of benefit is a cash refund annuity (joint and two-thirds survivor contingent annuity for a married judge). All optional amounts are adjusted to be actuarially equivalent.	
	<b>Options Available</b> <ul style="list-style-type: none"> <li>• Life annuity</li> <li>• Cash refund annuity</li> <li>• Life annuity guaranteed 15 years</li> <li>• Joint and 50% or 100% survivor contingent annuity, with or without pop-up feature</li> <li>• Partial Lump Sum: Refund of member contribution account balance plus a pension (under any optional form) of employer-paid portion of the Full Formula or Money Match annuity.</li> <li>• Total Lump Sum: Refund of member contribution account plus a matching employer amount.</li> </ul>	
<i>Preretirement Death Benefit Eligibility</i>	<b>Judges</b>	Six or more years of service.
	<b>All others</b>	Death occurring while the member is an employee of a participating employer or within 120 days of termination provided the employee does not withdraw the account balance or retire, or a result of injuries received while in the service of a participating employer.
<i>Preretirement Death Benefit</i>	<b>Judges</b>	The spouse shall receive a life pension equal to two-thirds of the service retirement allowance. The beneficiary of an unmarried judge shall receive the member's accumulated contributions with interest.
	<b>All others</b>	The member's account balance plus a matching employer amount.
<i>Additional Police &amp; Fire Death Benefits</i>	Upon the death of a retired police officer or firefighter, the surviving spouse or dependent children under age 18 will receive a monthly benefit based on 25% of the cash refund retirement allowance due to police and fire service.	
<i>Disability Benefit Eligibility</i>	<b>Duty</b>	Disablement occurring as a direct result of a job-related injury or illness, regardless of length of service.
	<b>Non-Duty</b>	Disablement occurring after ten years of service (six years, if a judge), but prior to normal retirement eligibility.

<p><i>Disability Benefits</i></p>	<p>The normal retirement allowance calculated based on the service credit that would have been earned if the member had continued working to age 58 (age 55 for police and fire, age 65 for judge members) payable commencing immediately.</p> <p><b>Fire and Police Members' Alternative</b></p> <p>In lieu of the above, firefighters and police officers who qualify for duty disability may elect to receive a benefit of 50% of final average monthly salary at the time of disablement.</p> <p><b>Minimum Monthly Retirement Allowance</b></p> <p>Judges ..... 45% of final average monthly salary.</p> <p>All others ..... \$100 for a member with at least 15 years of creditable service, actuarially reduced if an optional form of benefit is chosen.</p>
<p><i>Waiting Time Service Purchases</i></p>	<p>Members with at least 10 years of combined credited and/or prior service under PERS may elect to purchase service credit for the six-month "waiting time" period worked prior to establishing membership in the system. The waiting time purchase is interest-free and must be purchased in one payment prior to retirement.</p>
<p><i>Police &amp; Fire Unit Purchases</i></p>	<p>Police &amp; fire members may purchase 60-month annuity benefits (up to \$80 per month) that must be paid out by age 65 and cannot commence prior to the earliest retirement age. The amount purchased by the member is matched by the employer. In certain situations, such as termination of employment prior to retiring, or working beyond age 65, the employer's matching purchase is forfeited.</p>
<p><i>Postretirement Adjustments</i></p>	<p>All monthly pension and annuity benefits except unit purchases are eligible for postretirement adjustments.</p> <p><b>Automatic Adjustments Pre-2014</b>      Benefits are adjusted annually to reflect the increase or decrease in the Consumer Price Index (Portland area - all items) as published by the Bureau of Labor Statistics. The maximum adjustment to be made for any year is 2% of the previous year's benefit, except for 2013 when the adjustment is limited to 1.5%. Any CPI change in excess of the limit is accumulated for future benefit adjustments which would otherwise be less than the limit. No benefit will be decreased below its original amount.</p> <p><b>Automatic Adjustments Post-2013</b>      In 2014 and future years benefits will be increased annually based on a marginal rate schedule. The increase is calculated as 1.25% on the first \$60,000 of annual benefit and 0.15% on amounts above \$60,000 of annual benefit.</p> <p><b>Ad Hoc Adjustments</b>      From time to time, as granted by the Legislature, retired members and beneficiaries have received increases in their monthly benefits.</p>

