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# OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

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

**December 31, 2011 Actuarial Valuation**

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October 26, 2012

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, 2011. Our findings are set forth in this actuarial valuation report. This report reflects the benefit provisions in effect as of December 31, 2011.

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 on July 29, 2011.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2013 to June 2015 for System employers. Other actuarial computations presented in this report under GASB Statements No. 25 and 27, 43 and 45 are for



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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. 25 and 27, 43 and 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

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

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

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

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

Sincerely,



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



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# Executive Summary

## Executive Summary

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

- Present Milliman's actuarial estimates of the system-wide liabilities and expenses of the Oregon Public Employees Retirement System (PERS), including pension benefits provided through Tier 1/Tier 2 and the Oregon Public Service Retirement Plan (OPSRP), and retiree medical benefits provided through the Retiree Health Insurance Account (RHIA) and the Retiree Health Insurance Premium Account (RHIPA), as of December 31, 2011 for PERS to incorporate, as PERS deems appropriate, in its financial statements; and
- Provide information on system-wide average employer contribution rates and employer contribution rates for the School District rate pool and the State and Local Government Rate Pool (SLGRP) for the period beginning July 1, 2013.

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

### Employer Contribution Rates

#### *Pension Contribution Rates*

This report presents the average employer contribution rates calculated as of December 31, 2011. The employer contribution rates presented will be effective on July 1, 2013. The December 31, 2009 valuation presented the employer contribution rates that are in effect from July 1, 2011 through June 30, 2013.

Employer pension contribution rates consist of a normal cost rate and an amortization of 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 is 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 effective July 1, 2013 compared to the rates in effect from July 1, 2011 through June 30, 2013.

Pension Contribution Rates (Excludes IAP)						
Payroll	Effective July 1, 2013			Effective July 1, 2011		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
Normal Cost Rate	9.00%	6.27%	9.00%	8.57%	6.13%	8.84%
Tier 1/Tier 2 UAL Rate	12.47%	12.47%	12.47%	7.72%	7.72%	7.72%
OPSRP UAL Rate	0.15%	0.15%	0.15%	0.08%	0.08%	0.08%
<b>Base Pension Rate</b>	<b>21.62%</b>	<b>18.89%</b>	<b>21.62%</b>	<b>16.37%</b>	<b>13.93%</b>	<b>16.64%</b>
Average Adjustment <sup>1</sup>	(5.70%)	(5.70%)	(5.70%)	(5.53%)	(5.53%)	(5.53%)
<b>Net Pension Rate</b>	<b>15.92%</b>	<b>13.19%</b>	<b>15.92%</b>	<b>10.84%</b>	<b>8.40%</b>	<b>11.11%</b>

1. 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.

UAL rates calculated in this valuation increased compared to the contribution rates calculated in the December 31, 2009 valuation and effective July 1, 2011. This is due both to cumulative investment returns below assumption during 2010 - 2011 and the functioning of the “rate collar” contribution stabilization policy. The rate collar restricts the change in contribution rates from one biennium to the next to within a specified bound. When the calculated contribution rate is outside of the rate collar boundaries, a portion of the contribution increase or decrease is deferred to subsequent biennia. The contribution rates effective July 1, 2011 were calculated by the December 31, 2009 actuarial valuation, and were the first rates to reflect the large investment losses that occurred during the financial crisis. A significant portion of the calculated contribution rate increase from the December 31, 2009 valuation was deferred due to the rate collar. These increases deferred by the rate collar are the primary cause of the increase in the Tier 1/Tier 2 UAL Rate shown in the table above.

The increase in the Tier 1/Tier 2 UAL Rate is compounded by rising Tier 1/Tier 2 normal cost rates as members under Money Match (with no normal cost) continue to retire and Tier 1/Tier 2 active members age. Despite the lower than assumed earnings on side account investments, the size of the average side account rate relief has increased compared to the current rates due to lower than assumed growth in projected active payroll, offsetting some of the increase in the net pension rates.

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 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 effective July 1, 2013 compared to the rates in effect as of July 1, 2011 and the average adjustment to that rate for side accounts rate offsets and pre-SLGRP and transition liability charges and credits.

Tier 1/Tier 2 Pension Contribution Rates (Excludes IAP)				
	Effective July 1, 2013		Effective July 1, 2011	
	SLGRP	School Districts	SLGRP	School Districts
Normal Cost Rate	9.15%	8.17%	8.89%	7.55%
Tier 1/Tier 2 UAL Rate	10.42%	17.78%	6.16%	11.26%
<b>Base Pension Rate</b>	<b>19.57%</b>	<b>25.95%</b>	<b>15.05%</b>	<b>18.81%</b>
Average Adjustment <sup>1</sup>	(5.02%)	(8.35%)	(4.98%)	(7.75%)
<b>Net Pension Rate</b>	<b>14.55%</b>	<b>17.60%</b>	<b>10.07%</b>	<b>11.06%</b>

*1. 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. As discussed above, due to the significant investment losses first recognized in contribution rates in the December 31, 2009 actuarial valuation, the rate collar deferred a significant portion of the rate increase calculated in that valuation. In the December 31, 2011 valuation, the Tier 1/Tier 2 rate pools have a calculated contribution rate, prior to application of the rate collar, which still exceed the maximum rate allowed by the collar. The impact of this adjustment for each group is shown below. The amount of contribution rate increase that is 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, 2013 to June 30, 2015 biennium, we expect additional deferred increases to be reflected in the July 1, 2015 to June 30, 2017 biennium.

Collar Impact on Tier 1/Tier 2 Pension Contribution Rates		
Effective July 1, 2013		
	SLGRP	School Districts
<b>Base Pension Rate Before Collar</b>	21.77%	28.18%
Collar Adjustment	(2.20%)	(2.23%)
<b>Base Pension Rate After Collar</b>	<b>19.57%</b>	<b>25.95%</b>
Average Adjustment	(5.02%)	(8.35%)
<b>Net Pension Rate</b>	<b>14.55%</b>	<b>17.60%</b>

*Retiree Healthcare Contribution Rates*

In addition to the pension contribution rates, all employers also contribute to the Retirement Health Insurance Account (RHIA). Further, State Agencies and State Judiciary contribute to the Retiree Health Insurance Premium Account (RHIPA). Only Tier 1 and Tier 2 members are eligible for these benefits, so the normal cost rates are only charged to Tier 1/Tier 2 payroll, but the UAL rates are charged to all payrolls. For each type of payroll used in this valuation the table below compares the employer contribution rates effective July 1, 2013 to the rates in effect from July 1, 2011 through June 30, 2013.

Retiree Healthcare Contribution Rates						
Payroll	Effective July 1, 2013			Effective July 1, 2011		
	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire	Tier 1/Tier 2	OPSRP General Service	OPSRP Police & Fire
RHIA Normal Cost Rate	0.10%	0.00%	0.00%	0.09%	0.00%	0.00%
RHIA UAL Rate	0.49%	0.49%	0.49%	0.50%	0.50%	0.50%
<b>Total RHIA rate</b>	<b>0.59%</b>	<b>0.49%</b>	<b>0.49%</b>	<b>0.59%</b>	<b>0.50%</b>	<b>0.50%</b>
RHIPA Normal Cost Rate	0.07%	0.00%	0.00%	0.05%	0.00%	0.00%
RHIPA UAL Rate	0.20%	0.20%	0.20%	0.11%	0.11%	0.11%
<b>Total RHIPA rate</b>	<b>0.27%</b>	<b>0.20%</b>	<b>0.20%</b>	<b>0.16%</b>	<b>0.11%</b>	<b>0.11%</b>

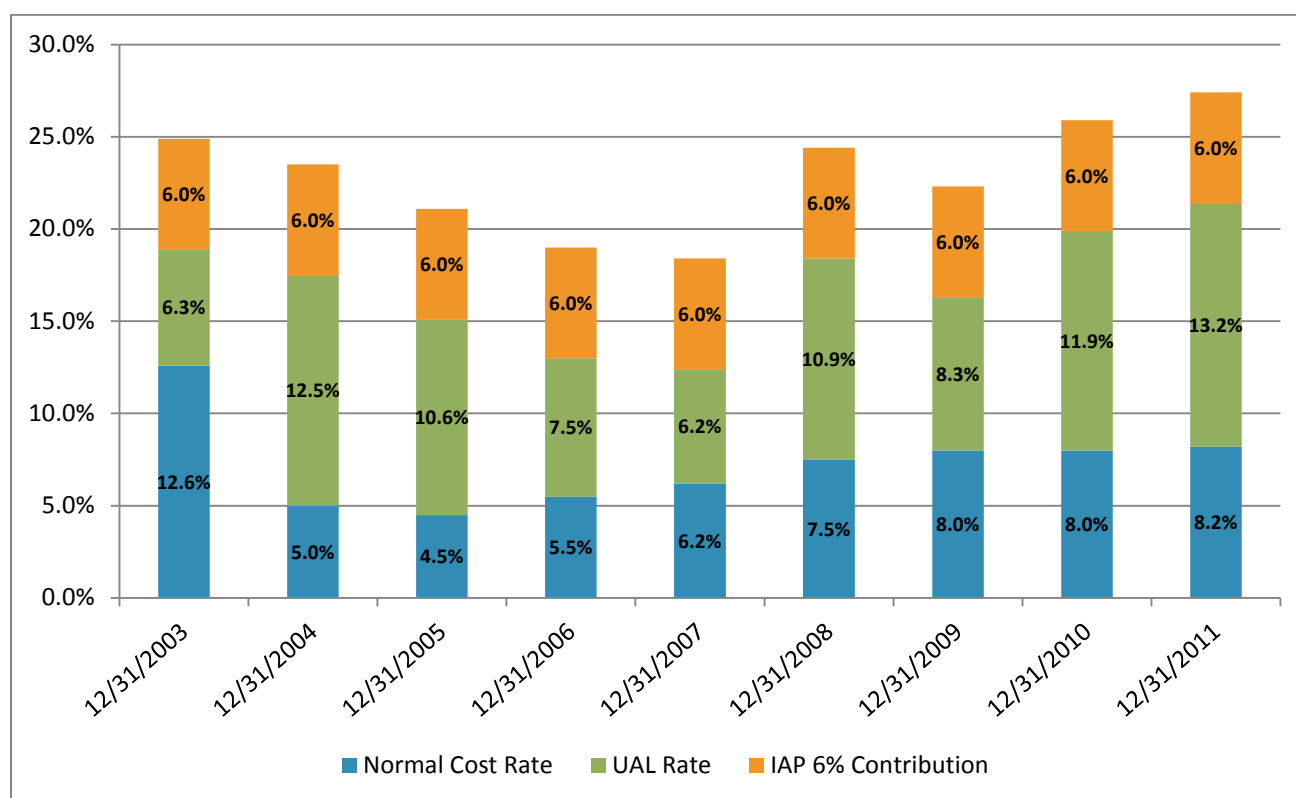


*Combined Pension and Retiree Healthcare Contribution Rates*

The system-wide average combined pension and retiree healthcare contribution rates are shown below for each valuation since December 31, 2003. As shown below, the average normal cost rate declined dramatically after the 2003 valuation, primarily due to the change in the actuarial cost method. The current 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 retire under the Money Match formula, we expect the normal cost rate to increase over time, as it has done over the past several years. The UAL rate has increased since the prior rate-setting valuation at December 31, 2009 due both to increases calculated in that valuation which were deferred by the rate collar contribution stabilization method, and due to investments performing modestly below assumption during 2010-2011.

