OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

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

December 31, 2015 Actuarial Valuation

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September 27, 2016

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, 2015. Our findings are set forth in this actuarial valuation report. This report reflects the benefit provisions in effect as of December 31, 2015.

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

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

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 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB 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 (which apply to financial reporting for RHIA and RHIPA programs). This report does not include results determined under GASB Statements No. 67 and 68, which will be provided separately. 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 actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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

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

Sincerely,

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

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

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Executive Summary

Executive Summary

Milliman 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, 2015 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 biennium beginning July 1, 2017.

This valuation does not cover the defined contribution 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.

Summarizing a key result of the this valuation, the system-average collared "net" employer contribution rate for the 2017-2019 biennium increased by more than 3.5% of payroll compared to the rate currently in effect for the 2015-2017 biennium. This increase was driven primarily by the 2015 Oregon Supreme Court ruling in the *Moro* case, with actual investment results and updates to valuation assumptions also playing a contributing role in the increase. Further discussion and explanation of the change in collared rates can be found in our July 2016 presentation materials to the PERS Board.

Of concern, even with the rate increase noted above the system-average uncollared employer contribution rate remains more than 8% of payroll above the collared rate that will be charged to employers in 2017-2019. Because of this, if actual experience is near assumption we anticipate system-average collared rate increases similar to the increase calculated in this valuation for the subsequent two biennia (2019-2021 and 2021-2023). In the event that long-term future experience mirrors the valuation assumptions, these increases are needed to allow the system's unfunded liability to be amortized over time by a combination of employer contributions and actual investment earnings. For more information on projections of future rate increases, we encourage readers of this report to review our financial modeling presentations to the PERS Board. The most recent such presentation was given in November 2015, and our next presentation will be at the November 2016 PERS Board meeting.

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's investment return assumption, which currently is 7.50%. 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**[1], 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 appropriate to reflect changing circumstances. Even though they

[1] *Bolded terms from the Executive Summary are defined in the report glossary.*

affect actuarial funded status and contribution rate calculations, assumptions regarding plan investment returns and participant experience do not affect the ultimate long-term cost of the program, which is governed by the **fundamental cost equation**:

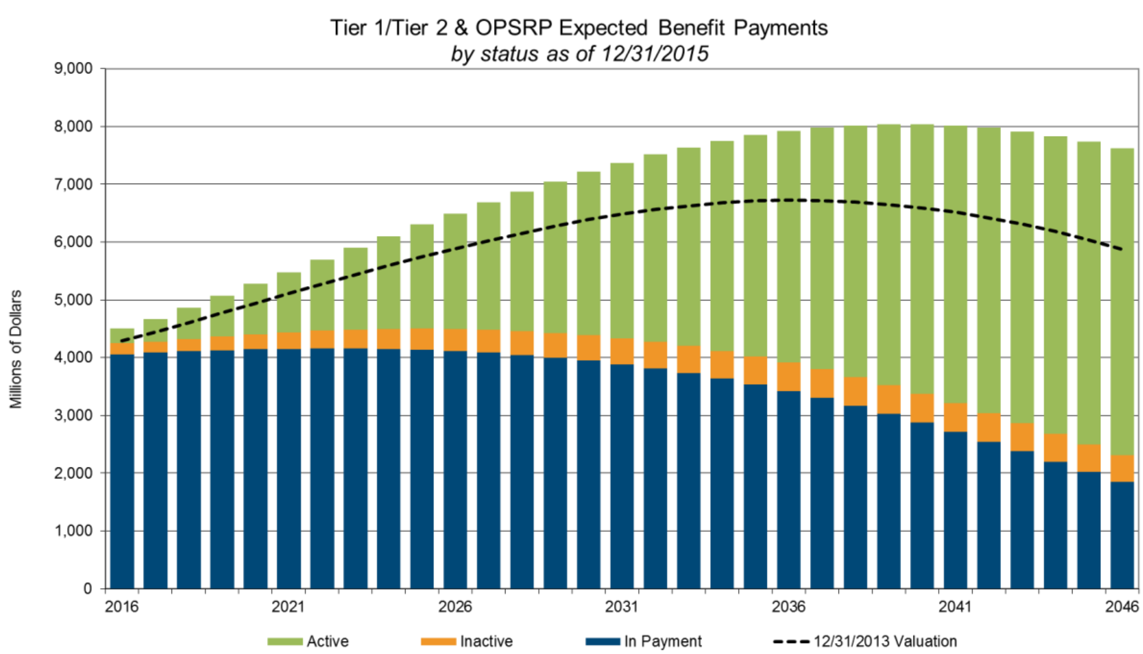
Benefits + Expenses = Contributions + Investment Earnings

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

Legislative Changes and *Moro v. State of Oregon*

The results shown in this valuation reflect the Oregon Supreme Court ruling in *Moro v. State of Oregon*, issued on April 30, 2015. The *Moro* decision reversed a significant portion of the reductions the 2013 Oregon Legislature made to future system Cost of Living Adjustments (COLA) through Senate Bills 822 and 861. This reversal increased the benefits projected to be paid compared to those developed in the most recent actuarial valuation prior to the *Moro* decision, and consequently increased plan liabilities. The effect of the *Moro* decision was reflected in our December 31, 2014 actuarial valuation, but was not reflected in the last rate-setting valuation. The last rate-setting valuation was conducted as of a December 31, 2013 valuation date, and determined the rates the PERS Board adopted for July 1, 2015 through June 30, 2017.

The graph below illustrates projected benefit payments from the System calculated in both the current valuation and the prior rate-setting 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 rate-setting valuation, which was performed as of December 31, 2013. The significant increase between the December 31, 2013 valuation and the current valuation is evidence of the increase in projected benefits driven primarily by the *Moro* decision. To a lesser extent, updates to actuarial assumptions adopted as a result of the 2014 Experience Study also contributed to the increase.



Employer Contribution Rates

Pension Contribution Rates

This report presents system average employer contribution rates calculated as of December 31, 2015. When adopted by the PERS Board, the employer contribution rates presented will be first effective on July 1, 2017. The December 31, 2013 valuation presented the employer contribution rates that were adopted by the PERS Board for July 1, 2015 through June 30, 2017.

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, 2015 through June 30, 2017.

Collared Pension Contribution Rates (Excludes IAP)						
	Effective July 1, 2017			Effective July 1, 2015		
Payroll	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
Normal Cost Rate	15.07%	8.02%	12.79%	13.18%	7.33%	11.44%
Tier 1/Tier 2 UAL Rate[1]	7.79%	7.79%	7.79%	5.91%	5.91%	5.91%
OPSRP UAL Rate	1.27%	1.27%	1.27%	0.61%	0.61%	0.61%
Total Pension Rate	**24.13%**	**17.08%**	**21.85%**	**19.70%**	**13.85%**	**17.96%**
Average Adjustment[2]	(6.62%)	(6.62%)	(6.62%)	(6.85%)	(6.85%)	(6.85%)
Net Pension Rate	**17.51%**	**10.46%**	**15.23%**	**12.85%**	**7.00%**	**11.11%**

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 and UAL rates calculated in this valuation both increased compared to the contribution rates calculated in the December 31, 2013 valuation, which produced rates effective July 1, 2015. This is primarily due to changes in projected plan benefits as an outcome of the *Moro* decision, along with the effect of a lower investment return assumption and increased assumption for the life expectancies of members.

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, 2015 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 Collared Pension Contribution Rates (Excludes IAP)	Effective July 1, 2017		Effective July 1, 2015	
	SLGRP	School Districts	SLGRP	School Districts
Normal Cost Rate	15.78%	13.28%	13.66%	11.94%
Tier 1/Tier 2 UAL Rate[1]	6.10%	12.15%	4.57%	9.25%
Total Pension Rate	**21.88%**	**25.43%**	**18.23%**	**21.19%**
Average Adjustment[2]	(5.52%)	(10.26%)	(5.79%)	(10.62%)
Net Pension Rate	**16.36%**	**15.17%**	**12.44%**	**10.57%**

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.

The Tier 1/Tier 2 contribution rates shown here are after reflecting the effects of the rate collar. Due to the impact of the *Moro* decision and assumption changes (primarily lower investment return and increased future life expectancy), both the SLGRP and the School District rate pool have “before collar” contribution rates that exceed the maximum single biennium rate increase allowed by the collar. The impact of the adjustment for each rate pool is shown below. The contribution rate increases deferred by the rate collar 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, 2017 to June 30, 2019 biennium illustrated in this report, we would expect additional increases in the July 1, 2019 to June 30, 2021 biennium and the July 1, 2021 to June 30, 2023 biennium.

Collar Impact on Tier 1/Tier 2 Pension Contribution Rates Effective July 1, 2017	SLGRP	School Districts
Total Pension Rate Before Collar	30.23%	32.91%
Collar Adjustment	(8.35%)	(7.48%)
Total Pension Rate After Collar	**21.88%**	**25.43%**
Average Adjustment	(5.52%)	(10.26%)
Net Pension Rate	**16.36%**	**15.17%**

Retiree Healthcare Contribution Rates

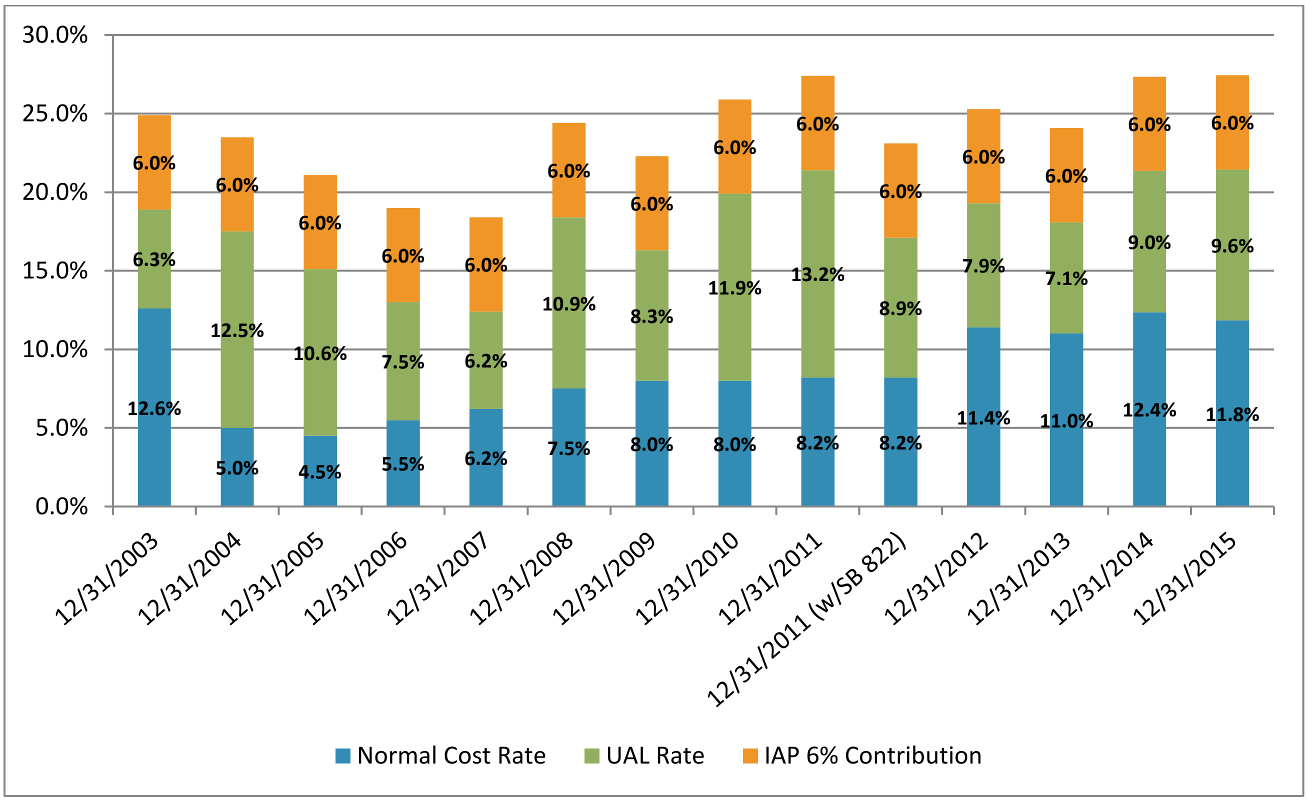
In addition to the pension contribution rates, all employers contribute to the Retirement Health Insurance Account (RHIA). Further, State Agencies and State Judiciary also contribute to the Retiree Health Insurance Premium Account (RHIPA). Only Tier 1 and Tier 2 members are eligible for these benefits, 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, 2015 through June 30, 2017. The funded status for both retiree healthcare programs has historically lagged 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						
	Effective July 1, 2017			Effective July 1, 2015		
Payroll	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
RHIA Normal Cost Rate	0.07%	0.00%	0.00%	0.08%	0.00%	0.00%
RHIA UAL Rate	0.43%	0.43%	0.43%	0.45%	0.45%	0.45%
Total RHIA rate	**0.50%**	**0.43%**	**0.43%**	**0.53%**	**0.45%**	**0.45%**
RHIPA Normal Cost Rate	0.11%	0.00%	0.00%	0.09%	0.00%	0.00%
RHIPA UAL Rate	0.38%	0.38%	0.38%	0.35%	0.35%	0.35%
Total RHIPA rate	**0.49%**	**0.38%**	**0.38%**	**0.44%**	**0.35%**	**0.35%**

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 entry age normal (EAN) to projected unit credit (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. A change back to EAN in the December 31, 2012 valuation increased the normal cost rate, as the EAN method allocates a portion of benefits projected to be paid under the Money Match formula to current year service. The system-wide average normal cost rate is now expected to drift down gradually in the future toward the OPSRP normal cost rate (currently 8.56%) as new OPSRP members replace retiring Tier 1 and Tier 2 members. The OPSRP normal cost rate is expected to increase slowly over time due to anticipated improvements in life expectancy. The normal cost and UAL rates have increased since the prior rate-setting valuation at December 31, 2013, due to the *Moro* decision and the assumption changes described above. The increase to the collared UAL rate resulting from those changes was significantly mitigated by the application of the rate collar which, if all assumptions are met, will defer portions of those actuarially determined increases to subsequent biennia.

System-Wide Average Collared Base 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, 2015, the system has approximately $5.6 billion in unamortized side accounts, slightly lower than last year. Side accounts now reduce the average employer contribution rate by 6.14% 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 4.

Limits on Future Pension Contribution Rates

The minimum and maximum rates that can be effective July 1, 2019 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%.

Limits on Future Pension Contribution Rates		
	Effective July 1, 2019	
	Tier 1/Tier 2	
	SLGRP	School Districts
Between 70% and 130% Funded		
Minimum Rate	17.50%	20.34%
Maximum Rate	26.26%	30.52%
Less than 60% or Greater than 140% Funded		
Minimum Rate	13.12%	15.25%
Maximum Rate	30.64%	35.61%

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

Funded Status

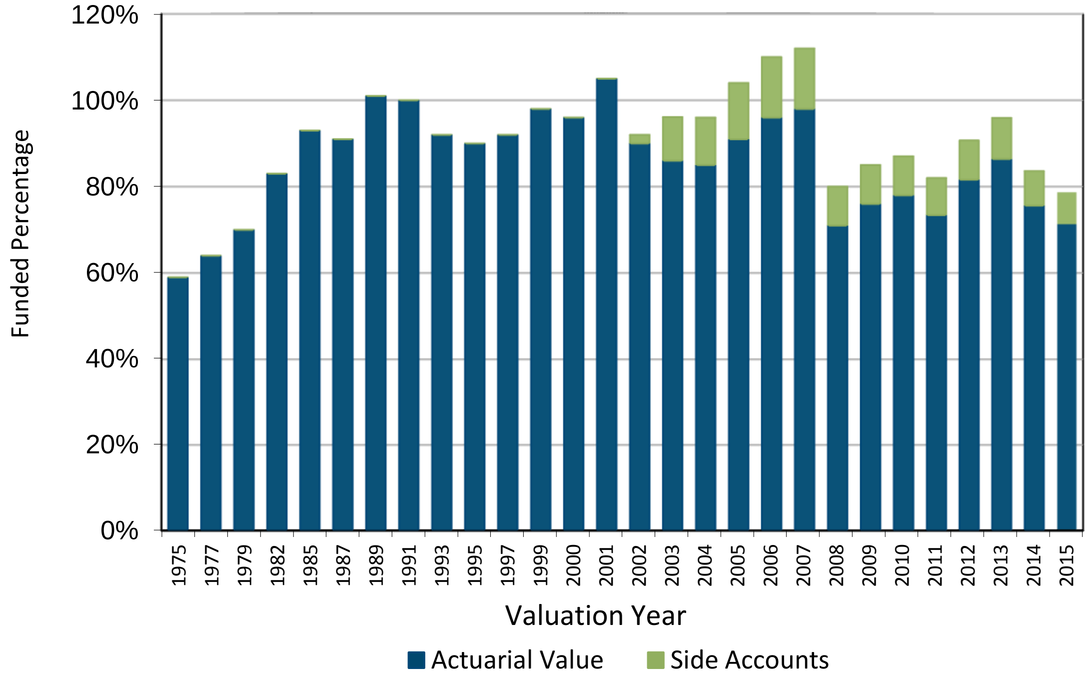
The table below shows the funded status of the various pension rate pools both on the basis used to calculate the contribution rate for each rate pool and after adjustment for side accounts (assuming side accounts offset Tier 1/Tier 2 liabilities). For this exhibit, all independent employers, including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

	SLGRP	School Districts	Independent Employers	OPSRP	Pension System Totals[1]
December 31, 2015					
Actuarial accrued liability	$38,396.8	$27,670.7	$6,327.1	$3,742.5	$76,196.6
Actuarial value of assets	$27,682.7	$19,687.3	$4,717.5	$2,389.1	$54,365.8
Funded status	**72.1%**	**71.1%**	**74.6%**	**63.8%**	**71.3%**
Side accounts	$2,502.6	$3,041.6	$90.1	$0.0	$5,634.3
Funded status reflecting side accounts	**78.6%**	**82.1%**	**76.0%**	**63.8%**	**78.7%**
December 31, 2014					
Actuarial accrued liability	$37,169.9	$27,059.9	$6,104.9	$3,064.1	$73,458.9
Actuarial value of assets	$28,465.3	$20,277.9	$4,871.0	$2,024.6	$55,518.2
Funded status	**76.6%**	**74.9%**	**79.8%**	**66.1%**	**75.6%**
Side accounts	$2,697.2	$3,083.3	$96.4	$0.0	$5,876.9
Funded status reflecting side accounts	**83.8%**	**86.3%**	**81.4%**	**66.1%**	**83.6%**

Amounts in millions

[1] *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. 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 through the December 31, 2013 valuation due to legislative changes in plan provisions and investment gains during 2012 and 2013. The funded status declined in the December 31, 2014 valuation due to the combined effects of the *Moro* decision and the assumption changes described above, and decreased further in the current valuation due to investment losses during 2015.



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 and RHIPA programs improved since the prior valuation due primarily to employer contributions.