<i>Supplemental Payments</i>	<p>For the years 2014 through 2019, retirees are provided a supplemental payment of 0.25% of annual benefit, not to exceed \$150. In addition, retirees with an annual benefit of less than \$20,000 will receive an additional supplemental payment equal to 0.25% of the annual benefit.</p> <p>These payments are required to be funded out of the Contingency Reserve and do not compound into the retiree’s annual benefit used in determining future automatic adjustments. The PERS Board credited assets to the Contingency Reserve specifically earmarked for these payments. Both the earmarked assets in the Contingency Reserve and the liability for the Supplemental Payments are excluded from the valuation.</p>
<i>Variable Annuity Program</i>	<p><b>Contributions</b> Prior to January 1, 2004, a member could elect to have 25, 50 or 75 percent of his or her contributions invested in the variable account.</p> <hr/> <p><b>Benefit</b> At retirement, a member may elect to receive a variable annuity with the funds accumulated in his or her variable account. Alternatively, a member may elect to have all or a portion of the funds in his or her variable account transferred back to the regular account and receive an annuity from the System as though no variable annuity program existed. The employer-provided benefit, however, is based on the earnings the member would have received in the regular account.</p>
<i>Interest Credit on Member Accounts</i>	<p><b>Tier 1 Regular</b> Actuarially assumed rate of return until the rate guarantee reserve has been fully funded for three consecutive years and the Board elects to credit additional interest.</p> <p><b>Tier 2 Regular</b> Amount determined by the Board based on actual investment earnings of the regular account.</p> <p><b>Variable</b> Actual earnings in variable account.</p>
<i>Retiree Healthcare – Medicare Supplement (RHIA)</i>	<p><b>Retiree Eligibility</b> All of the following must be met:</p> <ul style="list-style-type: none"> <li>(a) Currently receiving a retirement allowance from the System,</li> <li>(b) Covered for eight years before retirement,</li> <li>(c) Enrolled in a PERS-sponsored health plan, and</li> <li>(d) Enrolled in both Medicare Part A and Part B.</li> </ul> <hr/> <p><b>Surviving Spouse or Dependent Eligibility</b> A surviving spouse or dependent of a deceased RHIA-eligible retiree is eligible for RHIA benefits if they are enrolled in both Medicare Part A and Part B, and <i>either</i> of the following criteria are met:</p> <ul style="list-style-type: none"> <li>(a) Currently receiving a retirement allowance from the System, or</li> <li>(b) The surviving spouse or dependent was covered under the eligible retiree’s PERS-sponsored health insurance at the time of the retiree’s death and the deceased retiree retired before May 1, 1991.</li> </ul> <hr/> <p><b>Benefit Amount</b> A monthly contribution of up to \$60 per retiree is applied to PERS-sponsored Medicare supplemental insurance costs.</p>