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

*(Odd-year valuations are rate-setting; even-year valuations are advisory only)*



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 for joining the SLGRP have been paid) and used to offset the otherwise required contribution. As of December 31, 2011, the system has approximately \$5.2 billion in side accounts, a decrease of about \$0.4 billion in the last year. Side accounts now reduce the average employer contribution rate by 5.26% 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 1.

*Limits on Future Pension Contribution Rates*

The minimum and maximum contribution rates that can be effective July 1, 2015 for each 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 fire and police 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 70 percent or above 130 percent, the size of the rate collar is twice the size of the “single collar” that applies when funded status is between 80 percent and 120 percent. The rate collar provides a graded schedule between the single and double rate collars if the funded status, excluding side accounts, is between 70% and 80% or 120% and 130%.

<b>Limits on Future Pension Contribution Rates</b>		
	<b>Effective July 1, 2015</b>	
	<b>Tier 1/Tier 2</b>	
	<b>SLGRP</b>	<b>School Districts</b>
<b>Between 80% and 120% Funded</b>		
Minimum Base Rate	15.66%	20.76%
Maximum Base Rate	23.48%	31.14%
<b>Less than 70% or Greater than 130% Funded</b>		
Minimum Base Rate	11.75%	15.57%
Maximum Base Rate	27.39%	36.33%

*For Rate Pools funded between 70% and 80% or between 120% and 130% the limits vary linearly between the rates shown above.*

**Funded Status**

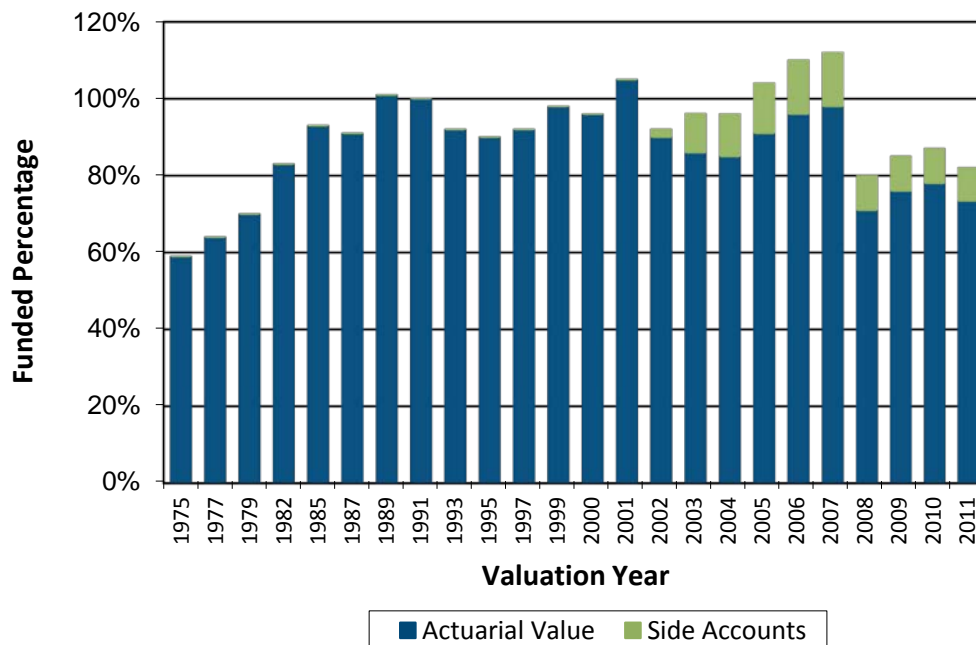
The table below shows the funded status of the various pension rate pools both on the basis used to calculate the contribution rate for each rate pool and after adjustment for side accounts (assuming side accounts offset Tier 1/Tier 2 liabilities). For this exhibit, all independent employers, including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

	SLGRP	School Districts	Independent Employers	OPSRP	Pension System Totals <sup>1</sup>
<b>December 31, 2011</b>					
Actuarial accrued liability	\$ 31,109.1	\$ 23,973.7	\$ 5,069.8	\$ 986.4	\$ 61,198.4
Actuarial value of assets	\$ 23,240.9	\$ 16,964.3	\$ 4,000.4	\$ 840.5	\$ 44,943.1
<b>Funded percentage</b>	<b>74.7%</b>	<b>70.8%</b>	<b>78.9%</b>	<b>85.2%</b>	<b>73.4%</b>
Side accounts	\$ 2,438.3	\$ 2,704.0	\$ 82.8	\$ -	\$ 5,225.1
<b>Funded percentage reflecting side accounts</b>	<b>82.5%</b>	<b>82.0%</b>	<b>80.5%</b>	<b>85.2%</b>	<b>82.0%</b>
<b>December 31, 2010</b>					
Actuarial accrued liability	\$ 30,285.0	\$ 23,303.3	\$ 4,913.1	\$ 767.6	\$ 59,329.5
Actuarial value of assets	\$ 23,879.0	\$ 17,473.3	\$ 4,100.9	\$ 659.0	\$ 46,004.4
<b>Funded percentage</b>	<b>78.8%</b>	<b>75.0%</b>	<b>83.5%</b>	<b>85.8%</b>	<b>77.5%</b>
Side accounts	\$ 2,620.5	\$ 2,870.1	\$ 88.5	\$ -	\$ 5,579.2
<b>Funded percentage reflecting side accounts</b>	<b>87.5%</b>	<b>87.3%</b>	<b>85.3%</b>	<b>85.8%</b>	<b>86.9%</b>

Amounts in millions

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

As shown in the graph below, the funded status of the system generally improved until the market decline of 2000-2002. The restatement of the December 31, 2001 actuarial valuation to reflect the impact of the 2003 reforms mitigates the impact on the reported funded status of the market downturn. Funded status was generally improving for several years due to better than expected investment returns until 2008. Funded status decreased significantly during 2008 due to investment losses.



The retiree medical benefits are funded using a 401(h) account within the pension trust. The table below shows the funded status of the retiree medical programs. The funded status of the RHIA program improved since the prior valuation due to an alternative interpretation of the actuarial assumption about the percentage of Tier 1/Tier 2 retired members that will elect to participate in the RHIA program when eligible.

	December 31, 2011			December 31, 2010		
	RHIA	RHIPA	Total	RHIA	RHIPA	Total
Actuarial accrued liability	\$461.1	\$34.4	\$495.5	\$547.1	\$33.9	\$581.1
Actuarial value of assets	\$239.6	\$4.5	\$244.1	\$232.3	\$5.7	\$238.0
<b>Funded Percentage</b>	<b>52.0%</b>	<b>13.2%</b>	<b>49.3%</b>	<b>42.5%</b>	<b>16.8%</b>	<b>41.0%</b>
<i>Amounts in millions</i>						

**Asset Changes**

Since December 31, 2010, contributions (including supplemental deposits but excluding side account rate offset transfers) for pension benefits have increased assets by 1.2% while benefit payments decreased assets by about 6.5%. On the whole, assets decreased by 3% due to investment returns of approximately 2.2%.

Asset Reconciliation All Reserves	Amount	Percentage of 12/31/2010 Market Value
<b>Market value, December 31, 2010</b>	<b>\$ 53,003.6</b>	
Contributions	644.2	1.2%
Investment Income	1,164.0	2.2%
Benefit Payments	(3,423.0)	(6.5%)
<b>Market value, December 31, 2011</b>	<b>\$ 51,388.8</b>	<b>97.0%</b>
<i>Amounts in millions</i>		