	December 31, 2015			December 31, 2014		
	RHIA	RHIPA	Total	RHIA	RHIPA	Total
Actuarial accrued liability	$465.6	$67.8	$533.4	$468.4	$70.5	$538.9
Actuarial value of assets	$419.3	$11.2	$430.5	$395.9	$7.2	$403.1
Funded status	**90.0%**	**16.5%**	**80.7%**	**84.5%**	**10.2%**	**74.8%**

Amounts in millions

Asset Changes

Since December 31, 2014, contributions (including supplemental deposits but excluding side account rate offset transfers) for pension benefits have increased assets by 1.9% while benefit payments decreased assets by about 6.4%. On the whole, assets decreased by 2.7%, since the investment returns of approximately 1.9% were not enough to offset the system's negative cash flow position.

All Reserves	Amount	Percentage of 12/31/2014 Market Value
Market value, December 31, 2014	**$63,919.1**	
Contributions	1,199.8	1.9%
Investment Income	1,201.8	1.9%
Benefit Payments	(4,116.0)	(6.4%)
Market value, December 31, 2015	**$62,204.6**	**97.3%**

Amounts in millions

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 decreased from a reserve of $446 million as of December 31, 2014 to a reserve of $183 million as of December 31, 2015 due to investment performance and Tier 1 retirement patterns in 2015. Tier 1 non-retired member accounts that are linked to the Rate Guarantee Reserve decreased from $5.9 billion on December 31, 2014 to $5.4 billion on December 31, 2015 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 the impact of any such lag effects.

Liability Changes

Since December 31, 2014, 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 present value of projected future benefits for active members allocated to that year of service, was about one-quarter of the value of benefits paid out during the year. The remaining 0.4% increase in the actuarial accrued liability was attributable to demographic experience, which includes both actual experience differing from assumption and the effect of new members joining the system during the year. In 2015, the largest demographic experience effects in descending order of magnitude were actual inactive mortality, new members entering the system, and pay increases differing from assumption.

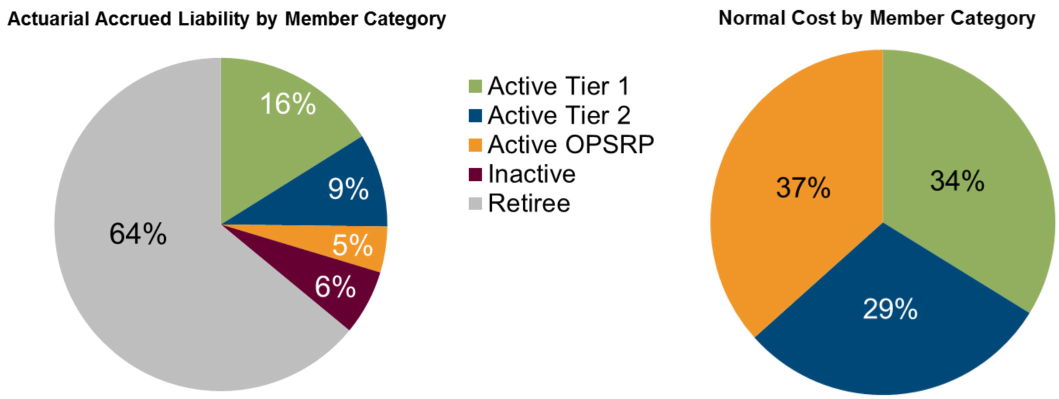
	Amount	Percentage of 12/31/2014 AAL
Actuarial Accrued Liability, December 31, 2014	**$73,997.8**	
Normal Cost	1,126.3	1.5%
Benefit Payments	(4,116.0)	(5.6%)
Interest	5,437.7	7.3%
Assumption & Method Changes	0.0	0.0%
Plan Changes	0.0	0.0%
Demographic Experience	284.3	0.4%
Actuarial Accrued Liability, December 31, 2015	**$76,730.0**	**103.7%**

Amounts in millions

The Oregon Public Employees Retirement System is a very mature system. There are currently 1.23 active members in the system for every annuitant (including retired members and beneficiaries). By comparison, the average ratio in NASRA's 2014 Public Fund Survey is 1.48. 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 for 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 14% 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.

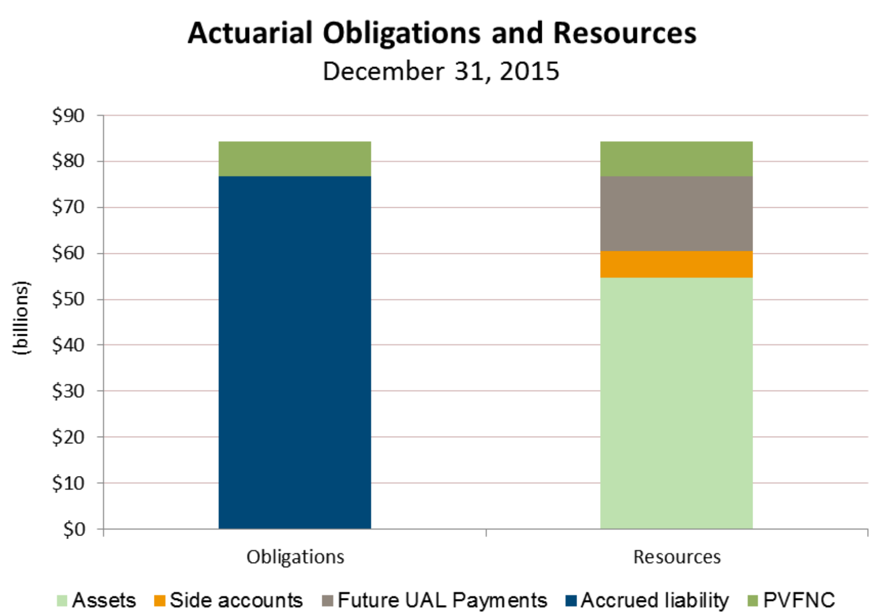
The right-hand chart below illustrates the distribution of the system's normal cost. Tier 2 members account for 29% of the system's normal cost compared to about 9% of the system's actuarial accrued liability. OPSRP members account for over a third of the normal cost compared to just 5% of the actuarial accrued liability.



Actuarial Obligations and Resources

The actuarial accrued liability discussed above is the present value of benefits assigned to past service. The total actuarial present value of benefits is a broader measure that reflects both the actuarial accrued liability and the **present value of future normal cost** (PVFNC) for current members. Conceptually, this can be thought of as the total expected benefit obligation, in today's dollars, associated with members as of the valuation date for service throughout their working careers. As of December 31, 2015, the **total actuarial present value of benefits** (also referred to as "total liability") for the system was $84.4 billion.

The resources to fund this expected obligation include assets the system has set aside as of the valuation date, plus the present value of expected future normal cost and UAL payments. By definition, the resources and obligations are equal in this "actuarial balance sheet", as shown in the graph below.



Contributions to future normal costs and UAL payments are made as a percent of subject member salary, known as valuation payroll. The table below shows the amount of projected salary in the year following the valuation date as well as the present value of all future projected salary amounts for members included in the valuation.

($ in millions)	Valuation Payroll Next Year	Present Value of Future Valuation Payroll[1]
Tier 1/Tier 2	$4,730.8	$29,721.9
OPSRP General Service	4,266.9	39,449.6
OPSRP Police & Fire	546.4	6,725.1
Total	**$9,544.1**	**$75,896.6**

1. For members as of the valuation date.

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		
	December 31, 2015	December 31, 2014	Percent Change
Tier 1/Tier 2 Pension			
Actuarial accrued liability	$72,454.1	$70,394.8	3%
Actuarial value of assets	$51,976.7	$53,493.6	(3%)
Unfunded actuarial accrued liability	$20,477.4	$16,901.2	21%
Funded status	72%	76%	
UAL as a percentage of payroll	215%	185%	
Normal cost	$713.1	$760.2	(6%)
Tier 1/Tier 2 valuation payroll	$4,730.8	$4,933.1	(4%)
Normal cost rate	15.07%	15.41%	
OPSRP Pension			
Actuarial accrued liability	$3,742.5	$3,064.1	22%
Actuarial value of assets	$2,389.1	$2,024.6	18%
Unfunded actuarial accrued liability	$1,353.5	$1,039.5	30%
Funded status	64%	66%	
UAL as a percentage of payroll	14%	11%	
Normal cost	$412.1	$360.9	14%
OPSRP valuation payroll	$4,813.3	$4,182.7	15%
Normal cost rate	8.56%	8.63%	
Combined Pension			
Actuarial accrued liability	$76,196.6	$73,458.9	4%
Actuarial value of assets	$54,365.8	$55,518.2	(2%)
Unfunded actuarial accrued liability	$21,830.8	$17,940.7	22%
Funded status	71%	76%	
Combined valuation payroll	$9,544.1	$9,115.8	5%
UAL as a percentage of payroll	229%	197%	
Normal cost	$1,125.2	$1,121.1	0%
Combined valuation payroll	$9,544.1	$9,115.8	5%
Normal cost rate	11.79%	12.30%	

Amounts in millions

	Actuarial Valuation as of		
	December 31, 2015	December 31, 2014	Percent Change
RHIA			
Actuarial accrued liability	$465.6	$468.4	(1%)
Actuarial asset value	$419.3	$395.9	6%
Unfunded actuarial accrued liability	$46.3	$72.5	(36%)
Funded status	90%	85%	
Combined valuation payroll	$9,544.1	$9,115.8	5%
UAL as a percentage of payroll	0%	1%	
Normal cost	$3.3	$3.5	(5%)
Tier 1/Tier 2 valuation payroll	$4,730.8	$4,933.1	(4%)
Normal cost rate	0.07%	0.07%	
RHIPA			
Actuarial accrued liability	$67.8	$70.5	(4%)
Actuarial asset value	$11.2	$7.2	55%
Unfunded actuarial accrued liability	$56.6	$63.3	(11%)
Funded status	16%	10%	
Combined valuation payroll	$2,831.8	$2,718.9	4%
UAL as a percentage of payroll	2%	2%	
Normal cost	$1.5	$1.6	(6%)
Tier 1/Tier 2 valuation payroll	$1,339.4	$1,406.3	(5%)
Normal cost rate	0.11%	0.11%	

Amounts in millions

Data Summary

A brief summary of the data underlying the current and prior valuations follows. As shown below, the active member count increased about 2.0%, while the system's whole population increased by about 2.5%. The data section of this report provides additional detail. State Judiciary is included in the Tier 1 counts.

	December 31, 2015				December 31, 2014
	Tier 1	Tier 2	OPSRP	Total	Total
Active Members					
Count	30,295	40,126	97,756	168,177	164,859
Average age	55.5	50.2	42.4	46.6	46.9
Average total service	24.1	15.0	5.7	11.2	11.4
Average prior year covered salary	$73,426	$64,481	$46,494	$55,637	$54,323
Inactive Members[1]					
Count	15,199	15,589	12,061	42,849	42,563
Average age	58.3	52.4	46.5	52.8	52.8
Average monthly deferred benefit	$2,013	$693	$346	$1,064	$1,138
Retired Members and Beneficiaries[1]					
Count	122,117	11,888	2,293	136,298	131,505
Average age	71.8	66.5	66.1	71.3	71.1
Average monthly benefit[2]	$2,652	$975	$405	$2,468	$2,411
Total members	**167,611**	**67,603**	**112,110**	**347,324**	**338,927**

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.

2 The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.

Effects of Changes

Effective with the December 31, 2015 actuarial valuation the following changes were made:

Assumption Changes

There were no changes to actuarial assumptions since the December 31, 2014 actuarial valuation.

Method Changes

There were no changes to actuarial methods since the December 31, 2014 actuarial valuation.

Plan Changes

There were no changes to plan provisions since the December 31, 2014 actuarial 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
Amount reported by PERS December 31, 2015	$52,979.0	$2,389.1	$5,634.3	$588.6	$183.2	$430.5	$62,204.6
Adjustment for Recognized Transition Liability Receivable	($564.0)	$0.0	$0.0	$0.0	$0.0	$0.0	($564.0)
Adjustment for Negative Rate Guarantee Reserve	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Net Pre-SLGRP Liabilities	($438.3)	$0.0	$0.0	$0.0	$0.0	$0.0	($438.3)
December 31, 2015 Actuarial Value of Assets	$51,976.7	$2,389.1	$5,634.3	$588.6	$183.2	$430.5	$61,202.4

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, 2015 the RGR was in surplus status of $183 million. It is possible for the RGR to be in deficit, which occurred most recently at December 31, 2012. 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, 2014 to December 31, 2015. 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
Additions								
1. Contributions								
a. Employer	$617.1	$335.7	$174.9	-	-	-	$57.6	$1,185.4
b. Transfer from side accounts[1]	$541.6	-	($541.6)	-	-	-	-	-
c. Judge member contributions	$1.7	-	-	-	-	-	-	$1.7
d. Member service purchases	$12.7	-	-	-	-	-	-	$12.7
e. Recognized transition liability receivable	-	-	-	-	-	-	-	-
f. Total	$1,173.1	$335.7	($366.7)	-	-	-	$57.6	$1,199.8
2. Net investment income								
a. Transfers	$344.0	-	-	($62.6)	-	($281.4)	-	-
b. From investments	$1,041.7	$48.4	$124.2	-	-	$18.6	$8.1	$1,241.1
c. Total	$1,385.7	$48.4	$124.2	($62.6)	-	($262.8)	$8.1	$1,241.1
3. Other[2]	($0.5)	$0.0	-	-	-	-	-	($0.5)
4. Total additions	**$2,558.3**	**$384.2**	**($242.5)**	**($62.6)**	**-**	**($262.8)**	**$65.7**	**$2,440.4**
Deductions								
5. Retirement and survivor benefits	($4,038.1)	($14.0)	-	-	-	-	($37.0)	($4,089.1)
6. Death Benefits	($11.1)	-	-	-	-	-	-	($11.1)
7. Refund of contributions	($15.9)	-	-	-	-	-	-	($15.9)
9. Administrative expenses	($31.5)	($5.7)	($0.2)	-	-	-	($1.4)	($38.8)
10. Total deductions	**($4,096.5)**	**($19.7)**	**($0.2)**	**-**	**-**	**-**	**($38.4)**	**($4,154.8)**
11. Net change	**($1,538.1)**	**$364.4**	**($242.7)**	**($62.6)**	**-**	**($262.8)**	**$27.3**	**($1,714.5)**
12. Net assets held in trust for pension benefits								
a. Beginning of year	$54,517.1	$2,024.6	$5,876.9	$651.2	-	$446.0	$403.1	$63,919.1
b. End of year	**$52,979.0**	**$2,389.1**	**$5,634.3**	**$588.6**	**-**	**$183.2**	**$430.5**	**$62,204.6**

Amounts in millions

[1] *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.*

[2] *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, 2014 to December 31, 2015, is shown below on a rate pool basis. For this exhibit, all independent employers are grouped together.

	SLGRP	School Districts	Independent Employers	System Totals
Side Accounts, December 31, 2014	**$2,697.2**	**$3,083.3**	**$96.4**	**$5,876.9**
Deposits during 2015	7.5	167.4	0.0	174.9
Interest	56.2	65.9	2.0	124.2
Administrative expenses	(0.0)	(0.1)	(0.0)	(0.2)
Transfers to employer reserves	(258.3)	(275.0)	(8.3)	(541.6)
Side Accounts, December 31, 2015	**$2,502.6**	**$3,041.6**	**$90.1**	**$5,634.3**

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, 2015			
	SLGRP	School Districts	Independent Employers	System Totals
1. Side Account	$2,502.6	$3,041.6	$90.1	$5,634.3
2. Combined valuation payroll	$5,594.3	$3,060.7	$889.1	$9,544.1
3. Average Amortization Factor[1]	9.521	9.681	9.621	9.609
4. Average Side Account Rate Relief (1. ÷ 2. ÷ 3.)	4.70%	10.26%	1.05%	6.14%

Amounts in millions

[1] *Weighted average*

Pension Plan Valuation

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[1]
December 31, 2015				
Member reserves	$3,826.2	$2,093.1	$557.5	$6,476.8
Employer reserves	12,993.9	8,271.8	2,283.1	23,410.5
Benefit in force reserves	11,300.8	9,322.4	1,876.9	22,527.7
Net outstanding pre-SLGRP liabilities	(438.3)			(438.3)
Total actuarial value of assets	**$27,682.7**	**$19,687.3**	**$4,717.5**	**$51,976.7**
December 31, 2014				
Member reserves	$4,092.9	$2,253.1	$604.2	$6,950.4
Employer reserves	13,013.9	8,039.7	2,309.5	23,211.4
Benefit in force reserves	11,796.8	9,985.1	1,957.3	23,770.1
Net outstanding pre-SLGRP liabilities	(438.3)			(438.3)
Total actuarial value of assets	**$28,465.3**	**$20,277.9**	**$4,871.0**	**$53,493.6**

Amounts in millions

[1] *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[1]
Actuarial value of assets, December 31, 2014	**$28,465.3**	**$20,277.9**	**$4,871.0**	**$53,493.6**
Contributions				
Employer	$345.5	$228.9	$76.8	$651.2
Side account transfers	258.3	275.0	8.3	541.6
Member	0.0	0.0	1.7	1.7
Total contributions	603.7	503.9	86.8	1,194.4
Investment income	657.2	457.6	111.3	1,223.5
Benefit payments and expenses	(2,054.5)	(1,695.3)	(341.9)	(4,096.7)
Adjustments[2]	5.2	143.1	3.5	169.4
Actuarial value of assets, December 31, 2015	**$27,677.1**	**$19,687.3**	**$4,730.7**	**$51,984.3**
Employers joining the SLGRP	5.6		(13.2)	(7.6)
Actuarial value of assets, January 1, 2016	**$27,682.7**	**$19,687.3**	**$4,717.5**	**$51,976.7**

Amounts in millions

1 *Includes Multnomah Fire District #10.*

2 *Adjustments include a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, member service purchases, and other adjustments made by PERS.*

Employers Joining the SLGRP

Effective January 1, 2016, four independent employers joined the State & Local Government Rate Pool (SLGRP). Their experience through December 31, 2015 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, 2017. 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	**12/31/2015**	**Employers Joining Pool**	**1/1/2016**
Actuarial Accrued Liability			
Active Members			
Tier 1 General Service	$ 5,809.1	$ 3.1	$ 5,812.2
Tier 1 P&F	1,296.5	0.1	1,296.6
Tier 1 Total	**$ 7,105.6**	**$ 3.2**	**$ 7,108.8**
Tier 2 General Service	2,921.4	4.2	2,925.6
Tier 2 P&F	1,062.5	-	1,062.5
Tier 2 Total	**$ 3,983.9**	**$ 4.2**	**$ 3,988.1**
Total active members	**$ 11,089.5**	**$ 7.4**	**$ 11,096.9**
Dormant Members	**$ 2,898.0**	**$ 1.5**	**$ 2,899.5**
Retired Members and Beneficiaries	**$ 24,393.4**	**$ 7.1**	**$ 24,400.5**
Total Actuarial Accrued Liability	**$ 38,380.8**	**$ 16.0**	**$ 38,396.8**
Market Value of Assets			
Member reserves	$ 3,824.1	$ 2.1	$ 3,826.2
Employer reserves	12,986.2	7.8	12,993.9
Benefit in force reserves	11,297.5	3.3	11,300.8
Net outstanding pre-SLGRP liabilities	(430.7)	(7.6)	(438.3)
Total market value of assets	**$ 27,677.1**	**$ 5.6**	**$ 27,682.7**
Unfunded Accrued Liability	**$ 10,703.7**	**$ 10.4**	**$ 10,714.1**
Funded Percentage	72.1%	35.1%	72.1%
Combined Valuation Payroll	$ 5,588.9	$ 5.4	$ 5,594.3
Unfunded accrued liability as % of combined valuation payroll	**191.5%**	**191.5%**	**191.5%**
Amounts in millions			

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
1.	**Pre-SLGRP liability/(surplus), January 1, 2015**	**$561.1**	**($237.2)**	**($762.2)**	**($438.3)**
2.	Employer contributions	(59.2)	24.2	72.7	37.7
3.	Supplemental payments	0.0	0.0	(0.1)	(0.1)
4.	Interest	37.6	(16.0)	(51.7)	(30.0)
5.	Employer merger	0.0	0.0	0.0	0.0
6.	**Pre-SLGRP liability/(surplus), December 31, 2015 (1. + 2. + 3. + 4. + 5.)**	**$539.5**	**($229.0)**	**($741.3)**	**($430.7)**
7.	Employers joining the SLGRP			(7.6)	(7.6)
8.	**Pre-SLGRP liability/(surplus), January 1, 2016 (6. + 7.)**	**$539.5**	**($229.0)**	**($748.8)**	**($438.3)**

Amounts in millions

Tier 1/Tier 2 Pension Liabilities

Normal Cost

The normal cost represents the present value of benefits allocated to the next year of service by the actuarial cost method. If all current actuarial assumptions are met in both past and future years, the normal cost represents the percent of payroll that would need to be contributed each year to fully fund plan benefits during each member's working career.