<p><i>Retiree Healthcare – Under Age 65 (RHIPA)</i></p>	<p><b>Retiree Eligibility</b></p>	<p>Retired PERS members who were state employees at the time of retirement, are enrolled in a PERS-sponsored health plan, and are not eligible for Medicare.</p>															
	<p><b>Surviving Spouse or Dependent Eligibility</b></p>	<p>A surviving spouse or dependent of a deceased RHIPA-eligible retiree is eligible for RHIPA benefits if they are not yet eligible for Medicare, and <i>either</i> of the following criteria are met:</p> <p>(a) Currently receiving a retirement allowance from the System, or</p> <p>(b) The surviving spouse or dependent was covered under the eligible retiree’s PERS-sponsored health plan at the time of the retiree’s death and the deceased retiree retired on or after September 29, 1991.</p>															
	<p><b>Benefit</b></p>	<p>A percentage (as shown in the table below) of the maximum monthly subsidy based on years of service. The maximum monthly subsidy is calculated annually as the average difference between the health insurance premiums paid by active state employees and the premium retirees would pay if they were rated separately from active state employees.</p> <p>The maximum monthly subsidy for 2013 is \$323.18 per month.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr style="background-color: #004a7c; color: white;"> <th style="text-align: center;">Years of Service with State Employer</th> <th style="text-align: center;">Subsidized Amount</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Under 8</td> <td style="text-align: center;">0%</td> </tr> <tr> <td style="text-align: center;">8-9</td> <td style="text-align: center;">50%</td> </tr> <tr> <td style="text-align: center;">10-14</td> <td style="text-align: center;">60%</td> </tr> <tr> <td style="text-align: center;">15-19</td> <td style="text-align: center;">70%</td> </tr> <tr> <td style="text-align: center;">20-24</td> <td style="text-align: center;">80%</td> </tr> <tr> <td style="text-align: center;">25-29</td> <td style="text-align: center;">90%</td> </tr> <tr> <td style="text-align: center;">30 &amp; Over</td> <td style="text-align: center;">100%</td> </tr> </tbody> </table>	Years of Service with State Employer	Subsidized Amount	Under 8	0%	8-9	50%	10-14	60%	15-19	70%	20-24	80%	25-29	90%	30 & Over
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<p><i>Benefits Not Included in the Valuation</i></p>	<p>Supplemental payments made for all retirees for the years 2014 through 2019 are required to be paid out of the Contingency Reserve. Because the Contingency Reserve is excluded from the valuation assets, the liabilities for supplemental payments are also excluded from the valuation.</p>																
<p><i>Changes in Plan Provisions</i></p>	<p>There were no changes in plan provisions reflected in this valuation compared to the December 31, 2012 actuarial valuation.</p> <p>Senate Bill 822, Senate Bill 861, and Senate Bill 822 – all signed into law during 2013 – were reflected in both the prior and current valuation.</p>																

**Summary of Chapter 238A Provisions — OPSRP**

<i>Normal Retirement Date</i>	<b>Police &amp; Fire</b>	Age 60 or age 53 with 25 years of retirement credit
	<b>General Service</b>	Age 65 or age 58 with 30 years of retirement credit
	<b>School Districts</b>	Age 65 or age 58 with 30 calendar years of active membership
<i>Normal Retirement Allowance</i>	A single life annuity equal to final average salary times years of retirement credit attributable to service as fire and police times 1.8% plus final average salary times all other years of retirement credit times 1.5%	
<i>Final Average Salary</i>	<p>The greater of:</p> <ul style="list-style-type: none"> <li>• Average salary earned during the three calendar years in which the member was paid the highest salary, even if one of those years is less than a full calendar year.</li> <li>• Total salary earned over the last 36 months of employment divided by the actual months of service during that 36 month period.</li> </ul> <p>Covered salary for this purpose includes base pay, plus overtime up to an average amount, plus bonuses, plus member contributions paid by the employer on a salary reduction basis. Excludes payments of unused vacation or accumulated sick leave at retirement, and member contributions “assumed and paid” by the employer.</p>	
<i>Early Retirement Eligibility</i>	<b>Police &amp; Fire</b>	Age 50 and 5 years of vesting service
	<b>General Service</b>	Age 55 and 5 years of vesting service
<i>Early Retirement Allowance</i>	Normal retirement allowance, actuarially reduced to early retirement age.	
<i>Vesting</i>	Five years or attainment of normal retirement age.	
<i>Vested Termination Benefit</i>	Same as normal (or early) retirement allowance, but commencement is deferred to normal (or early) retirement date.	
<i>Optional Forms of Retirement Benefit</i>	<p>The normal form of benefit is a life annuity. All optional amounts are adjusted to be actuarially equivalent.</p> <p><b>Options Available</b></p> <ul style="list-style-type: none"> <li>• Life annuity</li> <li>• Joint and 50% or 100% survivor contingent benefit, with or without pop-up feature</li> <li>• Lump sum if monthly normal retirement benefit is less than \$200 or if lump sum value is less than \$5,000.</li> </ul>	
<i>Preretirement Death Benefit Eligibility</i>	Death of a vested member before retirement benefits begin.	
<i>Preretirement Death Benefit</i>	If member was eligible for early retirement, the actuarial equivalent of 50% of the early retirement benefit the participant was eligible to receive at date of death. If member was not eligible for early retirement, the actuarial equivalent of 50% of the early retirement benefit the participant would have been eligible to receive if he terminated employment on his date of death and retired at the earliest possible date.	
<i>Disability Benefit Eligibility</i>	<b>Duty</b>	Disablement occurring as a direct result of a job-related injury or illness, regardless of length of service.
	<b>Non-Duty</b>	Disablement occurring after ten years of service, but prior to normal retirement eligibility.