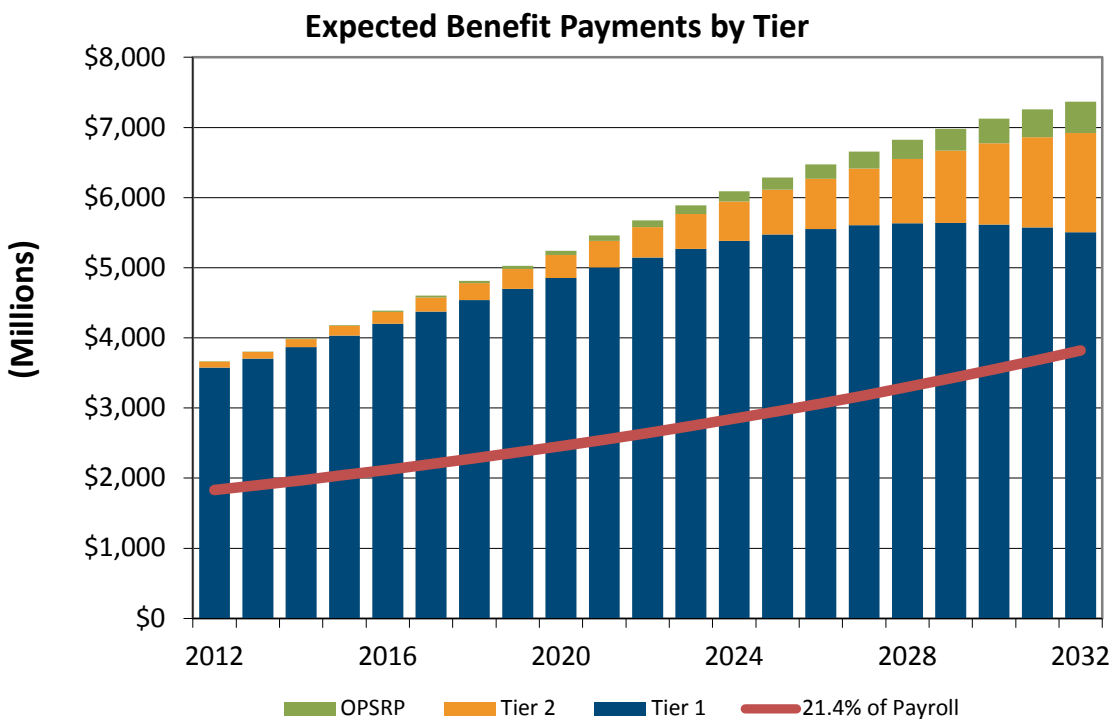
The Tier 1 Rate Guarantee Reserve that is used to pay for the 8% interest crediting rate guarantee on active Tier 1 member accounts when actual investment earnings are below 8% has worsened from a negative \$0.2 billion as of December 31, 2010 to negative \$0.3 billion as of December 31, 2011 due to investment performance below assumption in 2011. The worsening of the Rate Guarantee Reserve was partially mitigated by the PERS Board decision to transfer approximately \$0.2 billion from the Contingency Reserve to the Rate Guarantee Reserve. Tier 1 member accounts that are linked to the Rate Guarantee Reserve decreased from \$7.6 billion on December 31, 2010 to \$6.9 billion on December 31, 2011.

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 such effects.

*Cashflow Illustration at 2013-2015 Collared Base Rates*

As the above table indicates, benefit payments were significantly greater than contributions during 2011. Even contemplating rate offset transfers of \$509.7 million from employer side accounts to employer reserves,

system cash flow is still negative. This negative cash flow is anticipated to persist into the future. The following chart illustrates the projected benefit payments for system membership as of the valuation date, split by pension tier. Superimposed on that chart is the projected annual value of 21.4% of payroll, which is the system wide average base pension contribution rate calculated in this valuation. Comparing benefit payments to the proxy base contribution rate indicates system cashflow is likely to be persistently negative for the foreseeable future. All else equal, a system with a sustained negative cashflow will have more difficulty in recovering from near-term investment losses than a system with neutral or positive cashflow.



### Liability Changes

Since December 31, 2010, the system-wide actuarial accrued liability has increased primarily due to interest on the liability as current active members get closer to retirement. The normal cost, or the value of benefits attributable to that year of service, was about one-fifth of the value of benefits paid out during the year. The remaining 0.3% decrease in the actuarial accrued liability was attributable to demographic experience.

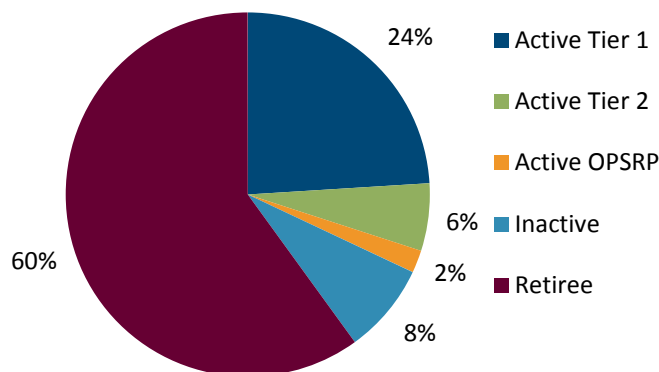
	Amount	Percentage of 12/31/2010 AAL
<b>Actuarial Accrued Liability, December 31, 2010</b>	<b>\$ 59,910.6</b>	
Normal Cost	701.4	1.2%
Benefit Payments	(3,423.0)	(5.7%)
Interest	4,712.0	7.9%
Other	(207.1)	(0.3%)
<b>Actuarial Accrued Liability, December 31, 2011</b>	<b>\$ 61,694.0</b>	<b>103.0%</b>
<i>Amounts in millions</i>		

The Oregon Public Employees Retirement System is a very mature system. There are currently 1.08 active members in the system for every inactive member. By comparison, the average ratio in NASRA’s 2010 Public Fund Survey is 1.85. Since contributions to the system are based on active payroll, a lower ratio means there are fewer actives to support any gains or losses, such as investment experience varying from assumption, in comparison to other systems. The ratio of active members to retired members may decline further as a significant portion of the active members are currently eligible to retire.

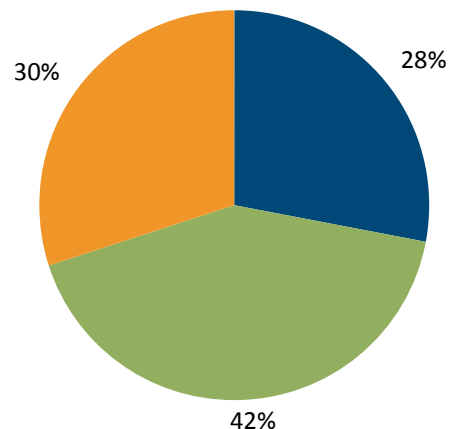
The left-hand chart below illustrates the distribution of the system’s accrued liability by member age and status. While the majority of active liability is attributable to Tier 1 members, 68% of the system’s total accrued liability is due to members who are no longer actively working in covered employment. Only 8% of the liability is attributable to active Tier 2 and OPSRP members. Of the accrued liability that is attributable to actives, a large portion is located at or near prime retirement ages.

The right-hand chart below illustrates the distribution of the system’s normal cost. Tier 2 members account for nearly half of the system’s normal cost compared to about 6% of the system’s accrued liability. Tier 2 members are likely to retire under the Full Formula calculation rather than the Money Match calculation. Because no additional Member contributions are permitted, the Money Match formula is essentially frozen. Consequently, many Tier 1 Members who are expected to retire under the Money Match formula have no normal cost under the current cost allocation method.

**Actuarial Accrued Liability by Member Category**



**Normal Cost by Member Category**



### Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described after the summary. Combined valuation payroll includes Tier 1/Tier 2 payroll and OPSRP payroll.

Actuarial Valuation as of					
	December 31, 2011		December 31, 2010		Percent Change
<b>Tier 1/Tier 2 Pension</b>					
Actuarial accrued liability	\$	60,212.0	\$	58,561.9	3%
Actuarial value of assets	\$	44,102.6	\$	45,345.4	(3%)
Unfunded actuarial accrued liability	\$	16,109.4	\$	13,216.5	22%
Funded status		73%		77%	
Normal cost	\$	505.0	\$	515.1	(2%)
Tier 1/Tier 2 valuation payroll	\$	5,607.9	\$	5,930.3	(5%)
Normal cost rate		9.00%		8.69%	
<b>OPSRP Pension</b>					
Actuarial accrued liability	\$	986.4	\$	767.6	28%
Actuarial value of assets	\$	840.5	\$	659.0	28%
Unfunded actuarial accrued liability	\$	145.9	\$	108.6	34%
Funded status		85%		86%	
Normal cost	\$	193.0	\$	179.2	8%
OPSRP valuation payroll	\$	2,942.6	\$	2,819.8	4%
Normal cost rate		6.56%		6.35%	
<b>Combined Pension</b>					
Actuarial accrued liability	\$	61,198.4	\$	59,329.5	3%
Actuarial value of assets	\$	44,943.1	\$	46,004.4	(2%)
Unfunded actuarial accrued liability	\$	16,255.3	\$	13,325.1	22%
Funded status		73%		78%	
Combined valuation payroll	\$	8,550.5	\$	8,750.1	(2%)
UAL as a percentage of payroll		190%		152%	
Normal cost	\$	698.0	\$	694.3	1%
Combined valuation payroll	\$	8,550.5	\$	8,750.1	(2%)
Normal cost rate		8.16%		7.93%	
<i>Amounts in millions</i>					

Actuarial Valuation as of			
	December 31, 2011	December 31, 2010	Percent Change
<b>RHIA</b>			
Actuarial accrued liability	\$ 461.1	\$ 547.1	(16%)
Actuarial asset value	\$ 239.6	\$ 232.3	3%
Unfunded actuarial accrued liability	\$ 221.5	\$ 314.8	(30%)
Funded status	52%	42%	
Combined valuation payroll	\$ 8,550.5	\$ 8,750.1	(2%)
UAL as a percentage of payroll	3%	4%	
Normal cost	\$ 5.8	\$ 6.0	(4%)
Tier 1/Tier 2 valuation payroll	\$ 5,607.9	\$ 5,930.3	(5%)
Normal cost rate	0.10%	0.10%	
<b>RHIPA</b>			
Actuarial accrued liability	\$ 34.4	\$ 33.9	2%
Actuarial asset value	\$ 4.5	\$ 5.7	(20%)
Unfunded actuarial accrued liability	\$ 29.9	\$ 28.2	6%
Funded status	13%	17%	
Combined valuation payroll	\$ 2,376.9	\$ 2,379.7	(0%)
UAL as a percentage of payroll	1%	1%	
Normal cost	\$ 1.1	\$ 1.2	(5%)
Tier 1/Tier 2 valuation payroll	\$ 1,539.5	\$ 1,603.3	(4%)
Normal cost rate	0.07%	0.07%	
<i>Amounts in millions</i>			



## Data Summary

A brief summary of the data underlying the current and prior valuation follows. Additional detail can be found in the data section of this report. State Judiciary is included in the Tier 1 counts.