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, 2015	December 31, 2014	Percent Change
Normal Cost			
Service Retirement	$462.2	$488.5	(5.4%)
Withdrawal	$193.0	$212.4	(9.1%)
Duty Disability	$3.2	$3.3	(3.1%)
Nonduty Disability	$16.5	$17.1	(3.7%)
Death	$5.3	$6.0	(11.5%)
Administrative Expenses	$33.0	$33.0	(0.0%)
Total Normal Cost	**$713.1**	**$760.2**	**(6.2%)**

Amounts in millions

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
Normal Cost, December 31, 2014	**$760.2**
Expected increase (decrease)	(40.3)
Assumption and method changes	-
Plan changes	-
Deviations from expected experience	
Pay increases	1.4
Interest crediting experience	(2.8)
All other sources	(5.4)
Total demographic (gains) and losses	**(6.8)**
Normal Cost, December 31, 2015	**$713.1**

Amounts in millions

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, 2015				December 31, 2014	
	SLGRP	School Districts	Independent Employers	Tier 1/ Tier 2 Totals	Tier 1/ Tier 2 Totals	Percent Change
Normal Cost[1]						
Tier 1 General Service	$184.3	$108.8	$26.9	$320.0	$357.8	(10.6%)
Tier 2 General Service	$138.7	$100.4	$19.5	$258.5	$265.4	(2.6%)
Tier 1 Police & Fire	$44.7	$0.2	$15.4	$60.3	$64.3	(6.1%)
Tier 2 Police & Fire	$57.2	$0.3	$16.8	$74.3	$72.8	2.1%
Total Normal Cost	**$424.9**	**$209.7**	**$78.6**	**$713.1**	**$760.2**	**(6.2%)**

Amounts in millions

[1] *Includes assumed administrative expenses. Assumed expenses allocated pro-rata based on normal cost.*

Actuarial Accrued Liability

The actuarial accrued liability represents the present value of benefits allocated 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, 2015	December 31, 2014	Percent Change
Active Members	$19,193.8	$19,389.2	(1.0%)
Inactive Members	4,618.8	4,892.2	(5.6%)
Retired Members and Beneficiaries	48,641.5	46,113.5	5.5%
Total Actuarial Accrued Liability	**$72,454.1**	**$70,394.8**	**2.9%**

Amounts in millions

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, 2015				December 31, 2014	
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals[1]	Tier 1 / Tier 2 Totals[1]	Percent Change
Active Members						
Tier 1 General Service	$5,809.1	$3,944.1	$742.4	$10,495.7	$11,128.8	(5.7%)
Tier 1 Police & Fire	1,296.5	3.9	479.5	1,779.9	1,858.8	(4.2%)
Tier 1 Total	**7,105.6**	**3,948.0**	**1,222.0**	**12,275.5**	**12,987.5**	**(5.5%)**
Tier 2 General Service	2,921.4	2,197.9	423.1	5,542.4	5,148.5	7.7%
Tier 2 Police & Fire	1,062.5	4.4	309.0	1,375.9	1,253.2	9.8%
Tier 2 Total	**3,983.9**	**2,202.3**	**732.1**	**6,918.3**	**6,401.6**	**8.1%**
Total Active Members	**11,089.5**	**6,150.3**	**1,954.0**	**19,193.8**	**19,389.2**	**(1.0%)**
Inactive Members	**2,898.0**	**1,391.5**	**329.3**	**4,618.8**	**4,892.2**	**(5.6%)**
Retired Members and Beneficiaries	**24,393.4**	**20,128.9**	**4,059.8**	**48,641.5**	**46,113.5**	**5.5%**
Total Tier 1/ Tier 2 Pension Liability, December 31,	**38,380.8**	**27,670.7**	**6,343.1**	**72,454.1**	**70,394.8**	**2.9%**
Employers joining the SLGRP	16.0	0.0	(16.0)	0.0	0.0	
Total Tier 1/ Tier 2 Pension Liability, January 1,	**$38,396.8**	**$27,670.7**	**$6,327.1**	**$72,454.1**	**$70,394.8**	**2.9%**

Amounts in millions

1 *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
Actuarial Accrued Liability December 31, 2014	**$70,394.8**
Expected change	1,816.7
Assumption and method changes	-
Plan changes	-
Deviations from expected experience	
Retirements from active status	70.5
Disability retirements	(5.0)
Active mortality and withdrawal	25.3
Pay increases	48.3
Interest crediting experience	(53.5)
Inactive mortality	114.6
COLA experience	-
Data corrections	23.4
Other	19.0
Total demographic (gains) and losses	242.6
New Entrants	0.0
Actuarial Accrued Liability December 31, 2015	**$72,454.1**

Amounts in millions

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 uncollared and collared base employer contribution rates, the UAL is calculated excluding side accounts. The calculated collared base 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[1]
December 31, 2015				
1. Actuarial accrued liability	$38,396.8	$27,670.7	$6,327.1	$72,454.1
2. Actuarial value of assets	$27,682.7	$19,687.3	$4,717.5	$51,976.7
3. Unfunded accrued liability	$10,714.1	$7,983.4	$1,609.6	$20,477.4
4. Funded percentage (2. ÷ 1.)	72.1%	71.1%	74.6%	71.7%
5. Combined Valuation Payroll	$5,594.3	$3,060.7	$889.1	$9,544.1
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	191.5%	260.8%	181.0%	214.6%
December 31, 2014				
1. Actuarial accrued liability	$37,169.9	$27,059.9	$6,104.9	$70,394.8
2. Actuarial value of assets	$28,465.3	$20,277.9	$4,871.0	$53,493.6
3. Unfunded accrued liability	$8,704.6	$6,782.0	$1,233.9	$16,901.2
4. Funded percentage (2. ÷ 1.)	76.6%	74.9%	79.8%	76.0%
5. Combined Valuation Payroll	$5,390.8	$2,872.7	$852.2	$9,115.8
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	161.5%	236.1%	144.8%	185.4%

Amounts in millions

[1] *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 assumptions, the PERS Board decided to reset the Tier 1/Tier 2 amortization period to 20 years effective with the December 31, 2013 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 as a level percentage of projected future payroll. 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.

SLGRP					
Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$3,891.8	$291.5	$280.2	$3,880.5	$301.7
December 31, 2015	N/A	N/A	N/A	6,833.6	494.5
Total				**$10,714.1**	**$796.2**

Amounts in millions

School Districts					
Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$3,432.1	$257.1	$247.1	$3,422.1	$266.1
December 31, 2015	N/A	N/A	N/A	4,561.3	330.0
Total				**$7,983.4**	**$596.1**

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 an actuarial gain or loss to the plan. Gains are the result of experience that is more financially favorable to the system than assumed (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of financially unfavorable experience to the system.

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, 2015. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2015			
	SLGRP	School District	Independent Employers	Tier 1/Tier 2 Totals[1]
1. Expected actuarial accrued liability				
a. Actuarial accrued liability at January 1, 2015	$37,169.9	$27,059.9	$6,104.9	$70,394.8
b. Normal cost at January 1, 2015	434.3	213.4	79.5	727.2
c. Benefit payments for fiscal year ending December 31, 2015	(2,038.6)	(1,682.2)	(339.3)	(4,065.0)
d. Interest	2,727.6	1,974.4	448.1	5,154.4
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	$38,293.2	$27,565.5	$6,293.2	$72,211.5
f. Change in actuarial accrued liability at December 31, 2015, due to assumption, method, and plan changes	0.0	0.0	0.0	0.0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	$38,293.2	$27,565.5	$6,293.2	$72,211.5
2. Actuarial accrued liability at December 31, 2015	$38,380.8	$27,670.7	$6,343.1	$72,454.1
3. Liability gain/(loss) (1.g. - 2)	**($87.6)**	**($105.1)**	**($49.9)**	**($242.6)**
4. Expected actuarial value of assets				
a. Actuarial value of assets at January 1, 2015	$28,465.3	$20,277.9	$4,871.0	$53,493.6
b. Actual contributions for 2015	603.7	503.9	86.8	1,194.4
c. Benefit payments and expenses for fiscal year ending December 31, 2015	(2,054.5)	(1,695.3)	(341.9)	(4,096.7)
d. Assumed investment return	2,080.5	1,476.2	355.8	3,903.2
e. Expected actuarial value of assets before changes *(a. + b. + c. + d.)*	$29,095.1	$20,562.7	$4,971.6	$54,494.6
f. Change in actuarial value of assets at December 31, 2015, due to assumption changes	0.0	0.0	0.0	0.0
g. Expected actuarial value of assets at December 31, 2015 *(e. + f.)*	$29,095.1	$20,562.7	$4,971.6	$54,494.6
5. Actuarial value of assets as of December 31, 2015	$27,677.1	$19,687.3	$4,730.7	$51,984.3
6. Asset gain/(loss) (5. - 4.g.)	**($1,418.1)**	**($875.4)**	**($240.9)**	**($2,510.3)**
7. Net actuarial gain/(loss) (3. + 6.)	**($1,505.6)**	**($980.5)**	**($290.9)**	**($2,752.9)**
Amounts in millions				

[1] *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[1]
UAL, December 31, 2014	$8,704.6	$6,782.0	$1,233.9	$16,901.2
Normal cost	434.3	213.4	79.5	727.2
Administrative expenses	15.9	13.1	2.6	31.6
Contributions	(603.7)	(503.9)	(86.8)	(1,194.4)
Liability (gain) or loss	87.6	105.1	49.9	242.6
Asset (gain) or loss	1,418.1	875.4	240.9	2,510.3
Assumption, method, and plan changes	0.0	0.0	0.0	0.0
Interest at 7.50%	647.1	498.2	92.4	1,251.3
UAL, December 31, 2015	**10,703.7**	**7,983.4**	**1,612.4**	**20,469.8**
Employers joining SLGRP	10.4	-	(2.9)	7.6
UAL, January 1, 2016	**$10,714.1**	**$7,983.4**	**$1,609.6**	**$20,477.4**

Amounts in millions

1 *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 Tier 1/ Tier 2 normal cost rate.

	December 31, 2015	December 31, 2014	Percent Change
Normal Cost			
a. Service Retirement	$462.2	$488.5	(5.4%)
b. Withdrawal	193.0	212.4	(9.1%)
c. Duty Disability	3.2	3.3	(3.1%)
d. Nonduty Disability	16.5	17.1	(3.7%)
e. Death	5.3	6.0	(11.5%)
f. Administrative Expenses	33.0	33.0	(0.0%)
g. Total Normal Cost	**713.1**	**760.2**	**(6.2%)**
Tier 1/ Tier 2 Valuation Payroll	**$4,730.8**	**$4,933.1**	**(4.1%)**
Average Normal Cost Rate			
a. Service Retirement	9.77%	9.90%	
b. Withdrawal	4.08%	4.31%	
c. Duty Disability	0.07%	0.07%	
d. Nonduty Disability	0.35%	0.35%	
e. Death	0.11%	0.12%	
f. Administrative Expenses	0.70%	0.67%	
g. Average Normal Cost Rate	**15.07%**	**15.41%**	

Amounts in millions

The table below shows the development of the Tier 1/Tier 2 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
Normal Cost				
Tier 1 General Service	$184.3	$108.8	$26.9	$320.0
Tier 2 General Service	138.7	100.4	19.5	258.5
Tier 1 Police & Fire	44.7	0.2	15.4	60.3
Tier 2 Police & Fire	57.2	0.3	16.8	74.3
Total Normal Cost	**424.9**	**209.7**	**78.6**	**713.1**
Tier 1/ Tier 2 Valuation Payroll				
Tier 1 General Service	1,049.9	702.7	142.5	1,895.1
Tier 2 General Service	1,130.9	873.9	156.5	2,161.3
Tier 1 Police & Fire	209.3	0.9	70.6	280.8
Tier 2 Police & Fire	301.6	1.3	90.7	393.6
Total Valuation Payroll	**$2,691.8**	**$1,578.8**	**$460.3**	**$4,730.8**
Average Normal Cost Rates				
Tier 1 General Service	17.55%	15.48%	18.88%	16.89%
Tier 2 General Service	12.26%	11.49%	12.43%	11.96%
Tier 1 Police & Fire	21.37%	23.25%	21.79%	21.48%
Tier 2 Police & Fire	18.95%	21.05%	18.57%	18.87%
Average Rates				
Tier 1 Average	18.19%	15.49%	19.85%	17.48%
Tier 2 Average	13.67%	11.50%	14.68%	13.03%
General Service Average	14.81%	13.27%	15.51%	14.26%
Police & Fire Average	19.94%	21.93%	19.98%	19.96%
System Average	**15.78%**	**13.28%**	**17.07%**	**15.07%**
Member Contributions			0.36%	0.03%
Employer System Average	**15.78%**	**13.28%**	**16.71%**	**15.04%**

Amounts in millions

UAL Rates

The Tier 1/Tier 2 UAL rate is determined by calculating the next year's scheduled payment to the Tier 1/Tier 2 UAL as a percentage of combined (Tier 1/Tier 2 plus OPSRP) valuation payroll.

The following table develops the Tier 1/Tier 2 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[1]
December 31, 2015				
1. Total UAL	$10,714.1	$7,983.4	$1,609.6	$20,477.4
2. Next year's UAL payment	$796.2	$596.1	$118.7	$1,511.0
3. Combined valuation payroll	$5,594.3	$3,060.7	$889.1	$9,544.1
4. UAL rate (2 ÷ 3)	**14.23%**	**19.48%**	**13.35%**	**15.83%**
December 31, 2014				
1. Total UAL	$8,704.6	$6,782.0	$1,233.9	$16,901.2
2. Next year's UAL payment	$639.8	$499.5	$90.3	$1,229.6
3. Combined valuation payroll	$5,390.8	$2,872.7	$852.2	$9,115.8
4. UAL rate (2 ÷ 3)	**11.87%**	**17.39%**	**10.60%**	**13.49%**

Amounts in millions

[1] *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 Tier 1/Tier 2 UAL attributable to the State and Community Colleges and the LGRP at the time the SLGRP was formed is maintained separately from the Tier 1/Tier 2 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 (Tier 1/Tier 2 plus OPSRP) valuation payroll.

	December 31, 2015	December 31, 2014
State and Community College Pool		
1. Total pre-SLGRP pooled liability	$539.5	$561.1
2. Combined valuation payroll	$3,224.1	$3,109.6
3. Amortization Factor	9.504	10.118
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷ 3.)	1.76%	1.78%
Local Government Rate Pool		
1. Total pre-SLGRP pooled liability	($229.0)	($237.2)
2. Combined valuation payroll	$1,393.0	$1,325.4
3. Amortization Factor	9.504	10.118
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷3.)	(1.73%)	(1.77%)

Amounts in millions

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 Tier 1/Tier 2 UAL for the SLGRP. The transition liability is amortized over a fixed period, and is expressed as a percentage of combined (Tier 1/Tier 2 plus OPSRP) 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 SLGRP. The amortization factor below reflects the weighted average of the amortization periods for all employers.

	December 31, 2015	December 31, 2014
1. Total transition liability / (surplus)	($748.8)	($762.2)
2. Combined valuation payroll	$2,225.2	$2,096.1
3. Average Amortization Factor[1]	9.545	10.127
4. **Average transition liability/(surplus) rate (1. ÷ 2. ÷ 3.)**	**(3.53%)**	**(3.59%)**

Amounts in millions

[1] *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 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, 2015	December 31, 2014
1. Actuarial accrued liability		
a. Active members	$0.0	$0.1
b. Dormant members	0.0	0.0
c. Retired members and beneficiaries	59.5	60.0
d. Total actuarial accrued liability	$59.5	$60.2
2. Actuarial value of assets		
a. Employer reserve	($138.3)	($151.7)
b. Members reserve	0.0	0.1
c. Benefits in force reserve	27.6	30.9
d. Total actuarial value of aseets	($110.8)	($120.6)
3. Multnomah FD #10 UAL	$170.3	$180.8
a. Portion allocated to City of Portland (21.8743% x 3.)	$37.2	$39.5
b. Portion allocated to all T1/T2 employers (78.1257% x 3.)	$133.0	$141.3
4. Combined valuation payroll		
a. City of Portland	$350.2	$335.1
b. All employers	$9,593.1	$9,165.5
5. Amortization factor	9.504	10.118
6. Multnomah FD #10 UAL Rate		
a. City of Portland (3.a. ÷ 4.a. ÷ 5.)	1.12%	1.17%
b. All Tier 1 / Tier 2 employers (3.b. ÷ 4.b. ÷ 5.)	0.15%	0.15%
7. Total Multnomah FD #10 UAL Rate		
a. City of Portland (6.a. + 6.b.)	1.27%	1.32%
b. City of Gresham, City of Fairview, City of Wood Village, City of Troutdale (2 x 6.b.)	0.30%	0.30%
c. All other Tier 1 / Tier 2 employers (6.b.)	0.15%	0.15%

Amounts in millions

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 (Tier 1/Tier 2 plus OPSRP) 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.