<i>Disability Benefit Amounts</i>	<b>Preretirement Benefit</b>	45% of salary during last full month of employment before disability, reduced if the total benefit exceeds 75% of salary. Benefit is payable monthly until normal retirement age.
	<b>Retirement Benefit</b>	Same formula as Normal Retirement Benefit, except: Final average salary is adjusted to reflect cost-of-living increases from date of disability to normal retirement age, and Retirement credits continue to accrue from date of disability to normal retirement age.
<i>Postretirement Adjustments</i>	<b>Automatic Adjustments Pre-2014</b>	All monthly pension and annuity benefits are eligible for postretirement adjustments. Benefits are adjusted annually to reflect the increase or decrease in the Consumer Price Index (Portland area - all items) as published by the Bureau of Labor Statistics. The maximum adjustment to be made for any year is 2% of the previous year's benefit, except for 2013 when the adjustment is limited to 1.5%. Any CPI change in excess of the limit is accumulated for future benefit adjustments which would otherwise be less than the limit. No benefit will be decreased below its original amount.
	<b>Automatic Adjustments Post-2013</b>	In 2014 and future years benefits will be increased annually based on a marginal rate schedule. The increase is calculated as 1.25% on the first \$60,000 of annual benefit and 0.15% on amounts above \$60,000 of annual benefit.
<i>Supplemental Payments</i>	For the years 2014 through 2019, retirees are provided a supplemental payment of 0.25% of annual benefit, not to exceed \$150. In addition, retirees with an annual benefit of less than \$20,000 will receive an additional supplemental payment equal to 0.25% of the annual benefit. These payments are required to be funded out of the Contingency Reserve and do not compound into the retiree's annual benefit used in determining future automatic adjustments.	
<i>Benefits Not Included in the Valuation</i>	Supplemental payments made for all retirees for the years 2014 through 2019 are required to be paid out of the Contingency Reserve. Because the Contingency Reserve is excluded from the valuation assets, the liabilities for supplemental payments are also excluded from the valuation.	
<i>Changes in Plan Provisions</i>	There were no changes in OPSRP plan provisions reflected in this valuation compared to the December 31, 2012 actuarial valuation.  Senate Bill 822, Senate Bill 861, and Senate Bill 822 – all signed into law during 2013 – were reflected in both the prior and current valuation.	

# Glossary

## 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 accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded 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.

**Annual Required Contributions (ARC).** A financial reporting calculation under GASB 27 and GASB 45 that expresses the program cost as a percentage of payroll.

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

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

**Fundamental Cost Equation.** An expression of the long-term cost of a pension plan, which states that:

$$\text{Benefits} + \text{Expenses} = \text{Contributions} + \text{Investment Earnings}$$

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

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

**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.

**Pre-SLGRP Liability/(Surplus).** The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

**Pre-SLGRP Pooled Liability/(Surplus).** 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 current worth (on the valuation date) of an amount or series of amounts payable in the future. 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 period-to-period change in 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. 25 of the Governmental Accounting Standards Board (GASB 25).** The accounting standard establishing financial reporting standards for defined benefit pension plans. The standard has been replaced by GASB Statement 67 for plan fiscal years beginning after June 15, 2013.

**Statement No. 27 of the Governmental Accounting Standards Board (GASB 27).** The accounting standard governing a governmental employer’s accounting for pensions. The standard has been replaced by GASB Statement 68 for employer fiscal years beginning after June 15, 2014.

**Statement No. 43 of the Governmental Accounting Standards Board (GASB 43).** The accounting standard establishing financial reporting standards for post-employment benefits other than pensions.

**Statement No. 45 of the Governmental Accounting Standards Board (GASB 45).** The accounting standard governing a governmental employer’s accounting for post-employment benefits other than pensions.

**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 Tier 1/Tier 2 normal cost rates.

**Transition Liability/(Surplus).** 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 UAL rate. The final UAL rate can be adjusted by the rate collar.