	2011				2010
	Tier 1	Tier 2	OPSRP	Total	Total
<b>Active Members</b>					
Count	46,882	49,130	74,960	170,972	193,569 <sup>3</sup>
Average age	54.0	47.8	41.3	46.6	46.1
Average total service	21.4	11.2	4.4	11.0	10.1
Average prior year covered salary <sup>1</sup>	\$ 64,398	\$ 54,144	\$ 36,883	\$ 49,388	\$ 45,204
<b>Dormant Members<sup>2</sup></b>					
Count	20,252	16,189	4,066	40,507	39,353
Average age	56.6	50.0	45.8	52.9	52.7
Average monthly deferred benefit	\$ 1,953	\$ 584	\$ 249	\$ 1,235	\$ 1,402
<b>Retired Members and Beneficiaries<sup>2</sup></b>					
Count	112,253	5,852	303	118,408	113,464
Average age	70.9	64.7	\$ 64.7	70.6	70.6
Average monthly benefit	\$ 2,346	\$ 823	\$ 342	\$ 2,265	\$ 2,198
<b>Total members</b>	<b>179,387</b>	<b>71,171</b>	<b>79,329</b>	<b>329,887</b>	<b>346,386</b>

<sup>1</sup> Amounts shown for 12/31/2011 are prior year (i.e. 2011) reported covered salary. Amounts shown for 12/31/2010 are following year (i.e. 2011) projected salary subject to contributions.

<sup>2</sup> Dormant 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.

<sup>3</sup> In the 12/31/2010 valuation only, approximately 16,000 active records with very low annual pay (average <\$5,000) were reported. The inclusion of those records for a single valuation did not significantly affect plan liabilities, but it did affect the per-participant pay averages and the year-to-year changes to those averages for 2010 and 2011.

## Effects of Changes

Effective with the December 31, 2011 actuarial valuation the following changes were made.

### Assumption Changes

There were no changes to assumptions since the December 31, 2010 actuarial valuation.

### Method Changes

There were no changes to actuarial methods since the December 31, 2010 actuarial valuation.

### Plan Changes

House Bill 2456, signed into law in August 2011, removed the HB 3349 "tax remedy" adjustment for members who retire after 2011 and are not residents of Oregon. The effects of this legislation were not reflected in this valuation. In our professional judgment, reflecting the effects of HB 2456 would not have materially affected system funded status as of December 31, 2011 or 2013 – 2015 employer contribution rates.

# 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 Reserve	Rate Guarantee Reserve	RHIA and RHIPA	System Totals
<b>Amount reported by PERS December 31, 2011</b>	\$ 44,889.0	\$ 840.5	\$ 5,225.1	\$ 535.3	\$ (345.3)	\$ 244.1	\$ 51,388.8
Adjustment for Negative Rate Guarantee Reserve	\$ (345.3)	-	\$ -	\$ -	\$ 345.3	\$ -	\$ -
Net Pre-SLGRP Liabilities	\$ (441.2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (441.2)
<b>December 31, 2011 Actuarial Value of Assets</b>	\$ 44,102.6	\$ 840.5	\$ 5,225.1	\$ 535.3	\$ -	\$ 244.1	\$ 50,947.6
<i>Amounts in millions</i>							

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

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

In addition, pension assets are held in the Contingency Reserve, the Capital Preservation Reserve, and the Tier 1 Rate Guarantee Reserve. As shown below, at December 31, 2010 the Tier 1 Rate Guarantee Reserve (RGR) was in deficit status of \$199.2 million. The RGR had been in deficit status since the December 31, 2008, actuarial valuation due to the significant market losses that occurred in 2008. As part of the Board's 2011 earnings crediting decisions adopted May 2012, the Board transferred \$199.2 million from the Contingency Reserve to address the existing RGR deficit. A new RGR deficit of \$345.3 million was then established effective December 31, 2011 to reflect the crediting of Tier 1 member reserves at the assumed rate when actual investment returns were below assumption. The adjustment to Tier 1/Tier 2 valuation assets to account for the deficit status of the Tier 1 Rate Guarantee Reserve is shown in the table above. It is our understanding that if the deficit persists for five years, employers may be required to restore the Tier 1 Rate Guarantee Reserve.

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, 2010 to December 31, 2011. The reconciliation of assets is provided by PERS.

Reconciliation of Pension and Retiree Healthcare Assets	Tier 1/Tier 2	OPSRP	Side Accounts	Contingency Reserve	Capital Preservation Reserve	Rate Guarantee Reserve	RHIA and RHIPA	System Totals
<b>Additions</b>								
1. Contributions								
a. Employer	\$ 415.8	\$ 171.7	\$ 6.0	\$ -	\$ -	\$ -	\$ 35.0	\$ 628.4
b. Transfer from side accounts <sup>1</sup>	\$ 509.7	\$ -	\$ (509.7)	\$ -	\$ -	\$ -	\$ -	\$ -
c. Judge member contributions	\$ 1.5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.5
d. Member service purchases	\$ 14.3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14.3
e. Total	\$ 941.2	\$ 171.7	\$ (503.7)	\$ -	\$ -	\$ -	\$ 35.0	\$ 644.2
2. Net investment income								
a. Transfers	\$ -	\$ -	\$ -	\$ (199.2)	\$ -	\$ 199.2	\$ -	\$ -
b. From investments	\$ 1,362.3	\$ 20.4	\$ 149.8	\$ -	\$ -	\$ (345.3)	\$ 5.6	\$ 1,192.9
c. Total	\$ 1,362.3	\$ 20.4	\$ 149.8	\$ (199.2)	\$ -	\$ (146.1)	\$ 5.6	\$ 1,192.9
3. Other <sup>2</sup>	\$ 1.8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.8
<b>4. Total additions</b>	<b>\$ 2,305.3</b>	<b>\$ 192.1</b>	<b>\$ (353.9)</b>	<b>\$ (199.2)</b>	<b>\$ -</b>	<b>\$ (146.1)</b>	<b>\$ 40.6</b>	<b>\$ 1,838.9</b>
<b>Deductions</b>								
5. Retirement and survivor benefits	\$ (3,341.6)	\$ (3.7)	\$ -	\$ -	\$ -	\$ -	\$ (33.1)	\$ (3,378.4)
6. Death Benefits	\$ (6.2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (6.2)
7. Refund of contributions	\$ (38.4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (38.4)
9. Administrative expenses	\$ (22.2)	\$ (6.9)	\$ (0.2)	\$ -	\$ -	\$ -	\$ (1.4)	\$ (30.7)
<b>10. Total deductions</b>	<b>\$ (3,408.4)</b>	<b>\$ (10.6)</b>	<b>\$ (0.2)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (34.5)</b>	<b>\$ (3,453.6)</b>
<b>11. Net change</b>	<b>\$ (1,103.1)</b>	<b>\$ 181.5</b>	<b>\$ (354.0)</b>	<b>\$ (199.2)</b>	<b>\$ -</b>	<b>\$ (146.1)</b>	<b>\$ 6.1</b>	<b>\$ (1,614.8)</b>
12. Net assets held in trust for pension benefits								
a. Beginning of year	\$ 45,992.1	\$ 659.0	\$ 5,579.2	\$ 734.4	\$ -	\$ (199.2)	\$ 238.0	\$ 53,003.6
b. End of year	<u>\$ 44,889.0</u>	<u>\$ 840.5</u>	<u>\$ 5,225.1</u>	<u>\$ 535.3</u>	<u>\$ -</u>	<u>\$ (345.3)</u>	<u>\$ 244.1</u>	<u>\$ 51,388.8</u>
<i>Amounts in millions</i>								

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

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

## Reconciliation of Side Accounts

Side accounts are established for employers who make supplemental payments (a lump sum payment in excess of the required employer contribution). For SLGRP employers, this supplemental payment is first applied toward the employer's Transition Liability, and any excess is established in a Side Account. A reconciliation of the side accounts from December 31, 2010 to December 31, 2011 is shown below on a rate pool basis. For this exhibit, all independent employers are grouped together.

	SLGRP	School Districts	Independent Employers	System Totals
<b>Side Accounts, December 31, 2010</b>	<b>\$ 2,620.5</b>	<b>\$ 2,870.1</b>	<b>\$ 88.5</b>	<b>\$ 5,579.2</b>
Deposits during 2011	-	6.0	-	6.0
Interest	70.5	77.0	2.4	149.8
Administrative expenses	(0.0)	(0.1)	(0.0)	(0.2)
Transfers to employer reserves	(252.6)	(249.0)	(8.1)	(509.7)
<b>Side Accounts, December 31, 2011</b>	<b>\$ 2,438.3</b>	<b>\$ 2,704.0</b>	<b>\$ 82.8</b>	<b>\$ 5,225.1</b>

*Amounts in millions*

## Development of Side Account Rate Relief

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period and expressing the result as a percentage of combined valuation payroll. For side accounts established on or before December 31, 2009, the fixed period ends December 31, 2027. For side accounts established later, the fixed period ends 18 years after the first rate-setting valuation following its creation. The table below shows the average rate relief attributable to side accounts for each rate pool.

	December 31, 2011			
	SLGRP	School Districts	Independent Employers	System Totals
1. Side Account	\$ 2,438.3	\$ 2,704.0	\$ 82.8	\$ 5,225.1
2. Combined valuation payroll	\$ 4,935.7	\$ 2,786.0	\$ 828.9	\$ 8,550.5
3. Average Amortization Factor <sup>1</sup>	11.626	11.626	11.626	11.626
4. Average Side Account Rate Relief (1. ÷ 2. ÷ 3.)	4.25%	8.35%	0.86%	5.26%

*Amounts in millions*

<sup>1</sup> Weighted average

# Pension Plan Valuation



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

## Tier 1/Tier 2 Pension Assets

### Summary of Actuarial Value of Assets

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

	SLGRP	School Districts	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
<b>December 31, 2011</b>				
Member reserves <sup>2</sup>	\$ 4,288.0	\$ 2,498.5	\$ 647.5	\$ 7,434.4
Employer reserves	9,627.1	5,547.2	1,726.1	16,764.9
Benefit in force reserves	9,767.0	8,918.5	1,626.7	20,344.4
Net outstanding pre-SLGRP liabilities	(441.2)			(441.2)
<b>Total actuarial value of assets</b>	<b>\$ 23,240.9</b>	<b>\$ 16,964.3</b>	<b>\$ 4,000.4</b>	<b>\$ 44,102.6</b>
<b>December 31, 2010</b>				
Member reserves	\$ 4,682.4	\$ 2,806.3	\$ 719.6	\$ 8,208.7
Employer reserves	9,747.9	5,585.9	1,745.6	16,935.0
Benefit in force reserves	9,896.2	9,081.1	1,635.7	20,649.2
Net outstanding pre-SLGRP liabilities	(447.5)			(447.5)
<b>Total actuarial value of assets</b>	<b>\$ 23,879.0</b>	<b>\$ 17,473.3</b>	<b>\$ 4,100.9</b>	<b>\$ 45,345.4</b>
<i>Amounts in millions</i>				

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

<sup>2</sup> For the valuation, reported member reserves were reduced by \$345.3 million to reflect the deficit status of the Tier 1 Rate Guarantee Reserve.