July 1, 2017 Rates Calculated as of December 31, 2015				
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals
Tier 1/Tier 2 pension contribution rates				
Employer normal cost rate	15.78%	13.28%	16.71%	15.04%
Member normal cost rate			0.36%	0.03%
Uncollared UAL rate	14.23%	19.48%	13.35%	15.83%
Multnomah FD #10 rate	0.22%	0.15%	0.16%	0.19%
Total Tier 1/Tier 2 pension rate	**30.23%**	**32.91%**	**30.58%**	**31.09%**
Average adjustments				
Pre-SLGRP liability/(surplus) rate	(0.82%)	N/A	N/A	(0.48%)
Side account rate	(4.70%)	(10.26%)	(1.05%)	(6.14%)
Total average adjustment	**(5.52%)**	**(10.26%)**	**(1.05%)**	**(6.62%)**
Uncollared net pension contribution rate	**24.71%**	**22.65%**	**29.53%**	**24.47%**

Calculation of Rate Collar

Due to the rate collar, employer base contribution rates will not generally change by more than the greater of 3 percent of payroll or 20% of the current contribution rate. However, if the funded percentage is below 60% or above 140%, the size of the rate 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 rate collar calculations are performed excluding amounts and contribution rates attributable to pre-SLGRP liabilities, side accounts and member IAP 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 single rate 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, 2017 Rates Calculated as of December 31, 2015				
Calculation of Collar Adjustments	**SLGRP**	**School Districts**	**Independent Employers**	**Tier 1 / Tier 2 Totals[1]**
1. Current employer contribution rate[2]	18.23%	21.19%	16.78%	19.04%
2. Size of rate collar				
a. Preliminary size of rate collar (*maximum of 3% or 20% x 1.)*	3.65%	4.24%	3.36%	3.81%
b. Funded percentage	72%	71%	75%	72%
c. Size of rate collar *(If b. < 60% or b. > 140%, 2 x a. If b. is 70%-130%, a. Otherwise, a graded rate between a. and 2 x a.)*	**3.65%**	**4.24%**	**3.36%**	
3. July 1, 2017 Minimum employer contribution rate *(1. - 2.c.)*	14.58%	16.95%	13.42%	
4. July 1, 2017 Maximum employer contribution rate *(1. + 2.c.)*	21.88%	25.43%	20.14%	
5. July 1, 2017 employer contribution rate before collar	30.23%	32.91%	30.22%	
6. July 1, 2017 employer contribution rate after collar *(5., but not less than 3. or more than 4.)*	21.88%	25.43%	20.14%	
7. Impact of collar *(6. - 5.)*[3]	**(8.35%)**	**(7.48%)**	**(10.08%)**	**(8.23%)**

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

2 *Current employer contribution rates reflect changes to actual 2013-2015 contributions made by Senate Bill 822.*

3 *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 needed adjustment to reflect the effects of the rate collar is made to the UAL rate. The table below summarizes the average rates effective July 1, 2017 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 single rate 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.

July 1, 2017 Rates Calculated as of December 31, 2015	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals
Tier 1/Tier 2 pension contribution rates				
Employer normal cost rate	15.78%	13.28%	16.71%	15.04%
Member normal cost rate			0.36%	0.03%
Collared UAL rate	5.88%	12.00%	3.27%	7.60%
Multnomah FD #10 rate	0.22%	0.15%	0.16%	0.19%
Total Tier 1/Tier 2 pension rate	**21.88%**	**25.43%**	**20.50%**	**22.86%**
Average adjustments				
Pre-SLGRP liability/(surplus) rate	(0.82%)	N/A	N/A	(0.48%)
Side account rate	(4.70%)	(10.26%)	(1.05%)	(6.14%)
Total average adjustment	**(5.52%)**	**(10.26%)**	**(1.05%)**	**(6.62%)**
Collared net pension contribution rate	**16.36%**	**15.17%**	**19.45%**	**16.24%**

OPSRP Assets

Information on OPSRP assets is shown in the section of this report covering the system-wide assets. As of December 31, 2015, the actuarial value of assets for OPSRP is $2,389.1 million.

OPSRP Liabilities

Normal Cost

The normal cost represents the present value of projected future benefits allocated to the next year of service by the actuarial cost method. If all current actuarial assumptions are met in past and future years, 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 assumed cause of future termination of service is shown below for the current and prior year.

	December 31, 2015			December 31, 2014		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
Pre-Retirement Disability						
Duty	$0.5	$0.8	$1.3	$0.5	$0.7	$1.2
Non-Duty	7.3	1.0	8.2	6.3	0.8	7.1
Total Pre-Retirement Disability	**$7.8**	**$1.8**	**$9.6**	**$6.8**	**$1.5**	**$8.3**
Other Benefits						
Service Retirement	$288.8	$62.5	$351.3	$253.8	$53.3	$307.1
Withdrawal	32.3	3.1	35.4	28.4	2.6	31.0
Death	3.6	0.6	4.2	3.2	0.5	3.7
Duty Disability Retirement	0.2	0.5	0.8	0.2	0.5	0.7
Non-Duty Disability Retirement	4.6	0.8	5.3	4.0	0.6	4.6
Total Other Benefits	**$329.6**	**$67.5**	**$397.0**	**$289.6**	**$57.5**	**$347.1**
Assumed Administrative Expenses	$4.9	$0.6	$5.5	$4.9	$0.6	$5.5
Total Normal Cost	**$342.2**	**$69.9**	**$412.1**	**$301.3**	**$59.6**	**$360.9**

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
Normal Cost, December 31, 2014	**$360.9**
Expected increase	(9.0)
Assumption and method changes	0.0
Plan changes	0.0
New entrants	55.5
Deviations from expected experience	4.8
Normal Cost, December 31, 2015	**$412.1**

Amounts in millions

Actuarial Accrued Liability

The actuarial accrued liability represents the present value of projected future benefits allocated to prior years of service by the actuarial cost method. For active members, a summary of the actuarial accrued liability by assumed cause of future termination of service is shown below for the current and prior year.

	December 31, 2015			December 31, 2014		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
Active Members						
Pre-retirement Duty Disability	$0.8	$1.6	$2.4	$0.5	$1.1	$1.6
Pre-retirement Non-Duty Disability	64.2	7.0	71.2	54.5	5.7	60.2
Service Retirement	2,583.0	485.5	3,068.5	2,148.5	381.1	2,529.6
Withdrawal	157.1	13.4	170.6	139.1	11.7	150.8
Death	30.0	4.3	34.3	25.5	3.4	28.9
Duty Disability Retirement	1.8	3.3	5.1	1.6	2.7	4.3
Non-Duty Disability Retirement	41.5	5.6	47.1	34.8	4.5	39.3
Total Active Members	**$2,878.5**	**$520.7**	**$3,399.2**	**$2,404.4**	**$410.2**	**$2,814.7**
Inactive Members			$198.7			$156.9
Retired Members and Beneficiaries			$144.6			$92.4
Total Actuarial Accrued Liability			**$3,742.5**			**$3,064.1**

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
Actuarial Accrued Liability December 31, 2014	**$3,064.1**
Expected change	583.9
Assumption and method changes	0.0
Plan changes	0.0
Deviations from expected experience	
Retirements from active status	(3.4)
Active mortality and withdrawal	19.7
Pay increases	20.7
Other	(25.0)
Total demographic (gains) and losses	**12.0**
New entrants	82.5
Actuarial Accrued Liability December 31, 2015	**$3,742.5**

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 (Tier 1/Tier 2 and OPSRP) valuation payroll. The table below shows the OPSRP UAL, funded status, and UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$3,742.5	$3,064.1
2. Actuarial value of assets	$2,389.1	$2,024.6
3. Unfunded accrued liability	$1,353.5	$1,039.5
4. Funded percentage *(2. ÷ 1.)*	63.8%	66.1%
5. Combined valuation payroll	$9,544.1	$9,115.8
6. Unfunded accrued liability as % of combined valuation payroll	14.2%	11.4%

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, 2013 to December 31, 2015 is amortized based on a 16-year amortization schedule beginning December 31, 2015.

Reconciliation of UAL Bases					
Amortization Base	UAL, December 31, 2014	Payment	Interest	UAL, December 31, 2015	Next Year's Payment
December 31, 2007	($59.5)	($7.9)	($4.1)	($55.8)	($8.2)
December 31, 2009	$145.0	$16.4	$10.2	$138.9	$16.9
December 31, 2011	$54.1	$5.3	$3.8	$52.6	$5.5
December 31, 2013	$465.8	$41.3	$33.3	$457.8	$42.7
December 31, 2015	N/A	N/A	N/A	$760.0	$64.3
Total				**$1,353.5**	**$121.3**

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 an actuarial gain or loss to the plan. Gains are the result of experience that is more financially favorable to the system than anticipated (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of experience that is financially unfavorable to the system. The 2015 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, 2015.

		OPSRP
1.	Expected actuarial accrued liability	
	a. Actuarial accrued liability at December 31, 2014	$3,064.1
	b. Normal cost at December 31, 2014 (excluding administrative expenses)	$355.4
	c. Benefit payments (excluding administrative expenses) for year ending December 31, 2015	($14.0)
	d. Interest	$242.6
	e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	$3,648.0
	f. Change in actuarial accrued liability at December 31, 2015, due to assumption and method changes	$0.0
	g. Change in actuarial accrued liability at December 31, 2015, due to plan changes	$0.0
	h. Expected actuarial accrued liability at December 31, 2015 *(e. + f. + g.)*	$3,648.0
2.	Actuarial accrued liability at December 31, 2015	$3,742.5
3.	**Liability gain/(loss) (1.h. - 2)**	**($94.5)**
4.	Expected actuarial value of assets	
	a. Actuarial value of assets at December 31, 2014	$2,024.6
	b. Actual contributions for 2015	$335.7
	c. Benefit payments and administrative expenses for fiscal year ending December 31, 2015	($19.7)
	d. Assumed investment return	$163.7
	e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	$2,504.3
5.	Actuarial value of assets as of December 31, 2015	$2,389.1
6.	**Asset gain/(loss) (5. - 4.e.)**	**($115.3)**
7.	**Net actuarial gain/(loss) (3. + 6.)**	**($209.8)**

Amounts in millions

Reconciliation of the UAL

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

	OPSRP
UAL, December 31, 2014	**$1,039.5**
Normal Cost (including actual administrative expenses)	361.1
Contributions	(335.7)
Liability (gain) or loss	94.5
Asset (gain) or loss	115.3
Assumption and method changes	0.0
Plan changes	0.0
Interest at 7.50%	78.9
UAL, December 31, 2015	**$1,353.5**

Amounts in millions

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, 2015 General Service	December 31, 2015 Police & Fire	December 31, 2015 Total	December 31, 2014 General Service	December 31, 2014 Police & Fire	December 31, 2014 Total
Normal Cost						
Pre-retirement Disability Benefits	$7.8	$1.8	$9.6	$6.8	$1.5	$8.3
All Other Benefits	$329.6	$67.5	$397.0	$289.6	$57.5	$347.1
Assumed Administrative Expenses	$4.9	$0.6	$5.5	$4.9	$0.6	$5.5
Total Normal Cost	**$342.2**	**$69.9**	**$412.1**	**$301.3**	**$59.6**	**$360.9**
OPSRP Valuation Payroll	$4,266.9	$546.4	$4,813.3	$3,720.4	$462.3	$4,182.7
Normal Cost Rate						
Pre-retirement Disability Benefits	0.18%	0.32%	0.20%	0.18%	0.33%	0.20%
All Other Benefits	7.72%	12.35%	8.25%	7.78%	12.44%	8.30%
Assumed Administrative Expenses	0.11%	0.11%	0.11%	0.13%	0.13%	0.13%
Total Normal Cost	**8.02%**	**12.79%**	**8.56%**	**8.10%**	**12.90%**	**8.63%**

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 (Tier 1/Tier 2 and OPSRP) valuation payroll.

	December 31, 2015	December 31, 2014
1. Total UAL	$1,353.5	$1,039.5
2. Next year's UAL payment	$121.3	$91.8
3. Combined valuation payroll	$9,544.1	$9,115.8
4. UAL rate (2 ÷ 3)	1.27%	1.01%

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 rate collar.

The normal cost rates apply to OPSRP payroll only, but the UAL rate is applied to combined (Tier 1/Tier 2 and OPSRP) valuation payroll. These rates, after the application of the rate 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, 2017 Rates Calculated as of December 31, 2015		
	General Service	Police & Fire	Average Rate
OPSRP pension contribution rates			
Employer normal cost rate	8.02%	12.79%	8.56%
Employer UAL rate	1.27%	1.27%	1.27%
Total OPSRP pension rate	**9.29%**	**14.06%**	**9.83%**

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 percent of payroll 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, 2017 Rates Calculated as of December 31, 2015		
	General Service	Police & Fire	Average Rate
1. Current employer contribution rate	7.94%	12.05%	8.40%
2. Size of rate collar			
a. Preliminary size of rate collar (Maximum of 3% or 20% of 1.)			3.00%
b. Funded percentage			64%
c. Size of rate collar (If b. < 60% or b. > 140%, 2 x a.. If b. is 70%-130%, a., otherwise a graded rate between a. and b.)			**4.80%**
3. July 1, 2017 Minimum contribution rate (1. - 2.c.)			3.60%
4. July 1, 2017 Maximum contribution rate (1. + 2.c.)			13.20%
5. July 1, 2017 employer contribution rate before collar	9.29%	14.06%	9.83%
6. July 1, 2017 employer contribution rate after collar	9.29%	14.06%	9.83%
7. Impact of collar (6. - 5.)	**0.00%**	**0.00%**	**0.00%**

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, 2017 Rates Calculated as of December 31, 2015		
	General Service	Police & Fire	Average Rate
OPSRP pension contribution rates			
Employer normal cost rate	8.02%	12.79%	8.56%
Employer UAL rate	1.27%	1.27%	1.27%
Total OPSRP pension rate	**9.29%**	**14.06%**	**9.83%**

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
Additions			
1. Employer contributions	$48.8	$8.7	$57.6
2. Net investment income	$8.0	$0.1	$8.1
3. Other	$0.0	$0.0	$0.0
4. Total additions	**$56.8**	**$8.9**	**$65.7**
Deductions			
4. Healthcare Premium Subsidies	($32.3)	($4.7)	($37.0)
5. Administrative expenses	($1.2)	($0.2)	($1.4)
6. Total deductions	**($33.5)**	**($4.9)**	**($38.4)**
7. Net change	**$23.3**	**$4.0**	**$27.3**
8. Net assets held in trust for benefits			
a. Beginning of year	$395.9	$7.2	$403.1
b. End of year	**$419.3**	**$11.2**	**$430.5**

Amounts in millions

Retiree Healthcare Liabilities

Normal Cost

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

	RHIA			RHIPA		
	12/31/2015	12/31/2014	Percent Change	12/31/2015	12/31/2014	Percent Change
Normal Cost						
Service Retirement	$2.4	$2.6		$1.4	$1.5	
Withdrawal	0.8	0.8		0.0	0.0	
Duty Disability	0.0	0.0		0.0	0.0	
Nonduty Disability	0.1	0.0		0.1	0.1	
Death	0.0	0.0		0.0	0.0	
Total Normal Cost	**$3.3**	**$3.5**	**(5.1%)**	**$1.5**	**$1.6**	**(6.3%)**

Amounts in millions

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

	RHIA	RHIPA
Normal Cost December 31, 2014	**$3.5**	**$1.6**
Expected increase/(decrease)	(0.1)	(0.1)
Assumption and method changes	-	-
Plan changes	-	-
Deviations from expected experience		
Demographic (gains) or losses	(0.0)	(0.0)
Normal Cost December 31, 2015	**$3.3**	**$1.5**

Amounts in millions

Actuarial Accrued Liability

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

	RHIA			RHIPA		
	12/31/2015	12/31/2014	Percent Change	12/31/2015	12/31/2014	Percent Change
Actives	$84.9	$88.9	(4.5%)	$52.9	$54.9	(3.6%)
Inactive Members	23.1	24.4	(5.6%)	0.0	0.0	0.0%
Retired Members and Beneficiaries	357.7	355.1	0.7%	14.9	15.7	(4.8%)
Total Actuarial Accrued Liability	**$465.6**	**$468.4**	**(0.6%)**	**$67.8**	**$70.5**	**(3.9%)**

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.

	RHIA	RHIPA	Total
Actuarial Accrued Liability December 31, 2014	**$468.4**	**$70.5**	**$538.9**
Expected change	$5.3	$2.1	$7.4
Assumption and method changes	$0.0	$0.0	$0.0
Plan changes	$0.0	$0.0	$0.0
Deviations from expected experience			
Demographic (gains) or losses	($8.1)	($4.9)	($12.9)
Actuarial Accrued Liability December 31, 2015	**$465.6**	**$67.8**	**$533.4**

Amounts in millions

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		
	12/31/2015	12/31/2014	Percent Change	12/31/2015	12/31/2014	Percent Change
1. Actuarial accrued liability	$465.6	$468.4	(0.6%)	$67.8	$70.5	(3.9%)
2. Actuarial value of assets	$419.3	$395.9	5.9%	$11.2	$7.2	55.4%
3. Unfunded accrued liability	$46.3	$72.5	(36.0%)	$56.6	$63.3	(10.6%)
4. Funded percentage (2. ÷ 1.)	90.0%	84.5%	6.5%	16.5%	10.2%	61.7%
5. Combined valuation payroll	$9,544.1	$9,115.8	4.7%	$2,831.8	$2,718.9	4.2%
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	0.5%	0.8%		2.0%	2.3%	

Amounts in millions

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, 2013 to December 31, 2015 is amortized on a 10-year amortization beginning December 31, 2015.

RHIA

Amortization Base	UAL, December 31, 2014	Payment	Interest	UAL, December 31, 2015	Next Year's Payment
December 31, 2007	$116.2	$41.6	$7.1	$81.7	$43.0
December 31, 2009	$41.3	$9.2	$2.7	$34.8	$9.5
December 31, 2011	($25.7)	($4.2)	($1.8)	($23.2)	($4.4)
December 31, 2013	($43.4)	($5.8)	($3.0)	($40.6)	($6.0)
December 31, 2015	N/A	N/A	N/A	($6.3)	($0.8)
Total				**$46.3**	**$41.4**

Amounts in millions

RHIPA

Amortization Base	UAL, December 31, 2014	Payment	Interest	UAL, December 31, 2015	Next Year's Payment
December 31, 2007	$8.0	$2.8	$0.5	$5.6	$2.9
December 31, 2009	$1.4	$0.3	$0.1	$1.2	$0.3
December 31, 2011	$12.0	$2.0	$0.8	$10.8	$2.0
December 31, 2013	$29.8	$4.0	$2.1	$27.9	$4.1
December 31, 2015	N/A	N/A	N/A	$11.1	$1.4
Total				**$56.6**	**$10.8**

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 an actuarial gain or loss to the plan. Gains are the result of experience that is more financially favorable to the system than anticipated (i.e., serves to reduce the unfunded accrued liability or increase the surplus), while losses are the result of experience that is financially unfavorable to the system.

The table below shows the development of the actuarial gain (or loss) for RHIA and RHIPA for the plan year ending December 31, 2015.

	RHIA	RHIPA	Retiree Healthcare Totals
Retiree Healthcare			
1. Expected actuarial accrued liability			
a. Actuarial accrued liability at December 31, 2014	$468.4	$70.5	$538.9
b. Normal cost at December 31, 2014	$3.5	$1.6	$5.1
c. Benefit payments for fiscal year ending December 31, 2015	($32.3)	($4.7)	($37.0)
d. Interest	$34.1	$5.2	$39.2
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	$473.7	$72.6	$546.3
f. Change in actuarial accrued liability at December 31, 2015, due to assumption and method changes	$0.0	$0.0	$0.0
g. Change in actuarial accrued liability at December 31, 2015, due to plan changes	$0.0	$0.0	$0.0
h. Expected actuarial accrued liability at December 31, 2015 *(e. + f. + g.)*	$473.7	$72.6	$546.3
2. Actuarial accrued liability at December 31, 2015	$465.6	$67.8	$533.4
3. Liability gain/(loss) (1.h. - 2.)	**$8.1**	**$4.9**	**$12.9**
4. Expected actuarial value of assets			
a. Actuarial value of assets at December 31, 2014	$395.9	$7.2	$403.1
b. Actual contributions for 2015	$48.8	$8.7	$57.6
c. Benefit payments and expenses for fiscal year ending December 31, 2015	($33.5)	($4.9)	($38.4)
d. Assumed investment return	$30.3	$0.7	$31.0
e. Expected actuarial value of assets before changes *(a. + b. + c. + d.)*	$441.6	$11.7	$453.3
f. Change in actuarial value of assets at December 31, 2015, due to assumption changes	$0.0	$0.0	$0.0
g. Change in actuarial value of assets at December 31, 2015, due to plan changes	$0.0	$0.0	$0.0
h. Expected actuarial value of assets at December 31, 2015 *(e. + f. + g.)*	$441.6	$11.7	$453.3
5. Actuarial value of assets at December 31, 2015	$419.3	$11.2	$430.5
6. Actuarial asset gain/(loss) (5. - 4.h.)	**($22.3)**	**($0.6)**	**($22.8)**
7. Net actuarial gain/(loss) (3. + 6.)	**($14.2)**	**$4.3**	**($9.9)**

Amounts in millions

Reconciliation of UAL

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

The significant decrease in the RHIA UAL is primarily due to employer contributions and lower participation than previously assumed. The lower actual rate of member participation created both an experience gain during the year and led to reduced assumed future participation, which further reduced the UAL.

The increase in the RHIPA UAL is primarily due to an increase in the assumed participation level of longer-service members, who are eligible for more valuable benefits under the program.

	RHIA	RHIPA
UAL, December 31, 2014	$72.5	$63.3
Normal Cost (including actual administrative expenses)	$4.7	$1.8
Contributions	($48.8)	($8.7)
Liability (gain) or loss	($8.1)	($4.9)
Asset (gain) or loss	$22.3	$0.6
Assumption and method changes	$0.0	$0.0
Interest	$3.8	$4.5
UAL, December 31, 2015	**$46.3**	**$56.6**

Amounts in millions

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, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Normal Cost	$3.3	$3.5	$1.5	$1.6
Tier 1/Tier 2 Valuation Payroll	$4,730.8	$4,933.1	$1,339.4	$1,406.3
Normal Cost Rate	**0.07%**	**0.07%**	**0.11%**	**0.11%**

Amounts in millions

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, 2015			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
1. Tier 1/ Tier 2 Valuation Payroll				
a. All Employers' Payroll	$2,691.8	$1,578.8	$460.3	$4,730.8
b. RHIPA Employers' Payroll	$1,315.8	$0.0	$23.6	$1,339.4
2. Normal Cost Rate				
a. RHIA	0.07%	0.07%	0.07%	0.07%
b. RHIPA	0.11%	0.00%	0.11%	0.11%
3. Weighted Average Normal Cost Rate [(1.a. x 2.a + 1.b. x 2.b.) / 1.a]	**0.12%**	**0.07%**	**0.08%**	**0.10%**

Amounts in millions

UAL Rate

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined (Tier 1/Tier 2 and OPSRP) valuation payroll. For RHIPA, valuation payroll is for the State of Oregon and the State Judiciary only.

	RHIA		RHIPA	
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
1. Total UAL	46.3	72.5	56.6	63.3
2. Next year's UAL payment	41.4	38.8	10.8	10.6
3. Combined valuation payroll	$9,544.1	$9,115.8	$2,831.8	$2,718.9
4. **UAL rate (2 ÷ 3)**	**0.43%**	**0.43%**	**0.38%**	**0.39%**

Amounts in millions

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, 2015			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
1. Combined Valuation Payroll				
a. All Employers' Payroll	$5,594.3	$3,060.7	$889.1	$9,544.1
b. RHIPA Employers' Payroll	$2,808.2	$0.0	$23.6	$2,831.8
2. UAL Rate				
a. RHIA	0.43%	0.43%	0.43%	0.43%
b. RHIPA	0.38%	0.00%	0.38%	0.38%
3. Weighted Average UAL Rate [(1.a. x 2.a + 1.b. x 2.b.) / 1.a]	**0.62%**	**0.43%**	**0.44%**	**0.54%**

Amounts in millions

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, 2017 Rates Calculated as of December 31, 2015		
	State Agencies and Judiciary	All Other Employers	Retiree Healthcare Total
Normal Cost Rates			
RHIA	0.07%	0.07%	0.07%
RHIPA	0.11%	0.00%	0.03%
Total normal cost rate	**0.18%**	**0.07%**	**0.10%**
UAL Rates			
RHIA	0.43%	0.43%	0.43%
RHIPA	0.38%	0.00%	0.11%
Total UAL rate	**0.81%**	**0.43%**	**0.54%**
Total retiree healthcare rate	**0.99%**	**0.50%**	**0.64%**

Accounting / CAFR Exhibits

Accounting/CAFR Exhibits

The following information as of December 31, 2015 has been prepared and provided to Oregon PERS for inclusion in the Actuarial Section of the 2016 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.

The information for the retiree healthcare benefit has been prepared under GASB Statements 43 and 45 for purposes of assisting the System and participating employers in fulfilling their financial reporting requirements. In June 2015, the GASB issued Statements 74 and 75, which will replace GASB 43 and 45 and govern financial reporting for postemployment benefits other than pensions. GASB 74 governs plan reporting effective for fiscal years beginning after June 15, 2016, while GASB 75 governs employer reporting for fiscal years beginning after June 15, 2017. Accounting information under GASB 74 and 75 will be provided separately and is not included in this report.

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. Milliman provided results for Oregon PERS under GASB 67 and 68 determined as of a June 30, 2015 measurement date in letters dated November 25, 2015 and May 23, 2016, respectively. The results for a measurement date of June 30, 2016 will be provided separately.

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[1]	
12/31/1993	137,513	$4,466,797	$32,483		N/A	
12/31/1995	141,471	$4,848,058	$34,269	5.5%	N/A	
12/31/1997	143,194	$5,161,562	$36,045	5.2%	N/A	
12/31/1999	151,262	$5,676,606	$37,528	4.1%	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	Old Basis
12/31/2001	160,477	$6,253,965	$38,971	—	N/A	New Basis[2]
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 [3]	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	
12/31/2014	164,859	$9,115,767	$55,294	3.4%	802	
12/31/2015	168,177	$9,544,132	$56,751	2.6%	804	

[1] *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.*

[2] *Effective in 2001, the Annual Payroll excludes the member pick-up, if any.*

[3] *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[1]	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 [2]	6,754	$149,474	2,863	$35,151	101,668	$2,154,856	5.6%	$21,195
12/31/2005 [2]	4,472	$149,127	3,217	$36,784	102,923	$2,267,198	5.2%	$22,028
12/31/2006 [2]	5,060	$151,240	3,263	$39,735	104,720	$2,378,704	4.9%	$22,715
12/31/2007 [2]	5,385	$183,232	3,304	$40,590	106,801	$2,521,345	6.0%	$23,608
12/31/2008 [2]	5,963	$171,484	3,626	$47,062	109,138	$2,645,767	4.9%	$24,242
12/31/2009 [2]	6,377	$226,713	3,374	$46,228	112,141	$2,826,252	6.8%	$25,203
12/31/2010 [2]	6,359	$217,424	3,512	$51,627	114,988	$2,992,048	5.9%	$26,021
12/31/2011 [2]	8,715	$282,098	3,679	$55,633	120,024	$3,218,514	7.6%	$26,816
12/31/2012 [2]	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
12/31/2014 [3]	6,910	$235,250	3,524	$66,621	131,638	$3,804,651	4.6%	$28,902
12/31/2015 [3]	8,566	$304,818	3,781	$73,305	136,423	$4,036,165	6.1%	$29,586

[1] *Since last valuation date.*

[2] *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.*

[3] *Annual allowances reflect estimated adjustments to retiree benefits for the Moro v. State of Oregon decision for records that were not already adjusted in the data provided.*

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[1,2] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll[3] (c)	UAAL as a % of Covered Payroll ((b-a)/c)
Tier 1/Tier 2 State & Local Government Rate Pool						
12/31/2010	$26,499.5	$30,285.0	$3,785.4	87.5%	$3,333.1	113.6%
12/31/2011 [4]	$25,679.2	$31,109.1	$5,429.9	82.5%	$3,179.3	170.8%
12/31/2012 [5]	$28,022.3	$30,601.9	$2,579.5	91.6%	$3,043.7	84.7%
12/31/2013 [4]	$30,590.2	$31,738.8	$1,148.6	96.4%	$2,915.9	39.4%
12/31/2014 [6]	$31,162.6	$37,169.9	$6,007.3	83.8%	$2,827.9	212.4%
12/31/2015 [4]	$30,185.3	$38,396.8	$8,211.5	78.6%	$2,691.8	305.1%
Tier 1/Tier 2 School District Rate Pool						
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 [5]	$21,202.1	$22,908.0	$1,705.8	92.6%	$1,769.0	96.4%
12/31/2013	$23,063.3	$23,392.6	$329.4	98.6%	$1,663.0	19.8%
12/31/2014 [6]	$23,361.2	$27,059.9	$3,698.7	86.3%	$1,626.0	227.5%
12/31/2015	$22,728.9	$27,670.7	$4,941.8	82.1%	$1,578.8	313.0%
Tier 1/Tier 2 Independent Employers and Judiciary						
12/31/2010	$4,189.4	$4,913.1	$723.7	85.3%	$569.7	127.0%
12/31/2011 [4]	$4,083.2	$5,069.8	$986.6	80.5%	$547.9	180.1%
12/31/2012 [5]	$4,479.4	$5,043.4	$564.0	88.8%	$529.0	106.6%
12/31/2013 [4]	$4,851.0	$5,164.3	$313.3	93.9%	$494.8	63.3%
12/31/2014 [6]	$4,967.4	$6,104.9	$1,137.4	81.4%	$479.2	237.4%
12/31/2015 [4]	$4,807.6	$6,327.1	$1,519.5	76.0%	$460.3	330.1%
OPSRP Rate Pool						
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 [5]	$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%
12/31/2014 [6]	$2,024.6	$3,064.1	$1,039.5	66.1%	$4,182.7	24.9%
12/31/2015	$2,389.1	$3,742.5	$1,353.5	63.8%	$4,813.3	0.0%
Postemployment Healthcare Benefits - Retirement Health Insurance Account						
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%
12/31/2014	$395.9	$468.4	$72.5	84.5%	$4,933.1	1.5%
12/31/2015	$419.3	$465.6	$46.3	90.0%	$4,730.8	1.0%
Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account						
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%
12/31/2014	$7.2	$70.5	$63.3	10.2%	$1,406.3	4.5%
12/31/2015	$11.2	$67.8	$56.6	16.5%	$1,339.4	4.2%

Notes:

[1] *Side account assets are included with Tier 1/Tier 2 assets.*

[2] *Excludes effect of Multnomah Fire District (net UAAL of $170 million as of 12/31/2015).*

[3] *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, UAL is amortized using combined Tier 1/Tier 2 and OPSRP*

[4] *Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective January 1 following the valuation date.*

[5] *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.*

[6] *The 12/31/2014 valuation reflects benefit changes from the Oregon Supreme Court's ruling in Moro v. State of Oregon, which overturned portions of Senate Bills 822 and 861.*

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.

Valuation Date[2]	Actuarial Accrued Liability[1]			Valuation Assets[1,3]	Portion of Actuarial Accrued Liabilities Covered by Assets		
	Active Member Contributions (1)	Retired Members and Beneficiaries (2)	Other Members (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 [4]	$10,252.8	$17,340.0	$10,228.8	$39,852.2	100%	100%	120%
12/31/2002 [4]	$9,940.7	$19,339.0	$10,240.8	$36,316.8	100%	100%	69%
12/31/2003 [4]	$9,005.8	$23,625.9	$11,993.9	$42,874.4	100%	100%	85%
12/31/2004 [5]	$9,073.0	$25,363.0	$13,547.6	$45,735.3	100%	100%	83%
12/31/2005 [6,7]	$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 [7]	$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 [7]	$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 [7]	$7,779.7	$37,362.4	$16,551.8	$50,412.4	100%	100%	32%
12/31/2012 [8]	$7,704.9	$36,759.3	$16,473.1	$55,080.1	100%	100%	64%
12/31/2013 [7]	$7,120.1	$39,531.5	$16,476.8	$60,372.9	100%	100%	83%
12/31/2014 [9]	$6,950.4	$46,576.7	$20,470.8	$61,798.3	100%	100%	40%
12/31/2015 [7]	$6,476.8	$49,158.7	$21,094.5	$60,430.6	100%	100%	23%

[1] *Includes effect of Multnomah Fire District (net UAAL of $170 million as of 12/31/2015).*

[2] *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.*

[3] *Effective with the 12/31/2002 valuation, includes the value of UAL Lump Sum Side Accounts.*

[4] *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.*

[5] *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, 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*

[6] *Assets and liabilities for OPSRP are first valued in the 2005 valuation.*

[7] *Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective January 1 following the valuation date.*

[8] *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.*

[9] *The 12/31/2014 valuation reflects benefit changes from the Oregon Supreme Court's ruling in Moro v. State of Oregon, which overturned portions of Senate Bills 822 and 861.*

Actuarial Schedules

Solvency Test

Tier 1/Tier 2 Pension

(dollar amounts in millions)

	Actuarial Accrued Liability						
Valuation Date	Active Member Contributions (1)	Retired Members and Beneficiaries (2)	Other Members (3)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)
12/31/2010	$ 8,407.9	$ 34,000.0	$ 16,154.0	$ 50,924.5	100%	100%	53%
12/31/2011 [1]	$ 7,779.7	$ 37,001.1	$ 15,431.2	$ 49,327.7	100%	100%	29%
12/31/2012 [2]	$ 7,704.9	$ 36,377.3	$ 14,527.4	$ 53,594.0	100%	100%	65%
12/31/2013 [1]	$ 7,120.1	$ 39,116.2	$ 14,114.1	$ 58,384.0	100%	100%	86%
12/31/2014 [3]	$ 6,950.4	$ 46,113.5	$ 17,331.0	$ 59,370.6	100%	100%	36%
12/31/2015 [1]	$ 6,476.8	$ 48,641.5	$ 17,335.7	$ 57,611.0	100%	100%	14%

[1] *Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective January 1 following the valuation date.*

[2] *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.*

[3] *The 12/31/2014 valuation reflects benefit changes from the Oregon Supreme Court's ruling in Moro v. State of Oregon, which overturned portions of Senate Bills 822 and 861.*

OPSRP Pension

(dollar amounts in millions)

	Actuarial Accrued Liability						
Valuation Date	Active Member Contributions (1)	Retired Members and Beneficiaries (2)	Other Members (3)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)
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 [1]	$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%
12/31/2014 [2]	$0.0	$92.4	$2,971.6	$2,024.6	100%	100%	65%
12/31/2015	$0.0	$144.6	$3,597.9	$2,389.1	100%	100%	62%

[1] *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.*

[2] *The 12/31/2014 valuation reflects benefit changes from the Oregon Supreme Court's ruling in Moro v. State of Oregon, which overturned portions of Senate Bills 822 and 861.*

Retiree Healthcare (RHIA and RHIPA)

(dollar amounts in millions)

Retiree Health Insurance Account (RHIA)							
	Actuarial Accrued Liability						
Valuation Date	Active Member Contributions (1)	Retired Members and Beneficiaries (2)	Other Members (3)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)
12/31/2010	$ 0.0	$ 415.0	$ 132.1	$ 232.3	0%	56%	0%
12/31/2011	$ 0.0	$ 332.5	$ 128.6	$ 239.6	0%	72%	0%
12/31/2012	$ 0.0	$ 338.3	$ 133.5	$ 291.6	0%	86%	0%
12/31/2013 [1]	$ 0.0	$ 348.0	$ 125.6	$ 353.5	0%	100%	4%
12/31/2014	$ 0.0	$ 355.1	$ 113.3	$ 395.9	0%	100%	36%
12/31/2015	$ 0.0	$ 357.7	$ 107.9	$ 419.3	0%	100%	57%

[1] *The 12/31/2012 valuation reflects a change in cost method to Entry Age Normal.*

Retiree Health Insurance Premium Account (RHIPA)							
	Actuarial Accrued Liability						
Valuation Date	Active Member Contributions (1)	Retired Members and Beneficiaries (2)	Other Members (3)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets (1)	(2)	(3)
12/31/2010	$0.0	$11.8	$22.2	$5.7	0%	48%	0%
12/31/2011	$0.0	$13.6	$20.8	$4.5	0%	33%	0%
12/31/2012	$0.0	$15.1	$45.3	$4.4	0%	29%	0%
12/31/2013 [1]	$0.0	$16.1	$45.1	$5.2	0%	33%	0%
12/31/2014	$0.0	$15.7	$54.9	$7.2	0%	46%	0%
12/31/2015	$0.0	$14.9	$52.9	$11.2	0%	75%	0%

[1] *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	
	2015	2014
Type of Activity		
Retirements from Active Status	($58.2)	$22.1
Active Mortality and Withdrawal	(44.9)	(52.7)
Pay Increases	(69.0)	(70.1)
Contributions	48.7	84.4
Interest Crediting Experience	53.5	18.6
Investment Income	(2,648.3)	(186.1)
Retirement, Mortality and Lump Sums from Dormant Status	2.8	3.3
Retiree and Beneficiary Mortality	(113.6)	(148.8)
COLA Experience	0.0	0.0
New Entrants	(82.5)	(75.2)
Other	(12.2)	(23.1)
Gain (or Loss) During Year From Financial Experience	**($2,923.7)**	**($427.8)**
Non-Recurring Items		
Assumption Changes	0.0	(3,662.8)
Plan Changes	0.0	(5,097.7)
Composite Gain (or Loss) During Year	**($2,923.7)**	**($9,188.3)**

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

	$ Gain (or Loss) for Year	
Tier 1/Tier 2 Pension Program	**2015**	**2014**
Type of Activity		
Retirements from Active Status	($65.5)	$18.3
Active Mortality and Withdrawal	(25.3)	(40.9)
Pay Increases	(48.3)	(37.3)
Contributions	46.1	59.8
Interest Crediting Experience	53.5	18.6
Investment Income	(2,510.3)	(186.3)
Retirement, Mortality and Lump Sums from Dormant Status	(0.2)	0.9
Retiree and Beneficiary Mortality	(114.4)	(148.4)
New Entrants	(0.0)	(0.7)
Other	(42.4)	(34.7)
Gain (or Loss) During Year From Financial Experience	**($2,706.8)**	**($350.8)**
Non-Recurring Items		
Assumption Changes	0.0	(3,468.0)
Plan Changes	0.0	(5,027.0)
Composite Gain (or Loss) During Year	**($2,706.8)**	**($8,845.8)**

	$ Gain (or Loss) for Year	
OPSRP Pension Program	**2015**	**2014**
Retirements from Active Status	$7.3	$3.8
Active Mortality and Withdrawal	(19.7)	(11.8)
Pay Increases	(20.7)	(32.9)
Contributions	0.8	22.3
Investment Income	(115.2)	2.6
Retirement, Mortality and Lump Sums from Dormant Status	3.0	2.4
Retiree and Beneficiary Mortality	0.8	(0.4)
New Entrants	(82.5)	(74.5)
Other	17.3	0.4
Gain (or Loss) During Year From Financial Experience	**($208.8)**	**($88.1)**
Non-Recurring Items		
Assumption Changes	0.0	(188.7)
Plan Changes	0.0	(70.7)
Composite Gain (or Loss) During Year	**($208.8)**	**($347.5)**