Please note that pre-SLGRP liabilities are treated as loans from the SLGRP to the individual employer and pre-SLGRP surpluses are treated as loans from the individual employer to the SLGRP. The assets of the SLGRP used to calculate the pooled contribution rate reflect the net outstanding balance of these loans.

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 to adjust the pooled contribution rate for individual employers. The net impact of side accounts is shown in a separate section of this report.

**Reconciliation of Actuarial Value of Assets**

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

	SLGRP	School Districts	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
<b>Actuarial value of assets, December 31, 2010</b>	<b>\$ 23,879.0</b>	<b>\$ 17,473.3</b>	<b>\$ 4,100.9</b>	<b>\$ 45,345.4</b>
<b>Contributions</b>				
Employer	\$ 248.5	\$ 126.6	\$ 71.3	\$ 446.4
Side account transfers	252.6	249.0	8.1	509.7
Member	0.0	0.0	1.5	1.5
Total contributions	501.1	375.5	80.9	957.6
Investment income	660.5	483.6	113.7	1,255.0
Benefit payments and expenses	(1,636.2)	(1,494.2)	(272.7)	(3,408.6)
Adjustments <sup>2</sup>	(166.2)	126.0	(19.0)	(46.1)
<b>Actuarial value of assets, December 31, 2011</b>	<b>\$ 23,238.2</b>	<b>\$ 16,964.3</b>	<b>\$ 4,003.7</b>	<b>\$ 44,103.3</b>
Employers joining the SLGRP	2.7		(3.4)	(0.6)
<b>Actuarial value of assets, January 1, 2012</b>	<b>\$ 23,240.9</b>	<b>\$ 16,964.3</b>	<b>\$ 4,000.4</b>	<b>\$ 44,102.6</b>
<i>Amounts in millions</i>				

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

<sup>2</sup> Adjustments include a reallocation of the benefits in force reserve, exclusion of the negative Tier 1 Rate Guarantee Reserve from the member reserve, transfers to Multnomah Fire District #10, member service purchases and other adjustments made by PERS.



## Employers Joining the SLGRP

Effective January 1, 2012, two independent employers joined the State & Local Government Rate Pool (SLGRP). Their experience through December 31, 2011 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, 2013. 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	12/31/2011	Employers Joining Pool	1/1/2012	
<b>Actuarial Accrued Liability</b>				
<b>Active Members</b>				
Tier 1 General Service	\$ 6,949.7	\$ 0.1	\$	6,949.8
Tier 1 P&F	1,226.7	1.1		1,227.8
<b>Tier 1 Total</b>	<b>\$ 8,176.3</b>	<b>\$ 1.2</b>	<b>\$</b>	<b>8,177.6</b>
Tier 2 General Service	1,660.4	0.0		1,660.4
Tier 2 P&F	539.5	0.3		539.9
<b>Tier 2 Total</b>	<b>\$ 2,200.0</b>	<b>\$ 0.3</b>	<b>\$</b>	<b>2,200.3</b>
<b>Total active members</b>	<b>\$ 10,376.3</b>	<b>\$ 1.6</b>	<b>\$</b>	<b>10,377.9</b>
<b>Dormant Members</b>	<b>\$ 2,967.5</b>	<b>\$ 0.1</b>	<b>\$</b>	<b>2,967.6</b>
<b>Retired Members and Beneficiaries</b>	<b>\$ 17,761.5</b>	<b>\$ 2.2</b>	<b>\$</b>	<b>17,763.6</b>
<b>Total Actuarial Accrued Liability</b>	<b>\$ 31,105.3</b>	<b>\$ 3.8</b>	<b>\$</b>	<b>31,109.1</b>
<b>Market Value of Assets</b>				
Member reserves	\$ 4,287.6	\$ 0.3	\$	4,288.0
Employer reserves	9,625.3	1.8		9,627.1
Benefit in force reserves	9,765.8	1.2		9,767.0
Net outstanding pre-SLGRP liabilities	(440.5)	(0.6)		(441.2)
<b>Total market value of assets</b>	<b>\$ 23,238.2</b>	<b>\$ 2.7</b>	<b>\$</b>	<b>23,240.9</b>
<b>Unfunded Accrued Liability</b>	<b>\$ 7,867.1</b>	<b>\$ 1.1</b>	<b>\$</b>	<b>7,868.2</b>
Funded Percentage	74.7%	70.6%		74.7%
Combined Valuation Payroll	\$ 4,935.0	\$ 0.7	\$	4,935.7
<b>Unfunded accrued liability as % of combined valuation payroll</b>	<b>159.4%</b>	<b>159.4%</b>		<b>159.4%</b>
<i>Amounts in millions</i>				

## Outstanding Balance of Pre-SLGRP Liabilities

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

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

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

	State and Community Colleges	Local Government Rate Pool	Transition	Total
<b>1. Pre-SLGRP liability/(surplus), January 1, 2011</b>	\$ 609.1	\$ (253.4)	\$ (803.2)	\$ (447.5)
2. Employer contributions	(54.7)	21.8	72.5	39.6
3. Supplemental payments	0.0	0.0	0.0	0.0
4. Interest	44.4	(18.5)	(58.5)	(32.6)
<b>5. Pre-SLGRP liability/(surplus), December 31, 2011 (1. + 2. + 3. + 4.)</b>	\$ 598.8	\$ (250.1)	\$ (789.2)	\$ (440.5)
6. Employers joining the SLGRP			\$ (0.6)	\$ (0.6)
<b>7. Pre-SLGRP liability/(surplus), January 1, 2012 (5. + 6.)</b>	\$ 598.8	\$ (250.1)	\$ (789.9)	\$ (441.2)
<i>Amounts in millions</i>				

## Tier 1/Tier 2 Pension Liabilities

### Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits.

Because no additional Member contributions are permitted, the Money Match formula is allocated entirely to prior years of service. Consequently, Members who are expected to retire under the Money Match formula have no normal cost.

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, 2011	December 31, 2010	Percent Change
Normal Cost			
Service Retirement	\$ 468.4	\$ 477.2	(1.8%)
Vested Benefits	27.8	27.2	2.2%
Duty Disability	1.2	1.4	(17.6%)
Nonduty Disability	7.6	9.2	(18.0%)
Death	0.0	0.0	(4.0%)
<b>Total Normal Cost</b>	<b>\$ 505.0</b>	<b>\$ 515.1</b>	<b>(2.0%)</b>
<i>Amounts in millions</i>			

The decrease in the normal cost since the prior valuation is attributable to differences in actual plan experience compared to assumed experience, including lower than expected member salary increases. These factors are offset somewhat by the expected increase in pension normal cost. The expected increase for the pension normal cost is due to both the aging of the Tier 1/Tier 2 membership and the expected shift from Money Match to Full Formula benefits. The table below reconciles the normal cost from the prior valuation to the current valuation.

Reconciliation of Change in Normal Cost

Tier 1/Tier 2 Pension	
<b>Normal Cost, December 31, 2010</b>	<b>\$ 515.1</b>
Expected increase	22.7
Assumption changes	-
Plan changes	-
<b>Deviations from expected experience</b>	
Pay increases	(15.5)
Interest Crediting Experience	0.6
All other sources	(18.0)
<b>Total demographic (gains) and losses</b>	<b>(32.8)</b>
<b>Normal Cost, December 31, 2011</b>	<b>\$ 505.0</b>
<i>Amounts in millions</i>	

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

	December 31, 2011				December 31, 2010		Percent Change
	SLGRP	School Districts	Independent Employers	Tier 1/ Tier 2 Totals	Tier 1/ Tier 2 Totals		
<b>Normal Cost</b>							
Tier 1 General Service	\$ 82.0	\$ 60.1	\$ 14.5	\$ 156.6	\$ 163.8		(4.4%)
Tier 2 General Service	126.7	93.1	19.1	239.0	239.0		(0.0%)
Tier 1 Police & Fire	39.2	0.3	14.6	54.0	56.9		(5.1%)
Tier 2 Police & Fire	42.9	0.2	12.2	55.4	55.4		(0.1%)
<b>Total Normal Cost</b>	<b>\$ 290.9</b>	<b>\$ 153.7</b>	<b>\$ 60.5</b>	<b>\$ 505.0</b>	<b>\$ 515.1</b>		<b>(2.0%)</b>
<i>Amounts in millions</i>							

**Actuarial Accrued Liability**

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

	December 31, 2011	December 31, 2010	Percent Change
<b>Active</b>			
Service Retirement	\$ 17,012.7	\$ 17,946.7	(5.2%)
Vested Benefits	883.4	1,013.0	(12.8%)
Duty Disability	47.0	48.3	(2.7%)
Nonduty Disability	315.1	324.8	(3.0%)
Death	214.8	234.4	(8.3%)
<b>Total Actives</b>	<b>\$ 18,473.0</b>	<b>\$ 19,567.2</b>	<b>(5.6%)</b>
<b>Dormant Members</b>	<b>\$ 4,737.9</b>	<b>\$ 4,994.7</b>	<b>(5.1%)</b>
<b>Retired Members and Beneficiaries</b>	<b>\$ 37,001.1</b>	<b>\$ 34,000.0</b>	<b>8.8%</b>
<b>Total Actuarial Accrued Liability</b>	<b>\$ 60,212.0</b>	<b>\$ 58,561.9</b>	<b>2.8%</b>
<i>Amounts in millions</i>			