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 Programs	$ Gain (or Loss) for Year			
	RHIA		RHIPA	
	2015	2014	2015	2014
Contributions	$1.6	$2.0	$0.2	$0.3
Investment Income	($22.3)	($2.3)	($0.6)	($0.1)
Other	$8.1	$7.7	$4.9	$3.5
Gain (or Loss) During Year From Financial Experience	**($12.6)**	**$7.4**	**$4.5**	**$3.7**
Non-Recurring Items				
Assumption Changes	$0.0	$5.4	$0.0	($11.5)
Composite Gain (or Loss) During Year	**($12.6)**	**$12.8**	**$4.5**	**($7.8)**

Actuarial Schedules

Schedules of Funding Progress

(dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets[1] (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)
Pension Benefits - Tier 1/Tier 2 and OPSRP[2]						
12/31/2003 [3]	42,753.3	44,078.1	1,324.8	97.0%	6,248.5	21.2%
12/31/2004 [4]	45,581.1	47,398.6	1,817.5	96.2%	6,772.4 [5]	26.8%
12/31/2005 [5, 6]	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 [6]	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 [6]	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 [6]	50,168.2	61,198.4	11,030.2	82.0%	8,550.5	129.0%
12/31/2012 [7]	54,784.1	60,405.2	5,621.1	90.7%	8,590.9	65.4%
12/31/2013 [6]	60,014.1	62,593.6	2,579.5	95.9%	8,671.8	29.7%
12/31/2014 [8]	61,395.2	73,458.9	12,063.7	83.6%	9,115.8	132.3%
12/31/2015 [6]	60,000.1	76,196.6	16,196.5	78.7%	9,544.1	169.7%
Postemployment Healthcare Benefits - Retirement Health Insurance Account						
12/31/2003 [3]	117.1	522.5	405.4	22.4%	6,248.5	6.5%
12/31/2004 [4]	148.0	556.9	408.9	26.6%	6,772.4 [5]	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%
12/31/2014	395.9	468.4	72.5	84.5%	9,115.8	0.8%
12/31/2015	419.3	465.6	46.3	90.0%	9,544.1	0.5%
Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account						
12/31/2003 [3]	4.0	25.0	21.0	16.0%	1,711.9	1.2%
12/31/2004 [4]	5.2	28.2	23.0	18.4%	1,851.4 [5]	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%
12/31/2014	7.2	70.5	63.3	10.2%	2,718.9	2.3%
12/31/2015	11.2	67.8	56.6	16.5%	2,831.8	2.0%

Notes:

1 *Side account assets are included with pension assets.*

2 *Includes UAAL for Multnomah Fire District ($170 million as of 12/31/2015).*

3 *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.*

4 *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, 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.*

5 *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.*

6 *Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective January 1 following the valuation date*

7 *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.*

8 *The 12/31/2014 valuation reflects benefit changes from the Oregon Supreme Court's ruling in Moro v. State of Oregon, which overturned portions of Senate Bills 822 and 861.*

GASB No. 43 Required Supplementary Information

Schedules of Employer Contributions

(dollar amounts in millions)

Actuarial Valuation Date	Annual Required Contribution	Percentage Contributed
Postemployment Healthcare Benefits - Retirement Health Insurance Account		
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%
12/31/2014	$49.0	101%
12/31/2015	$48.7	100%
Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account		
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%
12/31/2014	$6.3	101%
12/31/2015	$8.8	99%

GASB No. 43 Required Supplementary Information

Notes to Required Supplementary Schedules

Valuation Date:	December 31, 2015
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	1 years
RHIPA	7 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, 2015 actuarial valuation and the ESAPs for that valuation are shown above. The ARCs for the July 2013-June 2015 and July 2015-June 2017 biennia were based on the December 31, 2011 and December 31, 2013 valuations, respectively.

Actuarial Assumptions:	
Investment Rate of Return:	7.50 percent
Payroll Growth:	3.50 percent
Consumer Price Inflation:	2.50 percent
Health Cost Inflation:	Graded from 6.3 percent in 2016 to 4.4 percent in 2094.
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, 2015.

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	$1,049.9	$209.3	$1,259.2
Tier 2	1,130.9	301.6	1,432.5
Tier 1/Tier 2 Valuation Payroll	2,180.8	511.0	2,691.8
OPSRP Valuation Payroll	2,467.3	435.2	2,902.5
Combined Valuation Payroll	**$4,648.1**	**$946.2**	**$5,594.3**
Amounts in millions				

	December 31				
	2015				2014
	Tier 1	Tier 2	OPSRP	Total	Total
Active Members in the Pool					
General Service	13,815	16,831	46,325	76,971	76,413
Police & Fire	2,280	3,682	6,196	12,158	11,509
Total	16,095	20,513	52,521	89,129	87,922
Average Age	55.8	50.5	42.3	46.6	46.8
Average Service	24.5	15.2	5.5	11.2	11.3
Average prior year Covered Salary	$80,285	$71,128	$51,994	$61,506	$60,216
Active Members outside the Pool with previous Segments in the Pool					
General Service	3,168	2,511		5,679	6,055
Police & Fire	294	337		631	658
Total	3,462	2,848		6,310	6,713
Average Age	54.4	47.5		51.3	50.9
Average Service in the Pool	2.9	2.4		2.7	2.6
Inactive Members[1]					
General Service	9,632	8,589	6,306	24,527	24,387
Police & Fire	624	713	443	1,780	1,761
Total	10,256	9,302	6,749	26,307	26,148
Average Age	57.9	52.4	46.0	52.9	53.0
Average Monthly Benefit	$1,873	$688	$379	$1,071	$1,136
Retired Members and Beneficiaries[1]					
General Service	63,547	6,619	1,365	71,531	68,497
Police & Fire	8,831	1,043	126	10,000	9,537
Total	72,378	7,662	1,491	81,531	78,034
Average Age	71.2	66.5	66.1	70.7	70.5
Average Monthly Benefit[2]	$2,234	$931	$423	$2,078	$2,027
Grand Total Number of Members	**102,191**	**40,325**	**60,761**	**203,277**	**198,817**

[1] *In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual members with service segments in more than one rate pool will be included in more than one exhibit.*

[2] *The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.*

School District Pool

	General Service	Police & Fire	Total
Tier 1	$702.7	$0.9	$703.6
Tier 2	873.9	1.3	875.2
Tier 1/Tier 2 Valuation Payroll	1,576.7	2.2	1,578.8
OPSRP Valuation Payroll	1,480.4	1.5	1,481.9
Combined Valuation Payroll	**$3,057.1**	**$3.7**	**$3,060.7**
Amounts in millions			

	December 31				
	2015				2014
	Tier 1	Tier 2	OPSRP	Total	Total
Active Members					
General Service	11,718	16,360	38,040	66,118	64,141
Police & Fire	14	22	30	66	60
Total	11,732	16,382	38,070	66,184	64,201
Average Age	55	50	43	47	47
Average Service	24	15	6	11	12
Average prior year Covered Salary	$60,847	$53,618	$37,081	$45,387	$43,994
Active Members outside the Pool with previous Segments in the Pool					
General Service	1,407	1,285		2,692	2,854
Police & Fire	7	6		13	15
Total	1,414	1,291		2,705	2,869
Average Age	56	49		52	52
Average Service	5	4		5	5
Inactive Members[1]					
General Service	6,131	6,796	4,438	17,365	17,420
Police & Fire	15	22	2	39	39
Total	6,146	6,818	4,440	17,404	17,459
Average Age	59	52	47	53	53
Average Monthly Benefit	$1,515	$513	$289	$810	$869
Retired Members and Beneficiaries[1]					
General Service	60,748	4,066	592	65,406	63,662
Police & Fire	181	35	4	220	215
Total	60,929	4,101	596	65,626	63,877
Average Age	72	66	66	72	72
Average Monthly Benefit[2]	$2,235	$782	$355	$2,127	$2,087
Grand Total Number of Members	**80,221**	**28,592**	**43,106**	**151,919**	**148,406**

[1] *In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual members with service segments in more than one rate pool will be included in more than one exhibit.*

[2] *The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.*

Independents

	General Service	Police & Fire	Total
Tier 1	$142.5	$70.6	$213.1
Tier 2	156.5	90.7	247.2
Tier 1/Tier 2 Valuation Payroll	299.0	161.3	460.3
OPSRP Valuation Payroll	319.2	109.6	428.9
Combined Valuation Payroll	**$618.2**	**$270.9**	**$889.1**

Amounts in millions

	December 31				
	2015				2014
	Tier 1	Tier 2	OPSRP	Total	Total
Active Members					
General Service	1,797	2,297	5,793	9,887	9,804
Police & Fire	671	934	1,372	2,977	2,932
Total	2,468	3,231	7,165	12,864	12,736
Average Age	54.7	49.2	41.6	46.0	46.3
Average Service	23.3	15.2	5.6	11.4	11.6
Average prior year Covered Salary	$88,491	$77,359	$56,189	$67,703	$65,710
Active Members outside the Pool with previous Segments in the Pool					
General Service	1,070	1,132		2,202	2,340
Police & Fire	252	299		551	556
Total	1,322	1,431		2,753	2,896
Average Age	53.9	47.6		50.6	50.2
Average Service	4.7	3.4		4.0	3.9
Inactive Members[1]					
General Service	1,286	1,369	795	3,450	3,522
Police & Fire	208	178	77	463	484
Total	1,494	1,547	872	3,913	4,006
Average Age	56.8	52.1	47.6	52.9	52.7
Average Monthly Benefit	$1,393	$587	$387	$850	$895
Retired Members and Beneficiaries[1]					
General Service	8,974	1,194	188	10,356	9,920
Police & Fire	2,856	221	18	3,095	2,956
Total	11,830	1,415	206	13,451	12,876
Average Age	69.9	65.8	65.8	69.4	69.2
Average Monthly Benefit[2]	$2,196	$878	$425	$2,030	$1,982
Grand Total Number of Members	**17,114**	**7,624**	**8,243**	**32,981**	**32,514**

[1] In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual members with service segments in more than one rate pool will be included in more than one exhibit.

[2] The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.

Total

	General Service	Police & Fire	Total
Tier 1	$1,895.1	$280.8	$2,175.9
Tier 2	2,161.3	393.6	2,554.9
Tier 1/Tier 2 Valuation Payroll	4,056.4	674.4	4,730.8
OPSRP Valuation Payroll	4,266.9	546.4	4,813.3
Combined Valuation Payroll	**$8,323.4**	**$1,220.8**	**$9,544.1**

Amounts in millions

	December 31				
	2015				2014
	Tier 1	Tier 2	OPSRP	Total	Total
Active Members					
General Service	27,330	35,488	90,158	152,976	150,358
Police & Fire	2,965	4,638	7,598	15,201	14,501
Total	30,295	40,126	97,756	168,177	164,859
Average Age	55.5	50.2	42.4	46.6	46.9
Average Service	24.1	15.0	5.7	11.2	11.4
Average prior year Covered Salary	$73,426	$64,481	$46,494	$55,637	$54,323
Inactive Members[1]					
General Service	17,049	16,754	11,539	45,342	45,329
Police & Fire	847	913	522	2,282	2,284
Total	17,896	17,667	12,061	47,624	47,613
Average Age	58.0	52.1	46.5	52.9	52.9
Average Monthly Benefit	$1,710	$612	$346	$957	$1,018
Retired Members and Beneficiaries[1]					
General Service	133,269	11,879	2,145	147,293	142,079
Police & Fire	11,868	1,299	148	13,315	12,708
Total	145,137	13,178	2,293	160,608	154,787
Average Age	71.5	66.3	66.1	71.0	70.8
Average Monthly Benefit[2]	$2,231	$879	$405	$2,094	$2,048
Grand Total Number of Members	**193,328**	**70,971**	**112,110**	**376,409**	**367,259**

[1] In these exhibits, Inactives and Retirees are counted by members with service in each rate pool. As a result, individual members with service segments in more than one rate pool are counted more than once in this exhibit.

[2] The average monthly benefit reflects an estimated adjustment for the effect of the Supreme Court decision in Moro v. State of Oregon for records that were not already adjusted in the data provided.

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		0	0	0	0	0	0	0	0	0	**0**
	$	0	0	0	0	0	0	0	0	0	**0**
35-39		1	1	1	22	9	0	0	0	0	**34**
	$	132,772	132,735	40,426	61,115	60,925	0	0	0	0	**64,670**
40-44		6	15	38	361	345	14	0	0	0	**779**
	$	58,211	44,870	40,839	69,420	71,144	82,443	0	0	0	**68,464**
45-49		15	59	119	897	2,234	437	7	0	0	**3,768**
	$	101,174	64,562	51,390	71,227	75,089	73,823	65,055	0	0	**73,195**
50-54		9	58	138	807	2,763	2,213	339	12	0	**6,339**
	$	96,574	54,169	56,425	66,110	73,929	76,207	74,081	64,779	0	**73,190**
55-59		8	70	131	896	3,229	2,533	1,076	244	3	**8,190**
	$	112,484	57,628	56,873	58,657	67,285	73,811	78,569	71,079	54,177	**69,745**
60-64		4	37	108	613	2,492	1,840	740	327	42	**6,203**
	$	69,033	50,609	64,424	61,071	63,077	71,613	81,145	78,612	69,509	**68,382**
65-69		1	12	25	169	686	493	196	109	29	**1,720**
	$	141,671	87,749	71,526	60,621	66,943	74,970	87,141	80,066	82,029	**72,265**
70-74		0	1	3	24	88	53	28	22	14	**233**
	$	0	30,827	39,634	82,019	56,165	75,645	86,752	105,432	98,461	**73,806**
75+		0	1	4	5	22	13	7	3	9	**64**
	$	0	38,736	45,771	48,369	54,321	55,915	90,442	44,906	92,287	**62,250**
Total		**44**	**254**	**567**	**3,794**	**11,868**	**7,596**	**2,393**	**717**	**97**	**27,330**
	$	**95,147**	**58,212**	**56,425**	**64,864**	**69,398**	**74,051**	**79,523**	**76,720**	**79,070**	**70,843**

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		0	0	1	0	0	0	0	0	0	**1**
	$	0	0	70,699	0	0	0	0	0	0	**70,699**
30-34		5	34	225	19	0	0	0	0	0	**283**
	$	8,882	49,763	51,869	60,969	0	0	0	0	0	**51,467**
35-39		7	206	2,525	675	0	0	0	0	0	**3,413**
	$	30,566	46,462	63,667	63,162	0	0	0	0	0	**62,461**
40-44		19	264	3,024	3,177	0	0	0	0	0	**6,484**
	$	27,261	41,229	65,494	70,843	0	0	0	0	0	**67,015**
45-49		9	164	2,773	3,462	0	0	0	0	0	**6,408**
	$	21,376	44,648	64,162	69,629	0	0	0	0	0	**66,556**
50-54		4	96	2,712	3,313	0	0	0	0	0	**6,125**
	$	28,668	42,158	58,502	63,467	0	0	0	0	0	**60,912**
55-59		9	88	2,619	3,681	0	0	0	0	0	**6,397**
	$	26,470	40,924	54,724	57,742	0	0	0	0	0	**56,231**
60-64		11	69	1,884	2,694	0	0	0	0	0	**4,658**
	$	27,920	44,133	55,107	58,724	0	0	0	0	0	**56,972**
65-69		9	27	593	756	0	0	0	0	0	**1,385**
	$	29,741	42,186	57,307	60,564	0	0	0	0	0	**58,611**
70-74		1	12	134	127	0	0	0	0	0	**274**
	$	35,854	50,377	50,244	55,684	0	0	0	0	0	**52,719**
75+		1	2	32	25	0	0	0	0	0	**60**
	$	7,690	12,737	39,695	37,067	0	0	0	0	0	**37,168**
Total		**75**	**962**	**16,522**	**17,929**	**0**	**0**	**0**	**0**	**0**	**35,488**
	$	**25,866**	**43,589**	**60,299**	**63,847**	**0**	**0**	**0**	**0**	**0**	**61,566**

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	0	0	0	0	0	0	**0**
	$	0	0	0	0	0	0	0	0	0	**0**
35-39		0	0	0	3	2	0	0	0	0	**5**
	$	0	0	0	116,905	69,506	0	0	0	0	**97,945**
40-44		0	0	3	98	138	0	0	0	0	**239**
	$	0	0	79,162	96,635	103,823	0	0	0	0	**100,566**
45-49		0	1	5	175	679	129	1	0	0	**990**
	$	0	80,700	77,684	93,737	102,126	99,203	139,663	0	0	**100,155**
50-54		0	1	6	73	410	411	42	0	0	**943**
	$	0	21,326	81,311	98,651	99,222	100,671	95,807	0	0	**99,461**
55-59		0	2	4	37	190	178	85	21	0	**517**
	$	0	28,863	81,781	84,071	88,672	94,981	103,552	99,595	0	**93,120**
60-64		0	0	0	15	73	87	27	11	1	**214**
	$	0	0	0	77,958	84,513	85,069	90,049	92,788	176,746	**85,834**
65-69		0	1	0	6	11	17	6	1	4	**46**
	$	0	39,981	0	68,281	70,119	71,784	88,082	91,507	112,315	**76,317**
70-74		0	0	0	1	5	1	1	0	0	**8**
	$	0	0	0	70,164	60,003	99,675	53,145	0	0	**65,375**
75+		0	0	0	1	0	0	1	1	0	**3**
	$	0	0	0	89,740	0	0	65,764	126,013	0	**93,839**
Total		**0**	**5**	**18**	**409**	**1,508**	**823**	**163**	**34**	**5**	**2,965**
	$	**0**	**39,947**	**80,050**	**93,585**	**98,528**	**96,963**	**98,431**	**97,932**	**125,201**	**97,233**

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	3	37	2	0	0	0	0	0	**42**
	$	0	69,657	88,155	94,335	0	0	0	0	0	**87,128**
35-39		1	18	453	184	0	0	0	0	0	**656**
	$	9,227	80,424	89,567	93,307	0	0	0	0	0	**90,243**
40-44		0	9	518	927	0	0	0	0	0	**1,454**
	$	0	77,558	89,505	91,914	0	0	0	0	0	**90,967**
45-49		0	5	358	824	0	0	0	0	0	**1,187**
	$	0	57,444	83,104	91,375	0	0	0	0	0	**88,737**
50-54		0	2	176	443	0	0	0	0	0	**621**
	$	0	86,697	80,689	83,954	0	0	0	0	0	**83,037**
55-59		0	0	136	228	0	0	0	0	0	**364**
	$	0	0	73,340	76,774	0	0	0	0	0	**75,491**
60-64		0	4	69	161	0	0	0	0	0	**234**
	$	0	41,332	69,449	73,480	0	0	0	0	0	**71,742**
65-69		0	0	26	46	0	0	0	0	0	**72**
	$	0	0	71,582	79,597	0	0	0	0	0	**76,703**
70-74		0	0	3	4	0	0	0	0	0	**7**
	$	0	0	123,370	74,256	0	0	0	0	0	**95,304**
75+		0	0	1	0	0	0	0	0	0	**1**
	$	0	0	21,636	0	0	0	0	0	0	**21,636**
Total		**1**	**41**	**1,777**	**2,819**	**0**	**0**	**0**	**0**	**0**	**4,638**
	$	**9,227**	**72,697**	**85,071**	**88,095**	**0**	**0**	**0**	**0**	**0**	**86,783**

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		0	0	1	0	0	0	0	0	0	**1**
	$	0	0	70,699	0	0	0	0	0	0	**70,699**
30-34		5	37	262	21	0	0	0	0	0	**325**
	$	8,882	51,376	56,993	64,146	0	0	0	0	0	**56,076**
35-39		9	225	2,979	884	11	0	0	0	0	**4,108**
	$	39,551	49,563	67,598	69,568	62,485	0	0	0	0	**66,959**
40-44		25	288	3,583	4,563	483	14	0	0	0	**8,956**
	$	34,689	42,554	68,715	75,565	80,481	82,443	0	0	0	**71,925**
45-49		24	229	3,255	5,358	2,913	566	8	0	0	**12,353**
	$	71,249	50,215	65,799	74,028	81,391	79,608	74,381	0	0	**73,405**
50-54		13	157	3,032	4,636	3,173	2,624	381	12	0	**14,028**
	$	75,680	47,030	59,741	66,439	77,198	80,039	76,476	64,779	0	**70,031**
55-59		17	160	2,890	4,842	3,419	2,711	1,161	265	3	**15,468**
	$	66,947	48,081	55,735	59,008	68,474	75,201	80,398	73,339	54,177	**65,073**
60-64		15	110	2,061	3,483	2,565	1,927	767	338	43	**11,309**
	$	38,884	46,209	56,076	59,902	63,687	72,220	81,459	79,073	72,003	**64,082**
65-69		10	40	644	977	697	510	202	110	33	**3,223**
	$	40,934	55,800	58,435	61,518	66,993	74,864	87,169	80,170	85,700	**66,555**
70-74		1	13	140	156	93	54	29	22	14	**522**
	$	35,854	48,873	51,584	60,304	56,371	76,090	85,593	105,432	98,461	**62,896**
75+		1	3	37	31	22	13	8	4	9	**128**
	$	7,690	21,403	39,864	40,589	54,321	55,915	87,358	65,183	92,287	**50,916**
Total		**120**	**1,262**	**18,884**	**24,951**	**13,376**	**8,419**	**2,556**	**751**	**102**	**70,421**
	$	**51,131**	**47,463**	**62,533**	**67,229**	**72,682**	**76,290**	**80,729**	**77,680**	**81,331**	**68,329**

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		0	0	0	0	0	0	0	0	0	**0**
	$	0	0	0	0	0	0	0	0	0	**0**
30-34		1	18	159	16	0	0	0	0	0	**194**
	$	10,385	61,355	62,070	66,608	0	0	0	0	0	**62,112**
35-39		3	101	1,276	547	7	0	0	0	0	**1,934**
	$	30,022	54,267	69,052	69,112	67,139	0	0	0	0	**68,229**
40-44		7	103	1,651	2,280	327	13	0	0	0	**4,381**
	$	36,561	47,465	71,858	77,740	82,641	84,152	0	0	0	**75,131**
45-49		7	98	1,631	2,874	1,529	383	7	0	0	**6,529**
	$	20,051	56,956	72,034	77,090	84,541	80,957	76,815	0	0	**77,435**
50-54		4	71	1,450	2,474	1,652	1,349	247	9	0	**7,256**
	$	48,210	56,247	69,851	74,453	82,231	83,300	78,376	65,592	0	**76,879**
55-59		4	82	1,381	2,323	1,710	1,485	603	181	3	**7,772**
	$	61,152	53,165	66,059	70,237	78,936	80,997	83,082	74,407	54,177	**74,367**
60-64		8	53	1,121	1,847	1,261	1,165	501	196	34	**6,186**
	$	22,071	50,159	65,543	70,329	75,903	80,465	88,855	84,191	78,496	**74,256**
65-69		5	20	381	549	398	327	147	71	17	**1,915**
	$	31,166	44,855	66,486	70,931	78,719	83,576	98,328	89,944	84,504	**76,377**
70-74		1	7	92	97	61	40	20	17	11	**346**
	$	35,854	64,427	63,739	68,004	62,770	84,563	106,004	112,665	111,957	**73,485**
75+		1	2	24	22	15	11	7	4	9	**95**
	$	7,690	23,595	48,564	44,679	66,694	61,483	96,723	65,183	92,287	**59,457**
Total		**41**	**555**	**9,166**	**13,029**	**6,960**	**4,773**	**1,532**	**478**	**74**	**36,608**
	$	**31,954**	**53,086**	**69,000**	**73,793**	**80,382**	**81,685**	**86,007**	**81,844**	**85,542**	**75,154**

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	0	0	0	0	0	0	0	0	**0**
	$	0	0	0	0	0	0	0	0	0	**0**
30-34		4	15	77	3	0	0	0	0	0	**99**
	$	8,506	40,079	43,014	46,702	0	0	0	0	0	**41,287**
35-39		4	108	1,442	225	3	0	0	0	0	**1,782**
	$	24,360	41,616	63,522	61,765	42,633	0	0	0	0	**61,849**
40-44		15	167	1,597	1,869	89	0	0	0	0	**3,737**
	$	17,510	37,025	62,879	69,945	63,619	0	0	0	0	**65,093**
45-49		6	106	1,361	2,001	1,106	111	1	0	0	**4,692**
	$	14,781	34,586	56,066	66,160	73,248	70,357	57,342	0	0	**64,221**
50-54		3	68	1,360	1,810	1,247	1,057	102	1	0	**5,648**
	$	19,369	30,321	46,906	52,892	67,511	73,510	66,528	37,579	0	**58,491**
55-59		6	58	1,310	2,208	1,480	1,012	489	64	0	**6,627**
	$	15,317	23,394	42,623	45,107	54,582	64,664	74,973	62,303	0	**51,871**
60-64		2	45	810	1,378	1,120	619	217	118	7	**4,316**
	$	7,442	29,816	40,402	44,655	48,134	54,760	63,955	68,904	45,253	**47,671**
65-69		4	9	219	335	241	146	44	32	11	**1,041**
	$	27,960	30,385	41,662	42,488	45,641	53,388	50,251	57,109	81,579	**45,603**
70-74		0	5	43	43	28	13	8	3	3	**146**
	$	0	23,734	25,849	39,236	42,792	52,116	39,864	46,244	48,973	**36,970**
75+		0	1	12	6	4	2	1	0	0	**26**
	$	0	17,020	23,983	29,584	16,923	25,295	21,802	0	0	**23,939**
Total		**44**	**582**	**8,231**	**9,878**	**5,318**	**2,960**	**862**	**218**	**21**	**28,114**
	$	**17,262**	**34,561**	**52,790**	**55,691**	**59,787**	**65,327**	**69,530**	**64,779**	**64,812**	**56,635**

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		0	0	1	0	0	0	0	0	0	**1**
	$	0	0	70,699	0	0	0	0	0	0	**70,699**
30-34		0	4	26	2	0	0	0	0	0	**32**
	$	0	48,841	67,343	70,621	0	0	0	0	0	**65,235**
35-39		2	16	261	112	1	0	0	0	0	**392**
	$	84,228	73,509	83,008	87,470	89,460	0	0	0	0	**83,918**
40-44		3	18	335	414	67	1	0	0	0	**838**
	$	116,217	65,749	81,052	88,959	92,335	60,216	0	0	0	**85,633**
45-49		11	25	263	483	278	72	0	0	0	**1,132**
	$	134,632	90,058	77,495	88,407	96,462	86,690	0	0	0	**88,226**
50-54		6	18	222	352	274	218	32	2	0	**1,124**
	$	122,148	73,795	72,329	79,775	90,931	91,513	93,520	74,725	0	**83,813**
55-59		7	20	199	311	229	214	69	20	0	**1,069**
	$	114,513	98,830	70,410	73,837	80,129	84,811	95,390	98,992	0	**79,340**
60-64		5	12	130	258	184	143	49	24	2	**807**
	$	78,361	90,238	72,100	66,696	74,638	80,635	83,358	87,284	55,245	**73,865**
65-69		1	11	44	93	58	37	11	7	5	**267**
	$	141,671	96,495	72,201	74,498	75,246	82,615	85,713	86,464	98,835	**77,796**
70-74		0	1	5	16	4	1	1	2	0	**30**
	$	0	65,687	49,247	70,244	53,843	48,812	43,200	132,735	0	**66,956**
75+		0	0	1	3	3	0	0	0	0	**7**
	$	0	0	21,636	32,604	42,319	0	0	0	0	**35,201**
Total		**35**	**125**	**1,487**	**2,044**	**1,098**	**686**	**162**	**55**	**7**	**5,699**
	$	**116,172**	**82,571**	**76,602**	**81,149**	**86,336**	**86,061**	**90,402**	**92,633**	**86,380**	**82,180**

OPSRP Active General Service Members

		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20		101	0	0	0	0	0	0	0	0	**101**
	$	13,145	0	0	0	0	0	0	0	0	**13,145**
20-24		1,947	33	0	0	0	0	0	0	0	**1,980**
	$	24,388	18,609	0	0	0	0	0	0	0	**24,292**
25-29		7,055	1,236	28	0	0	0	0	0	0	**8,319**
	$	35,487	39,957	42,619	0	0	0	0	0	0	**36,175**
30-34		7,638	5,901	991	0	0	0	0	0	0	**14,530**
	$	40,889	48,559	51,487	0	0	0	0	0	0	**44,727**
35-39		6,712	5,841	2,645	0	0	0	0	0	0	**15,198**
	$	43,304	52,173	57,445	0	0	0	0	0	0	**49,174**
40-44		5,391	4,904	2,092	0	0	0	0	0	0	**12,387**
	$	42,673	52,797	56,732	0	0	0	0	0	0	**49,056**
45-49		4,662	4,629	2,260	0	0	0	0	0	0	**11,551**
	$	41,568	49,159	53,167	0	0	0	0	0	0	**46,879**
50-54		3,570	3,885	2,200	0	0	0	0	0	0	**9,655**
	$	40,592	46,921	48,060	0	0	0	0	0	0	**44,840**
55-59		2,875	3,261	1,975	0	0	0	0	0	0	**8,111**
	$	40,742	46,366	46,811	0	0	0	0	0	0	**44,481**
60-64		1,861	2,382	1,406	0	0	0	0	0	0	**5,649**
	$	39,146	45,150	47,633	0	0	0	0	0	0	**43,790**
65-69		657	890	552	0	0	0	0	0	0	**2,099**
	$	33,265	43,297	47,505	0	0	0	0	0	0	**41,263**
70-74		167	176	99	0	0	0	0	0	0	**442**
	$	25,994	32,637	37,527	0	0	0	0	0	0	**31,223**
75+		38	64	34	0	0	0	0	0	0	**136**
	$	17,765	27,085	21,865	0	0	0	0	0	0	**23,176**
Total		**42,674**	**33,202**	**14,282**	**0**	**0**	**0**	**0**	**0**	**0**	**90,158**
	$	**39,550**	**48,636**	**51,732**	**0**	**0**	**0**	**0**	**0**	**0**	**44,826**

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		1	0	0	0	0	0	0	0	0	**1**
	$	4,661	0	0	0	0	0	0	0	0	**4,661**
20-24		195	0	0	0	0	0	0	0	0	**195**
	$	50,361	0	0	0	0	0	0	0	0	**50,361**
25-29		880	229	1	0	0	0	0	0	0	**1,110**
	$	57,253	69,479	74,609	0	0	0	0	0	0	**59,791**
30-34		771	951	188	0	0	0	0	0	0	**1,910**
	$	60,005	73,136	78,651	0	0	0	0	0	0	**68,378**
35-39		467	827	384	0	0	0	0	0	0	**1,678**
	$	57,834	74,263	78,260	0	0	0	0	0	0	**70,606**
40-44		273	492	266	0	0	0	0	0	0	**1,031**
	$	59,010	72,953	75,180	0	0	0	0	0	0	**69,836**
45-49		189	323	160	0	0	0	0	0	0	**672**
	$	55,617	64,625	75,246	0	0	0	0	0	0	**64,620**
50-54		129	186	122	0	0	0	0	0	0	**437**
	$	57,705	63,809	72,047	0	0	0	0	0	0	**64,307**
55-59		76	139	83	0	0	0	0	0	0	**298**
	$	60,322	61,371	60,492	0	0	0	0	0	0	**60,859**
60-64		44	95	54	0	0	0	0	0	0	**193**
	$	58,567	64,562	64,591	0	0	0	0	0	0	**63,204**
65-69		12	28	18	0	0	0	0	0	0	**58**
	$	50,753	62,125	54,212	0	0	0	0	0	0	**57,316**
70-74		2	4	3	0	0	0	0	0	0	**9**
	$	111,921	137,897	38,618	0	0	0	0	0	0	**99,031**
75+		2	3	1	0	0	0	0	0	0	**6**
	$	54,089	44,133	42,335	0	0	0	0	0	0	**47,152**
Total		**3,041**	**3,277**	**1,280**	**0**	**0**	**0**	**0**	**0**	**0**	**7,598**
	$	**57,760**	**70,980**	**74,518**	**0**	**0**	**0**	**0**	**0**	**0**	**66,285**

All OPSRP Active Members

		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20		102	0	0	0	0	0	0	0	0	**102**
	$	13,062	0	0	0	0	0	0	0	0	**13,062**
20-24		2,142	33	0	0	0	0	0	0	0	**2,175**
	$	26,753	18,609	0	0	0	0	0	0	0	**26,629**
25-29		7,935	1,465	29	0	0	0	0	0	0	**9,429**
	$	37,901	44,572	43,722	0	0	0	0	0	0	**38,955**
30-34		8,409	6,852	1,179	0	0	0	0	0	0	**16,440**
	$	42,642	51,970	55,819	0	0	0	0	0	0	**47,475**
35-39		7,179	6,668	3,029	0	0	0	0	0	0	**16,876**
	$	44,249	54,913	60,084	0	0	0	0	0	0	**51,305**
40-44		5,664	5,396	2,358	0	0	0	0	0	0	**13,418**
	$	43,461	54,635	58,813	0	0	0	0	0	0	**50,652**
45-49		4,851	4,952	2,420	0	0	0	0	0	0	**12,223**
	$	42,115	50,168	54,627	0	0	0	0	0	0	**47,855**
50-54		3,699	4,071	2,322	0	0	0	0	0	0	**10,092**
	$	41,189	47,692	49,320	0	0	0	0	0	0	**45,683**
55-59		2,951	3,400	2,058	0	0	0	0	0	0	**8,409**
	$	41,246	46,979	47,363	0	0	0	0	0	0	**45,061**
60-64		1,905	2,477	1,460	0	0	0	0	0	0	**5,842**
	$	39,595	45,894	48,260	0	0	0	0	0	0	**44,431**
65-69		669	918	570	0	0	0	0	0	0	**2,157**
	$	33,579	43,871	47,717	0	0	0	0	0	0	**41,695**
70-74		169	180	102	0	0	0	0	0	0	**451**
	$	27,011	34,976	37,559	0	0	0	0	0	0	**32,576**
75+		40	67	35	0	0	0	0	0	0	**142**
	$	19,582	27,848	22,449	0	0	0	0	0	0	**24,189**
Total		**45,715**	**36,479**	**15,562**	**0**	**0**	**0**	**0**	**0**	**0**	**97,756**
	$	**40,761**	**50,643**	**53,606**	**0**	**0**	**0**	**0**	**0**	**0**	**46,494**

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	7	75
30-34	205	406
35-39	1,480	732
40-44	3,040	1,116
45-49	4,186	1,354
50-54	5,173	1,494
55-59	6,445	1,397
60-64	5,278	1,539
65-69	2,984	1,369
70-74	1,072	945
75+	918	1,343
Total	**30,788**	**$1,345**

Retirees and Beneficiaries	Count	Average Deferred Monthly Benefit
<45	558	$1,187
45-49	339	1,739
50-54	1,227	2,742
55-59	6,329	2,969
60-64	21,621	2,919
65-69	34,506	2,758
70-74	26,261	2,616
75-79	17,773	2,344
80-84	11,901	2,027
85-89	7,897	1,638
90-94	4,211	1,207
95-99	1,204	921
100+	178	691
Total	**134,005**	**$2,503**

OPSRP

Inactive Members	Count	Average Deferred Monthly Benefit
<20	0	$0
20-24	15	107
25-29	348	202
30-34	1,735	318
35-39	2,214	384
40-44	1,640	424
45-49	1,559	391
50-54	1,468	367
55-59	1,178	352
60-64	858	354
65-69	469	211
70-74	312	89
75+	265	55
Total	**12,061**	**$346**

Retirees and Beneficiaries	Count	Average Monthly Benefit
<45	5	$1,112
45-49	6	975
50-54	7	564
55-59	171	278
60-64	534	335
65-69	1,122	445
70-74	383	429
75-79	58	369
80-84	7	469
85-89	0	0
90-94	0	0
95-99	0	0
100+	0	0
Total	**2,293**	**$405**

System-Wide Totals

Inactive Members	Count	Average Deferred Monthly Benefit
<20	0	$0
20-24	15	107
25-29	355	199
30-34	1,940	327
35-39	3,694	524
40-44	4,680	874
45-49	5,745	1,093
50-54	6,641	1,245
55-59	7,623	1,235
60-64	6,136	1,374
65-69	3,453	1,211
70-74	1,384	752
75+	1,183	1,055
Total	**42,849**	**$1,064**

Retirees and Beneficiaries	Count	Average Monthly Benefit
<45	563	$1,186
45-49	345	1,725
50-54	1,234	2,730
55-59	6,500	2,898
60-64	22,155	2,857
65-69	35,628	2,686
70-74	26,644	2,584
75-79	17,831	2,337
80-84	11,908	2,026
85-89	7,897	1,638
90-94	4,211	1,207
95-99	1,204	921
100+	178	691
Total	**136,298**	**$2,468**

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, 2015	As of December 31, 2014
Dormant members		
Number	14,360	15,296
Average Age	53.8	53.7
Retired members under age 65 eligible for deferred RHIA benefits		
Number	26,918	27,708
Average Age	60.3	60.4
Retired members receiving RHIA benefits		
Number	46,574	46,322
Average Age	75.6	75.6

RHIPA Members

	As of December 31, 2015	As of December 31, 2014
Active Tier 1/Tier 2 employees of RHIPA employers		
Number	19,198	20,818
Average Age	53.2	52.8
Average Service	19.6	18.9
Retired members receiving RHIPA benefits		
Number	1,303	1,288
Average Age	61.7	61.5
Average Monthly Subsidy Amount	299	296

Actuarial Methods and Assumptions

Tier 1/Tier 2 (including Retiree Healthcare)

Actuarial Methods and Valuation Procedures

In September 2015 the Board adopted the following actuarial methods and valuation procedures for the December 31, 2014 and 2015 actuarial valuations of PERS Tier 1/Tier 2 benefits.

Actuarial cost method	**Entry Age Normal.** Under the Entry Age Normal (EAN) cost method, each active member's **entry age present value of projected benefits** 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. A detailed description of the calculation follows: • An individual member's **entry age present value of projected benefits** 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. • An individual member's **entry age present value of projected salaries** 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. • An individual member's **present value of projected benefits** 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. • An individual member's **normal cost** for a certain year is the member's **entry age present value of projected benefits** divided by the member's **entry age present value of projected salaries** and multiplied by the member's projected compensation for the year following the valuation date. • An individual member's **actuarial accrued liability** is the member's **present value of projected benefits** less the sum of the present value of the member's **normal costs** for each future year, determined at the valuation date using the projected compensation and service at each future year. – The plan's **normal cost** is the sum of the individual member normal costs, and the plan's **actuarial accrued liability** is the sum of the individual member accrued liabilities.
Tier 1/Tier 2 UAL amortization	The Tier 1/Tier 2 UAL amortization period was 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 projected 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.