**Actuarial Accrued Liability**

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

	December 31, 2011			December 31, 2010		Percent Change
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>	Tier 1 / Tier 2 Totals <sup>1</sup>	
<b>Active Members</b>						
Tier 1 General Service	\$ 6,949.7	\$ 5,119.3	\$ 920.8	\$ 12,990.0	\$ 14,219.0	(8.6%)
Tier 1 Police & Fire	1,226.7	5.5	464.4	1,697.0	1,825.6	(7.0%)
<b>Tier 1 Total</b>	<b>\$ 8,176.3</b>	<b>\$ 5,124.8</b>	<b>\$ 1,385.2</b>	<b>\$ 14,686.9</b>	<b>\$ 16,044.6</b>	<b>(8.5%)</b>
Tier 2 General Service	1,660.4	1,183.5	251.6	3,095.6	2,893.8	7.0%
Tier 2 Police & Fire	539.5	2.9	148.1	690.5	628.8	9.8%
<b>Tier 2 Total</b>	<b>\$ 2,200.0</b>	<b>\$ 1,186.4</b>	<b>\$ 399.7</b>	<b>\$ 3,786.1</b>	<b>\$ 3,522.6</b>	<b>7.5%</b>
<b>Total Active Members</b>	<b>\$ 10,376.3</b>	<b>\$ 6,311.2</b>	<b>\$ 1,784.9</b>	<b>\$ 18,473.0</b>	<b>\$ 19,567.2</b>	<b>(5.6%)</b>
<b>Dormant Members</b>	<b>\$ 2,967.5</b>	<b>\$ 1,442.0</b>	<b>\$ 327.9</b>	<b>\$ 4,737.9</b>	<b>\$ 4,994.7</b>	<b>(5.1%)</b>
<b>Retired Members and Beneficiaries</b>	<b>\$ 17,761.5</b>	<b>\$ 16,220.5</b>	<b>\$ 2,960.8</b>	<b>\$ 37,001.1</b>	<b>\$ 34,000.0</b>	<b>8.8%</b>
<b>Total Tier 1/ Tier 2 Pension Liability, December 31,</b>	<b>\$ 31,105.3</b>	<b>\$ 23,973.7</b>	<b>\$ 5,073.6</b>	<b>\$ 60,212.0</b>	<b>\$ 58,561.9</b>	<b>2.8%</b>
Employers joining the SLGRP	3.8	-	(3.8)	-	-	
<b>Total Tier 1/ Tier 2 Pension Liability, January 1,</b>	<b>\$ 31,109.1</b>	<b>\$ 23,973.7</b>	<b>\$ 5,069.8</b>	<b>\$ 60,212.0</b>	<b>\$ 58,561.9</b>	<b>2.8%</b>
<i>Amounts in millions</i>						

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

## Actuarial Accrued Liability

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

Tier 1/Tier 2 Pension	
<b>Actuarial Accrued Liability December 31, 2010</b>	<b>\$ 58,561.9</b>
Expected change	1,719.6
Assumption changes	-
Plan changes	-
<b>Deviations from expected experience</b>	
Retirements from active status	68.9
Disability retirements	(2.7)
Active mortality and withdrawal	19.4
Pay increases	(115.2)
Interest crediting experience	(171.9)
Inactive mortality	73.7
COLA experience	(54.0)
Data corrections	(27.7)
Other	140.1
<b>Total demographic (gains) and losses</b>	<b>(69.4)</b>
<b>Actuarial Accrued Liability December 31, 2011</b>	<b>\$ 60,212.0</b>
<i>Amounts in millions</i>	

### Tier 1/Tier 2 Pension Unfunded Accrued Liability (UAL)

#### Calculation of UAL

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

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>December 31, 2011</b>				
1. Actuarial accrued liability	\$ 31,109.1	\$ 23,973.7	\$ 5,069.8	\$ 60,212.0
2. Actuarial value of assets	\$ 23,240.9	\$ 16,964.3	\$ 4,000.4	\$ 44,102.6
3. Unfunded accrued liability	\$ 7,868.2	\$ 7,009.5	\$ 1,069.4	\$ 16,109.4
4. Funded percentage (2. ÷ 1.)	74.7%	70.8%	78.9%	73.2%
5. Combined Valuation Payroll	\$ 4,935.7	\$ 2,786.0	\$ 828.9	\$ 8,550.5
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	159.4%	251.6%	129.0%	188.4%
<b>December 31, 2010</b>				
1. Actuarial accrued liability	\$ 30,285.0	\$ 23,303.3	\$ 4,913.1	\$ 58,561.9
2. Actuarial value of assets	\$ 23,879.0	\$ 17,473.3	\$ 4,100.9	\$ 45,345.4
3. Unfunded accrued liability	\$ 6,405.9	\$ 5,829.9	\$ 812.2	\$ 13,216.5
4. Funded percentage (2. ÷ 1.)	78.8%	75.0%	83.5%	77.4%
5. Combined Valuation Payroll	\$ 4,973.4	\$ 2,950.7	\$ 826.0	\$ 8,750.1
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	128.8%	197.6%	98.3%	151.0%
<i>Amounts in millions</i>				

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



**Reconciliation of UAL Bases**

Beginning with the December 31, 2007 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization base for outstanding regular Tier 1/Tier 2 UAL amounts. For odd-year valuations subsequent to December 31, 2007, this amortization base is calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of any Tier 1/Tier 2 UAL bases established at previous odd-year valuation dates. In other words, Tier 1/Tier 2 experience from December 31, 2009 to December 31, 2011 is amortized on a 20-year basis beginning December 31, 2011.

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

<b>SLGRP</b>					
Amortization Base	UAL December 31, 2010	Payment	Interest	UAL December 31, 2011	Next Year's Payment
December 31, 2007	\$ (450.7)	\$ (37.1)	\$ (34.5)	\$ (448.1)	\$ (38.5)
December 31, 2009	7,026.1	536.7	539.2	7,028.6	556.8
December 31, 2011	N/A	N/A	N/A	1,287.7	95.1
<b>Total</b>		<b>\$ 499.6</b>	<b>\$ 504.8</b>	<b>\$ 7,868.2</b>	<b>\$ 613.4</b>
<b>School Districts</b>					
Amortization Base	UAL December 31, 2010	Payment	Interest	UAL December 31, 2011	Next Year's Payment
December 31, 2007	\$ 602.0	\$ 49.6	\$ 46.0	\$ 598.4	\$ 51.5
December 31, 2009	5,352.7	408.9	410.8	5,354.6	424.2
December 31, 2011	N/A	N/A	N/A	1,056.4	78.0
<b>Total</b>		<b>\$ 458.5</b>	<b>\$ 456.9</b>	<b>\$ 7,009.5</b>	<b>\$ 553.7</b>
<i>Amounts in millions</i>					

**Actuarial Gain or Loss since Prior Valuation**

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

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, 2011. For this exhibit, all independent employers, including State Judiciary, have been grouped together.

	December 31, 2011			
	SLGRP	School District	Independent Employers	Tier 1/Tier 2 Totals <sup>1</sup>
1. Expected actuarial accrued liability				
a. Actuarial accrued liability at January 1, 2011	\$ 30,285.0	\$ 23,303.3	\$ 4,913.1	\$ 58,561.9
b. Normal cost at January 1, 2011	298.7	156.6	59.8	515.1
c. Benefit payments for fiscal year ending December 31, 2011	(1,625.5)	(1,484.4)	(271.0)	(3,386.2)
d. Interest	2,381.7	1,817.4	387.0	4,590.7
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 31,339.8	\$ 23,792.8	\$ 5,089.0	\$ 60,281.5
f. Change in actuarial accrued liability at December 31, 2011, due to assumption changes	0.0	0.0	0.0	0.0
g. Change in actuarial accrued liability at December 31, 2011, due to plan changes	0.0	0.0	0.0	0.0
h. Expected actuarial accrued liability at December 31, 2011 (e. + f. + g.)	\$ 31,339.8	\$ 23,792.8	\$ 5,089.0	\$ 60,281.5
2. Actuarial accrued liability at December 31, 2011	\$ 31,105.3	\$ 23,973.7	\$ 5,073.6	\$ 60,212.0
3. <b>Liability gain/(loss) (1.h. - 2)</b>	<b>\$ 234.5</b>	<b>\$ (180.9)</b>	<b>\$ 15.4</b>	<b>\$ 69.4</b>
4. Expected actuarial value of assets				
a. Actuarial value of assets at January 1, 2011	\$ 23,879.0	\$ 17,473.3	\$ 4,100.9	\$ 45,345.4
b. Actual contributions for 2011	501.1	375.5	80.9	957.6
c. Benefit payments and expenses for fiscal year ending December 31, 2011	(1,636.2)	(1,494.2)	(272.7)	(3,408.6)
d. Interest	1,864.9	1,353.1	320.4	3,529.6
e. Expected actuarial value of assets before changes (a. + b. + c. + d.)	\$ 24,608.9	\$ 17,707.8	\$ 4,229.4	\$ 46,424.0
f. Change in actuarial value of assets at December 31, 2011, due to assumption changes	0.0	0.0	0.0	0.0
g. Expected actuarial value of assets at December 31, 2011 (e. + f.)	\$ 24,608.9	\$ 17,707.8	\$ 4,229.4	\$ 46,424.0
5. Actuarial value of assets as of December 31, 2011	\$ 23,238.2	\$ 16,964.3	\$ 4,003.7	\$ 44,103.3
6. <b>Asset gain/(loss) (5. - 4.g.)</b>	<b>\$ (1,370.7)</b>	<b>\$ (743.5)</b>	<b>\$ (225.7)</b>	<b>\$ (2,320.7)</b>
7. <b>Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ (1,136.1)</b>	<b>\$ (924.4)</b>	<b>\$ (210.4)</b>	<b>\$ (2,251.3)</b>