Retiree Healthcare UAL amortization	The UAL for Retiree Health Care as of December 31, 2007 is amortized as a level percentage of projected 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.
Asset valuation method	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.
Contribution rate stabilization method	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 percent of payroll 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.
Allocation of Liability for Service Segments	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 25% (0% for police & fire) based on account balance with each employer and 75% (100% for police & fire) based on service with each employer. The entire normal cost is allocated to the current employer.
Allocation of Benefits-In-Force (BIF) Reserve	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, 2014 and 2015 actuarial valuations. All assumptions were reviewed and adopted in conjunction with the 2014 Experience Study, published in September 2015. The assumption selection process and rationale is described in detail in that report.

Investment return	7.50% compounded annually
Pre-2014 Interest crediting	8.00% compounded annually on members' regular account balances 8.25% compounded annually on members' variable account balances
Post-2013 Interest crediting	7.50% compounded annually on members' regular account balances 7.50% compounded annually on members' variable account balances
Inflation	2.50% compounded annually
Administrative expenses	$33.0 million per year is added to the normal cost.
Payroll growth	3.50% compounded annually. This assumption represents the sum of the inflation assumption and a real wage growth assumption of 100 basis points.
Healthcare cost trend	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[2]	Rate	Year	Rate
2016	6.3	2044 – 2045	5.7
2017	6.0	2046 – 2049	5.6
2018	5.4	2050 – 2055	5.5
2019	5.3	2056 – 2061	5.4
2020 – 2024	5.4	2062	5.3
2025 – 2027	5.5	2063	5.2
2028	6.4	2064	5.1
2029	6.5	2065	5.0
2030 – 2034	6.4	2066	4.9
2035	6.3	2067	4.8
2036	6.2	2068 – 2069	4.7
2037	6.1	2070	4.6
2038	6.0	2071 – 2093	4.5
2039 – 2040	5.9	2094+	4.4
2041 – 2043	5.8%		

[2] *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, 2014 and 2015 actuarial valuations. All assumptions were reviewed and adopted in conjunction with the 2014 Experience Study, published in September 2015. The study relied on data from an observation period of January 1, 2011 to December 31, 2014, with the exception of the merit scale assumption, which relied on data from 2006 through 2014. Assumptions selected from the study represent an estimate of future experience based on relevant recent experience and reasonable expectations about the future.

Mortality

Healthy Retired Members

The following healthy retired mortality tables were first adopted in the December 31 valuation of the years shown. The projection scale was first adopted in the December 31, 2014 valuation.

Basic Table	RP 2000, Generational (Scale BB) Combined Active/Healthy Annuitant, Sex Distinct	Valuation Year Adopted
School District male	No collar, set back 24 months	2012
Other General Service male*	Blended 25% blue collar / 75% white collar, set back 12 months	2010
Police & Fire male	Blended 25% blue collar / 75% white collar, set back 12 months	2012
School District female	No collar, set back 24 months	2014
Other female**	Blended 25% blue collar / 75% white collar, no set back	2014

** including male beneficiaries of members of all classes*
*** including female beneficiaries of members of all classes*

Disabled Retired Members

The following disabled retiree mortality rates were first adopted for the December 31, 2014 actuarial valuation.

Basic Table	RP 2000, Generational (Scale BB), Combined Disabled, No Collar, Sex Distinct
Male	70% of Disabled table, but not less than the corresponding healthy annuity rates
Female	95% of Disabled table, but not less than the corresponding healthy annuity rates

Non-Annuitant Members

The following mortality rates were first adopted for non-annuitant members for the December 31, 2014 actuarial valuation.

Basic Table	Percent of Healthy Retired Mortality Tables
School District male	60%
Other General Service male	75%
Police & Fire male	75%
School District female	55%
Other female	60%

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, 2014 valuation.

	Police & Fire			General Service			School Districts			Judges
Age	< 13 yrs	13-24 yrs	25+ yrs	<15 yrs	15-29 yrs	30+ yrs	<15 yrs	15-29 yrs	30+ yrs	
Less than 50						15.00%			15.00%	
50	1.50%	2.00%	24.00%			15.00%			15.00%	
51	1.50%	2.00%	17.50%			15.00%			15.00%	
52	1.50%	2.00%	17.50%			15.00%			25.00%	
53	1.50%	2.00%	17.50%			17.50%			25.00%	
54	1.50%	2.00%	17.50%			17.50%			25.00%	
55	5.00%	8.00%	23.50%	1.50%	3.00%	17.50%	1.50%	4.50%	25.00%	
56	5.00%	8.00%	23.50%	1.50%	3.00%	17.50%	1.50%	4.50%	25.00%	
57	5.00%	8.00%	23.50%	1.50%	3.00%	20.00%	1.50%	4.50%	25.00%	
58	5.00%	8.00%	23.50%	1.50%	10.00%	20.00%	2.50%	14.50%	32.00%	
59	5.00%	8.00%	23.50%	3.50%	10.00%	20.00%	4.50%	14.50%	28.50%	
60	5.00%	11.00%	23.50%	6.00%	10.00%	20.00%	6.50%	14.50%	28.50%	10.00%
61	5.00%	14.00%	23.50%	6.00%	10.00%	24.00%	8.00%	14.50%	28.50%	10.00%
62	15.00%	25.00%	38.00%	12.50%	19.50%	31.00%	15.00%	25.00%	34.00%	10.00%
63	7.00%	17.00%	38.00%	12.50%	16.50%	22.00%	13.00%	22.00%	26.50%	10.00%
64	7.00%	17.00%	17.00%	12.50%	16.50%	26.00%	13.00%	19.50%	31.50%	10.00%
65	100.00%	100.00%	100.00%	19.50%	28.00%	32.00%	25.50%	33.50%	38.00%	10.00%

	Police & Fire			General Service			School Districts			Judges
66				25.50%	35.00%	38.00%	21.50%	36.50%	38.00%	10.00%
67				22.50%	25.00%	26.00%	19.50%	34.50%	38.00%	10.00%
68				19.50%	25.00%	26.00%	19.50%	28.00%	28.50%	10.00%
69				19.50%	25.00%	26.00%	19.50%	28.00%	28.50%	30.00%
70				100.00%	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, 2014.

Lump Sum Option at Retirement	
Partial Lump Sum:	4.5% for all years
Total Lump Sum:	2.5% for 2016, declining by 0.5% per year until reaching 0.0%
No Lump Sum:	93.0% in 2015, increasing by 0.5% per year until reaching 95.5%

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 for General Service were first adopted effective December 31, 2014. The rates for duty disability for Police & Fire 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	0.9%
Ordinary Disability	50% with 0.18% cap

Termination Assumptions

The termination assumptions were first adopted effective December 31, 2012, except for the Police & Fire and General Service females which were adopted effective December 31, 2014.

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%	18.50%	10.00%
1	16.00%	14.05%	17.16%	17.00%	5.97%
5	8.24%	8.35%	8.36%	9.29%	3.31%
10	4.23%	4.36%	3.96%	5.24%	2.23%
15	2.78%	2.98%	2.86%	3.66%	1.50%
20	1.82%	2.23%	2.07%	2.63%	1.01%
25	1.20%	1.67%	1.49%	1.89%	0.80%
30+	1.20%	1.50%	1.40%	1.50%	0.80%

For a complete table of rates, please refer to the 2014 Experience Study report for the System, published in September 2015.

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. These rates were first adopted effective December 31, 2014.

Duration	School District	Other General Service	Police & Fire
0	3.53%	3.95%	5.17%
1	3.20%	3.55%	4.57%
5	2.01%	2.24%	2.71%
10	0.82%	1.22%	1.41%
15	-0.07%	0.71%	0.90%
20	-0.67%	0.52%	0.81%
25	-0.91%	0.45%	0.76%
30	-0.94%	0.29%	0.39%
31+	-0.94%	0.00%	0.00%

The assumed merit increase for active judge members is 0.0%.

For a complete table of rates, please refer to the 2014 Experience Study for the System, published in September 2015.

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, school district males, and dormant members were adopted effective December 31, 2014. 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	
Actives	
• State General Service Male	6.25%
• State General Service Female	3.75%
• School District Male	7.25%
• School District Female	5.75%
• Local General Service Male	4.75%
• Local General Service Female	3.25%
• State Police & Fire	4.75%
• Local Police & Fire	7.50%
Dormant Members	3.00%

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, 2014, except the school district rates which were adopted effective December 31, 2012.

Vacation Pay	
Tier 1	
• State General Service	1.60%
• School District	0.25%
• Local General Service	2.20%
• State Police & Fire	1.80%
• Local Police & Fire	2.90%
Tier 2	0.00%

Retiree Healthcare Participation

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

Retiree Healthcare Participation	
RHIPA	
• 8 – 9 years of service	10.0%
• 10 – 14 years of service	10.0%
• 15 – 19 years of service	18.0%
• 20 – 24 years of service	26.0%
• 25 – 29 years of service	29.0%
• 30+ years of service	38.0%
RHIA	
• Healthy Retired	38.0%
• Disabled Retired	20.0%

The RHIA disabled retired rate was first adopted December 31, 2008. The RHIPA rates up through 14 years of service were first adopted effective December 31, 2012. All other rates were first adopted effective December 31, 2014.

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, 2014 and December 31, 2015 actuarial valuations.

Actuarial Methods and Valuation Procedures

OPSRP UAL amortization	The UAL as of December 31, 2007 is amortized as a level percentage of projected 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.

Economic Assumptions

Administrative expenses	$5.5 million per year is added to the normal cost.

Demographic Assumptions

Retirement Assumptions

Rates of Retirement from Active Status

	Police & Fire			General Service			School Districts		
Age	< 13 yrs	13-24 yrs	25+ yrs	<15 yrs	15-29 yrs	30+ 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%	17.50%						
55	4.00%	5.00%	23.50%	1.00%	2.50%	5.00%	1.00%	2.50%	5.00%
56	4.00%	5.00%	23.50%	1.00%	2.50%	5.00%	1.00%	2.50%	5.00%
57	4.00%	5.00%	23.50%	1.00%	2.50%	7.50%	1.00%	2.50%	7.50%
58	4.00%	5.00%	23.50%	1.00%	3.00%	30.00%	1.00%	3.00%	30.00%
59	4.00%	5.00%	23.50%	1.50%	3.00%	25.00%	1.50%	3.00%	25.00%
60	4.00%	15.00%	23.50%	3.00%	3.75%	20.00%	3.00%	3.75%	20.00%
61	4.00%	8.50%	23.50%	3.00%	5.00%	20.00%	3.00%	5.00%	20.00%
62	12.00%	25.00%	38.00%	8.00%	12.00%	30.00%	6.00%	12.00%	30.00%
63	7.00%	17.00%	38.00%	7.00%	10.00%	20.00%	6.00%	10.00%	20.00%
64	7.00%	17.00%	17.00%	6.00%	10.00%	20.00%	6.00%	10.00%	20.00%
65	100.00%	100.00%	100.00%	13.00%	35.00%	20.00%	12.00%	35.00%	20.00%
66				15.50%	33.00%	20.00%	14.00%	33.00%	20.00%
67				15.50%	22.00%	30.00%	11.00%	22.00%	30.00%
68				13.00%	17.00%	20.00%	9.00%	17.00%	20.00%
69				13.00%	17.00%	20.00%	9.00%	17.00%	20.00%
70				100.00%	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, 2014 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, 2014 valuation.

Changes in Economic Assumptions

There were no changes to economic assumptions since the December 31, 2014 valuation.

Changes in Demographic Assumptions

There were no changes to demographic assumptions since the December 31, 2014 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.

Membership	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.	
	Tier 1	Hired prior to 1996
	Tier 2	Hired after 1995 and before August 29, 2003
	OPSRP	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
	Judges	Members of the State Judiciary
Member Contributions	**Judges**	7% of salary
	All others	None
Employer Contributions	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

Normal Retirement Date

Police and Fire	Age 55
Judges	Age 65
Tier 1 General Service	Age 58
Tier 2 General Service	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

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

Early Retirement Eligibility	**Police and Fire**	Age 50 or 30 years of service
	Judges	Age 60
	General Service	Age 55 or 30 years of service
Early Retirement Allowance	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.	
Vesting	Contributions made in any part of five calendar years or attainment of age 50 (45 for police & fire) while working in a qualifying position.	
Termination Benefits	**Non-Vested**	Payment of member's account balance.
	Vested	Same as normal (or early) retirement allowance, but commencement is deferred to normal (or early) retirement date.
Optional Forms of Retirement Allowance	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. **Options Available** • Life annuity • Cash refund annuity • Life annuity guaranteed 15 years • Joint and 50% or 100% survivor contingent annuity, with or without pop-up feature • 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. • Total Lump Sum: Refund of member contribution account plus a matching employer amount.	
Preretirement Death Benefit Eligibility	**Judges**	Six or more years of service.
	All others	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.
Preretirement Death Benefit	**Judges**	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.
	All others	The member's account balance plus a matching employer amount.
Additional Police & Fire Death Benefits	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.	
Disability Benefit Eligibility	**Duty**	Disablement occurring as a direct result of a job-related injury or illness, regardless of length of service.
	Non-Duty	Disablement occurring after ten years of service (six years, if a judge), but prior to normal retirement eligibility.

Disability Benefits	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. **Fire and Police Members' Alternative** 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. **Minimum Monthly Retirement Allowance** Judges .... 45% of final average monthly salary. All others .... $100 for a member with at least 15 years of creditable service, actuarially reduced if an optional form of benefit is chosen. **Reduction of Benefits** Whenever a disabled employee's disability benefit and earned income for any month exceed the monthly salary received at the time of disablement or $400, if greater, the disability benefit will be reduced by the excess. For Tier Two members, the disability benefit may not exceed the member's salary at the time of disablement.
Waiting Time Service Purchases	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.
Police & Fire Unit Purchases	Police & 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.
Automatic Postretirement Cost of Living Adjustments (COLAs)	All monthly pension and annuity benefits except unit purchases are eligible for postretirement adjustments. As a result of the Senate Bills 822 and 861 and the Oregon Supreme Court decision in *Moro v. State of Oregon*, automatic postretirement adjustments are based on a blended COLA as described below. **Automatic COLA prior to SB 822 and SB 861**: Benefits were 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 was 2% of the previous year's benefit. Any CPI change in excess of the limit was accumulated for future benefit adjustments which would otherwise be less than the limit. No benefit was decreased below its original amount. **Automatic Adjustments Provided by Senate Bills 822 and 861**: This legislation, passed in 2013, provided for that benefits would 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.

	Blended COLA after *Moro* decision	The Supreme Court decision in *Moro* requires that members "will be entitled to receive during retirement a blended COLA rate that reflects the different COLA provisions applicable to benefits earned at different times." The Supreme Court did not articulate a specific methodology for determining the blended COLA. For purposes of this valuation, we have determined the blend based on creditable service earned before and after October 2013. This approach is consistent with OAR 459-005-0510 adopted by the PERS Board in September 2015.
Ad Hoc Adjustments	From time to time, as granted by the Legislature, retired members and beneficiaries have received increases in their monthly benefits.	
Variable Annuity Program	**Contributions**	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.
	Benefit	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.
Interest Credit on Member Accounts	**Tier 1 Regular**	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.
	Tier 2 Regular	Amount determined by the Board based on actual investment earnings of the regular account.
	Variable	Actual earnings in variable account.
Retiree Healthcare – Medicare Supplement (RHIA)	**Retiree Eligibility**	All of the following must be met: (a) Currently receiving a retirement allowance from the System, (b) Covered for eight years before retirement, (c) Enrolled in a PERS-sponsored health plan, and (d) Enrolled in both Medicare Part A and Part B.
	Surviving Spouse or Dependent Eligibility	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 *either* of the following criteria are met: (a) Currently receiving a retirement allowance from the System, or (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.

	Benefit Amount	A monthly contribution of up to $60 per retiree is applied to PERS-sponsored Medicare supplemental insurance costs.
Retiree Healthcare – Under Age 65 (RHIPA)	**Retiree Eligibility**	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.
	Surviving Spouse or Dependent Eligibility	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 *either* of the following criteria are met: (a) Currently receiving a retirement allowance from the System, or (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.
	Benefit	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. The maximum monthly subsidy for 2016 is $326.94 per month.

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	100%

Changes in Plan Provisions	There were no changes in the Tier 1/Tier 2 benefit provisions reflected since the December 31, 2014 actuarial valuation.

Summary of Chapter 238A Provisions — OPSRP

Normal Retirement Date	**Police & Fire**	Age 60 or age 53 with 25 years of retirement credit
	General Service	Age 65 or age 58 with 30 years of retirement credit
	School Districts	Age 65 or age 58 with 30 calendar years of active membership
Normal Retirement Allowance	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%	
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 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.	
Early Retirement Eligibility	**Police & Fire**	Age 50 and 5 years of vesting service
	General Service	Age 55 and 5 years of vesting service
Early Retirement Allowance	Normal retirement allowance, actuarially reduced to early retirement age.	
Vesting	Five years or attainment of normal retirement age.	
Vested Termination Benefit	Same as normal (or early) retirement allowance, but commencement is deferred to normal (or early) retirement date.	
Optional Forms of Retirement Benefit	The normal form of benefit is a life annuity. All optional amounts are adjusted to be actuarially equivalent. **Options Available** • Life annuity • Joint and 50% or 100% survivor contingent benefit, with or without pop-up feature • Lump sum if monthly normal retirement benefit is less than $200 or if lump sum value is less than $5,000.	
Preretirement Death Benefit Eligibility	Death of a vested member before retirement benefits begin.	
Preretirement Death Benefit	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.	

Disability Benefit Eligibility	**Duty**	Disablement occurring as a direct result of a job-related injury or illness, regardless of length of service.
	Non-Duty	Disablement occurring after ten years of service, but prior to normal retirement eligibility.
Disability Benefit Amounts	**Preretirement Benefit**	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.
	Retirement Benefit	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.
Postretirement Adjustments	All monthly pension and annuity benefits except unit purchases are eligible for postretirement adjustments. As a result of the Senate Bills 822 and 861 and the Oregon Supreme Court decision in *Moro v. State of Oregon*, automatic postretirement adjustments are based on a blended COLA as described below.	
	Automatic COLA prior to SB 822 and SB 861	Benefits were 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 was 2% of the previous year's benefit. Any CPI change in excess of the limit was accumulated for future benefit adjustments which would otherwise be less than the limit. No benefit was decreased below its original amount.
	Automatic Adjustments Provided by Senate Bills 822 and 861	This legislation, passed in 2013, provided for that benefits would 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.
Changes in Plan Provisions	There were no changes in the OPSRP benefit provisions reflected since the December 31, 2014 actuarial 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.

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:

Benefits + Expenses = Contributions + Investment Earnings

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

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

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

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

Present Value of Future Normal Cost (PVFNC). The present value (as of the valuation date) of all future annual normal costs for current members expected to be allocated to future years in accordance with the actuarial cost method in use. By definition, this is equal to the difference between the total actuarial present value of benefits less the actuarial accrued liability under the actuarial cost method.

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

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

Statement No. 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. The standard has been replaced by GASB Statement 74 for plan fiscal years beginning after June 15, 2016.

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. The standard has been replaced by GASB Statement 75 for employer fiscal years beginning after June 15, 2017.

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

Total Actuarial Present Value of Benefits. Sometimes referred to simply as "Present Value of Benefits" (PVB) or "Total Liability", the present value of all prospective benefits projected to be paid to current plan members. This amount is equal to the sum of the actuarial accrued liability and the present value of future normal costs, and is unaffected by the choice of actuarial cost method.

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, pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.