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

**Reconciliation of the UAL**

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

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>UAL, December 31, 2010</b>	<b>\$ 6,405.9</b>	<b>\$ 5,829.9</b>	<b>\$ 812.2</b>	<b>\$ 13,216.5</b>
Expected change	826.1	630.7	128.2	1,598.6
Contributions	(501.1)	(375.5)	(80.9)	(957.6)
Liability (gain) or loss	(234.5)	180.9	(15.4)	(69.4)
Asset (gain) or loss	1,370.7	743.5	225.7	2,320.7
Assumption changes	-	-	-	-
Plan changes	-	-	-	-
<b>UAL, December 31, 2011</b>	<b>\$ 7,867.1</b>	<b>\$ 7,009.5</b>	<b>\$ 1,069.9</b>	<b>\$ 16,108.7</b>
Employers joining SLGRP	1.1	-	(0.5)	0.6
<b>UAL, January 1, 2012</b>	<b>\$ 7,868.2</b>	<b>\$ 7,009.5</b>	<b>\$ 1,069.4</b>	<b>\$ 16,109.4</b>

*Amounts in millions*

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

### Tier 1/Tier 2 Pension Contribution Rate Development

#### Normal Cost Rates

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

	December 31, 2011	December 31, 2010	Percent Change
<b>Normal Cost</b>			
a. Service Retirement	\$ 468.4	\$ 477.2	(1.8%)
b. Vested Benefits	27.8	27.2	2.2%
c. Duty Disability	1.2	1.4	(17.6%)
d. Nonduty Disability	7.6	9.2	(18.0%)
e. Death	0.0	0.0	(4.0%)
<b>f. Total Normal Cost</b>	<b>\$ 505.0</b>	<b>\$ 515.1</b>	<b>(2.0%)</b>
<b>Tier 1/ Tier 2 Valuation Payroll</b>	<b>\$ 5,607.9</b>	<b>\$ 5,930.3</b>	<b>(5.4%)</b>
<b>Average Normal Cost Rate</b>			
a. Service Retirement	8.35%	8.05%	
b. Vested Benefits	0.50%	0.46%	
c. Duty Disability	0.02%	0.02%	
d. Nonduty Disability	0.13%	0.16%	
e. Death	0.00%	0.00%	
<b>f. Average Normal Cost Rate</b>	<b>9.00%</b>	<b>8.69%</b>	
<i>Amounts in millions</i>			

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

	December 31, 2011			
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals
<b>Normal Cost</b>				
Tier 1 General Service	\$ 82.0	\$ 60.1	\$ 14.5	\$ 156.6
Tier 2 General Service	126.7	93.1	19.1	239.0
Tier 1 Police & Fire	39.2	0.3	14.6	54.0
Tier 2 Police & Fire	42.9	0.2	12.2	55.4
<b>Total Normal Cost</b>	<b>\$ 290.9</b>	<b>\$ 153.7</b>	<b>\$ 60.5</b>	<b>\$ 505.0</b>
<b>Tier 1/ Tier 2 Valuation Payroll</b>				
Tier 1 General Service	\$ 1,418.8	\$ 1,004.5	\$ 191.1	\$ 2,614.5
Tier 2 General Service	1,216.6	873.2	181.6	2,271.3
Tier 1 Police & Fire	260.0	1.9	90.8	352.7
Tier 2 Police & Fire	283.9	1.1	84.4	369.4
<b>Total Valuation Payroll</b>	<b>\$ 3,179.3</b>	<b>\$ 1,880.7</b>	<b>\$ 547.9</b>	<b>\$ 5,607.9</b>
<b>Average Normal Cost Rates</b>				
Tier 1 General Service	5.78%	5.98%	7.60%	5.99%
Tier 2 General Service	10.42%	10.66%	10.53%	10.52%
Tier 1 Police & Fire	15.06%	15.49%	16.04%	15.32%
Tier 2 Police & Fire	15.12%	17.30%	14.50%	14.99%
<b>Average Rates</b>				
Tier 1 Average	7.22%	6.00%	10.32%	7.10%
Tier 2 Average	11.31%	10.67%	11.79%	11.15%
General Service Average	7.92%	8.16%	9.03%	8.10%
Police & Fire Average	15.09%	16.14%	15.30%	15.15%
<b>System Average</b>	<b>9.15%</b>	<b>8.17%</b>	<b>11.03%</b>	<b>9.00%</b>
Member Contributions			0.21%	0.02%
<b>Employer System Average</b>	<b>9.15%</b>	<b>8.17%</b>	<b>10.82%</b>	<b>8.98%</b>

Amounts in millions

**UAL Rates**

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

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

	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
<b>December 31, 2011</b>				
1. Total UAL	\$ 7,868.2	\$ 7,009.5	\$ 1,069.4	\$ 16,109.4
2. Next year's UAL payment	\$ 613.4	\$ 553.7	\$ 81.3	\$ 1,248.4
3. Combined valuation payroll	\$ 4,935.7	\$ 2,786.0	\$ 828.9	\$ 8,550.5
<b>4. UAL rate (2 ÷ 3)</b>	<b>12.43%</b>	<b>19.88%</b>	<b>9.81%</b>	<b>14.60%</b>
<b>December 31, 2010</b>				
1. Total UAL	\$ 6,405.9	\$ 5,829.9	\$ 812.2	\$ 13,216.5
2. Next year's UAL payment	\$ 487.1	\$ 449.3	\$ 60.2	\$ 996.5
3. Combined valuation payroll	\$ 4,973.4	\$ 2,950.7	\$ 826.0	\$ 8,750.1
<b>4. UAL rate (2 ÷ 3)</b>	<b>9.79%</b>	<b>15.23%</b>	<b>7.29%</b>	<b>11.39%</b>
<i>Amounts in millions</i>				

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

**Pre-SLGRP Pooled Rate**

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

	December 31, 2011		December 31, 2010	
<b>State and Community College Pool</b>				
1. Total pre-SLGRP pooled liability	\$	598.8	\$	609.1
2. Combined valuation payroll	\$	2,763.7	\$	2,777.2
3. Amortization factor		11.626		12.134
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷ 3.)		1.86%		1.81%
<b>Local Government Rate Pool</b>				
1. Total pre-SLGRP pooled liability	\$	(250.1)	\$	(253.4)
2. Combined valuation payroll	\$	1,225.6	\$	1,232.6
3. Amortization factor		11.626		12.134
4. Pre-SLGRP pooled rate (1. ÷ 2. ÷ 3.)		(1.76%)		(1.69%)
<i>Amounts in millions</i>				

**Transition Liability or Surplus Rate**

When an employer joins the SLGRP, a transition liability or surplus is calculated to ensure that each employer enters the pool on a comparable basis. The transition liability is maintained separately from the UAL for the SLGRP. The transition liability is amortized over a fixed period, and is expressed as a percentage of combined valuation payroll. For employers joining the SLGRP prior to December 31, 2009, the fixed period ends December 31, 2007. For all others, the fixed period ends 18 years after the date the employer joined the pool. The amortization factor below reflects the weighted average of the amortization periods for all employers.

	December 31, 2011		December 31, 2010	
1. Total transition liability / (surplus)	\$	(789.9)	\$	(803.2)
2. Combined valuation payroll	\$	2,009.9	\$	2,033.1
3. Average amortization factor <sup>1</sup>		11.626		12.134
4. <b>Average transition liability/(surplus) rate (1. ÷ 2. ÷ 3.)</b>		<b>(3.38%)</b>		<b>(3.26%)</b>
<i>Amounts in millions</i>				

<sup>1</sup> Weighted average



**Multnomah FD #10 UAL Rate**

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

As part of the 2003 Legislation, the Multnomah FD#10 UAL was allocated to Tier 1/Tier 2 employers. Multnomah FD#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, 2011	December 31, 2010
1. Actuarial accrued liability		
a. Active members	\$ 0.5	\$ 0.6
b. Dormant members	0.4	0.5
c. Retired members and beneficiaries	58.4	59.4
d. Total actuarial accrued liability	\$ 59.4	\$ 60.5
2. Actuarial value of assets		
a. Employer reserve	\$ (135.5)	\$ (144.4)
b. Members reserve	0.4	0.5
c. Benefits in force reserve	32.1	36.1
d. Total actuarial value of asects	\$ (102.9)	\$ (107.9)
3. Multnomah FD #10 UAL	\$ 162.3	\$ 168.4
a. Portion allocated to City of Portland (21.8743% x 3.)	\$ 35.5	\$ 36.8
b. Portion allocated to all T1/T2 employers (78.1257% x 3.)	\$ 126.8	\$ 131.6
4. Combined valuation payroll		
a. City of Portland	\$ 303.5	\$ 307.5
b. All Tier 1 / Tier 2 employers	\$ 8,596.9	\$ 8,797.6
5. Amortization factor	11.626	12.134
6. Multnomah FD #10 UAL Rate		
a. City of Portland (3.a. ÷ 4.a. ÷ 5.)	1.00%	0.99%
b. All Tier 1 / Tier 2 employers (3.b. ÷ 4.b. ÷ 5.)	0.13%	0.12%
7. Total Multnomah FD #10 UAL Rate		
a. City of Portland (6.a. + 6.b.)	1.13%	1.11%
b. City of Gresham, City of Fairview, City of Wood Village, City of Troutdale (2 x 6.b.)	0.26%	0.24%
c. All other Tier 1 / Tier 2 employers (6.b.)	0.13%	0.12%
<i>Amounts in millions</i>		

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

The following table summarizes the development of the total Tier 1/Tier 2 contribution rate for each rate pool as of the valuation date. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates are applied to combined valuation payroll. These rates are adjusted on an individual employer basis for side accounts and pre-SLGRP liabilities, if applicable. Weighted average adjustments for side accounts and pre-SLGRP liabilities are shown in the table. For individual employers, these adjustments cannot reduce the pension contribution rate below 0.0%. For purposes of this exhibit, independent employers, including State Judiciary, have been treated as a single rate pool.

July 1, 2013 Rates Calculated as of December 31, 2011				
	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals
<b>Tier 1/Tier 2 pension contribution rates</b>				
Employer normal cost rate	9.15%	8.17%	10.82%	8.98%
Member normal cost rate			0.21%	0.02%
UAL rate	12.43%	19.88%	9.81%	14.60%
Multnomah FD #10 rate	0.19%	0.13%	0.14%	0.17%
<b>Total Tier 1/Tier 2 pension rate</b>	<b>21.77%</b>	<b>28.18%</b>	<b>20.98%</b>	<b>23.77%</b>
<b>Average adjustments</b>				
Pre-SLGRP liability/(surplus) rate	(0.77%)	N/A	N/A	(0.44%)
Side account rate	(4.25%)	(8.35%)	(0.86%)	(5.26%)
<b>Total average adjustment</b>	<b>(5.02%)</b>	<b>(8.35%)</b>	<b>(0.86%)</b>	<b>(5.70%)</b>
<b>Net pension contribution rate</b>	<b>16.75%</b>	<b>19.83%</b>	<b>20.12%</b>	<b>18.07%</b>

**Calculation of Rate Collar**

Employer contribution rates cannot change by more than the greater of 3 percentage points or 20% of the current contribution rate. However, if the funded percentage is below 70% or above 130%, the size of the collar is doubled. If the funded percentage is between 70% and 80% or between 120% and 130%, the size of the rate collar is increased on a graded scale. All collar calculations are performed excluding amounts and contribution rates attributable to pre-SLGRP liabilities, side accounts and member contributions. Retiree medical rates are also excluded from the rate collar calculation.

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

July 1, 2013 Rates Calculated as of December 31, 2011				
Calculation of Collar Adjustments	SLGRP	School Districts	Independent Employers	Tier 1 / Tier 2 Totals <sup>1</sup>
1. Current employer contribution rate	15.05%	18.81%	14.32%	16.20%
2. Size of rate collar				
a. Preliminary size of rate collar (maximum of 3% or 20% x 1.)	3.01%	3.76%	3.00%	3.24%
b. Funded percentage	75%	71%	79%	73%
c. Size of rate collar (If b. < 70% or b. > 130%, 2 x a. If b. is 80%-120%, a. Otherwise, a graded rate between a. and 2 x a.)	<b>4.52%</b>	<b>7.14%</b>	<b>3.30%</b>	
3. July 1, 2013 Minimum employer contribution rate (1. - 2.c.)	10.53%	11.67%	11.02%	
4. July 1, 2013 Maximum employer contribution rate (1. + 2.c.)	19.57%	25.95%	17.62%	
5. July 1, 2013 employer contribution rate before collar	21.77%	28.18%	20.77%	
6. July 1, 2013 employer contribution rate after collar (5., but not less than 3. or more than 4.)	19.57%	25.95%	17.62%	
<b>7. Impact of collar (6. - 5.)<sup>2</sup></b>	<b>(2.20%)</b>	<b>(2.23%)</b>	<b>(3.15%)</b>	<b>(2.30%)</b>

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

<sup>2</sup> The impact of collar shown for the system-wide column is the weighted average of the impact shown for each rate pool.

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

Any adjustment for the collar is made to the UAL rate. The table below summarizes the average rates effective July 1, 2013, by pool and component. Although the rate collar is applied individually for independent employers, the table shows the average rates as if independent employers were a pool. Note that independent employers, other than the State Judiciary, are subject to a minimum employer contribution rate of 6.0% that is not taken into account in the average rates below.

<b>July 1, 2013 Rates</b> Calculated as of December 31, 2011				
	<b>SLGRP</b>	<b>School Districts</b>	<b>Independent Employers</b>	<b>Tier 1 / Tier 2 Totals</b>
<b>Tier 1/Tier 2 pension contribution rates</b>				
Employer normal cost rate	9.15%	8.17%	10.82%	8.98%
Member normal cost rate			0.21%	0.02%
UAL rate	10.23%	17.65%	6.66%	12.30%
Multnomah FD #10 rate	0.19%	0.13%	0.14%	0.17%
<b>Total Tier 1/Tier 2 pension rate</b>	<b>19.57%</b>	<b>25.95%</b>	<b>17.83%</b>	<b>21.47%</b>
<b>Average adjustments</b>				
Pre-SLGRP liability/(surplus) rate	(0.77%)	N/A	N/A	(0.44%)
Side account rate	(4.25%)	(8.35%)	(0.86%)	(5.26%)
<b>Total average adjustment</b>	<b>(5.02%)</b>	<b>(8.35%)</b>	<b>(0.86%)</b>	<b>(5.70%)</b>
<b>Net pension contribution rate</b>	<b>14.55%</b>	<b>17.60%</b>	<b>16.97%</b>	<b>15.77%</b>

## OPSRP Assets

Information on OPSRP assets is shown in the section of this report covering the system-wide assets. As of December 31, 2011, the actuarial value of assets for OPSRP is \$840.5 million.

## OPSRP Liabilities

### Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits.

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

	December 31, 2011			December 31, 2010		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
<b>Pre-Retirement Disability</b>						
Duty	\$ 0.5	\$ 0.4	\$ 0.8	\$ 0.5	\$ 0.4	\$ 0.9
Non-Duty	4.9	0.6	5.5	4.4	0.5	4.9
<b>Total Pre-Retirement Disability</b>	<b>\$ 5.4</b>	<b>\$ 1.0</b>	<b>\$ 6.3</b>	<b>\$ 4.9</b>	<b>\$ 0.9</b>	<b>\$ 5.8</b>
<b>Other Benefits</b>						
Service Retirement	\$ 130.4	\$ 22.9	\$ 153.4	\$ 121.4	\$ 20.2	\$ 141.6
Vested Benefits	19.2	2.3	21.6	18.2	2.1	20.3
Death	1.9	0.2	2.1	1.8	0.2	2.0
Duty Disability Retirement	0.2	0.2	0.4	0.2	0.2	0.4
Non-Duty Disability Retirement	2.3	0.4	2.6	2.2	0.3	2.5
<b>Total Other Benefits</b>	<b>\$ 154.0</b>	<b>\$ 26.1</b>	<b>\$ 180.1</b>	<b>\$ 143.8</b>	<b>\$ 23.0</b>	<b>\$ 166.8</b>
Assumed Administrative Expenses	\$ 5.9	\$ 0.7	\$ 6.6	\$ 5.9	\$ 0.7	\$ 6.6
<b>Total Normal Cost</b>	<b>\$ 165.3</b>	<b>\$ 27.7</b>	<b>\$ 193.0</b>	<b>\$ 154.7</b>	<b>\$ 24.5</b>	<b>\$ 179.2</b>

*Amounts in millions*

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

OPSRP	
<b>Normal Cost, December 31, 2010</b>	<b>\$ 179.2</b>
Expected increase	10.0
Assumption changes	-
Plan changes	-
New entrants	15.2
Deviations from expected experience	(11.4)
<b>Normal Cost, December 31, 2011</b>	<b>\$ 193.0</b>

*Amounts in millions*

**Actuarial Accrued Liability**

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

	December 31, 2011			December 31, 2010		
	General Service	Police & Fire	Total	General Service	Police & Fire	Total
Active Members						
Pre-retirement Duty Disability	\$ 2.4	\$ 1.8	\$ 4.1	\$ 2.2	\$ 1.5	\$ 3.7
Pre-retirement Non-Duty Disability	24.6	2.9	27.5	18.9	2.2	21.1
Service Retirement	652.8	112.0	764.8	522.1	84.2	606.3
Vested Benefits	98.1	11.6	109.7	79.8	9.0	88.7
Death	9.3	1.0	10.4	7.9	0.8	8.7
Duty Disability Retirement	1.1	1.0	2.1	0.9	0.7	1.6
Non-Duty Disability Retirement	11.4	1.7	13.1	9.6	1.2	10.7
<b>Total Active Members</b>	<b>\$ 799.7</b>	<b>\$ 132.0</b>	<b>\$ 931.7</b>	<b>\$ 641.4</b>	<b>\$ 99.5</b>	<b>\$ 740.9</b>
Dormant Members			\$ 39.5			\$ 21.1
Retired Members and Beneficiaries			\$ 15.2			\$ 5.7
<b>Total Actuarial Accrued Liability</b>			<b>\$ 986.4</b>			<b>\$ 767.6</b>

Amounts in millions

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

OPSRP	
<b>Actuarial Accrued Liability December 31, 2010</b>	<b>\$ 767.6</b>
Expected change	244.0
Assumption changes	-
Plan changes	-
New entrants	21.8
<b>Deviations from expected experience</b>	
Retirements from active status	2.5
Active mortality and withdrawal	(38.5)
Pay increases	(15.5)
Other	4.6
<b>Total demographic (gains) and losses</b>	<b>(47.0)</b>
<b>Actuarial Accrued Liability December 31, 2011</b>	<b>\$ 986.4</b>

Amounts in millions

## OPSRP Unfunded Accrued Liability (UAL)

### Calculation of UAL

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

	December 31, 2011		December 31, 2010	
1. Actuarial accrued liability	\$	986.4	\$	767.6
2. Actuarial value of assets	\$	840.5	\$	659.0
3. Unfunded accrued liability	\$	145.9	\$	108.6
4. Funded percentage (2. ÷ 1.)		85%		86%
5. Combined valuation payroll	\$	8,550.5	\$	8,750.1
6. Unfunded accrued liability as % of combined valuation payroll		2%		1%

*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, 2009 to December 31, 2011 is amortized on a 16-year basis beginning December 31, 2011.

Amortization Base	UAL, December 31, 2010		Payment		Interest		UAL, December 31, 2011		Next Year's Payment	
December 31, 2007	\$	(69.0)	\$	(6.9)	\$	(5.2)	\$	(67.3)	\$	(7.2)
December 31, 2009		158.9		14.3		12.1		156.7		14.9
December 31, 2011		N/A		N/A		N/A		56.5		4.9
<b>Total</b>			<b>\$</b>	<b>7.4</b>	<b>\$</b>	<b>6.9</b>	<b>\$</b>	<b>145.9</b>	<b>\$</b>	<b>12.5</b>

*Amounts in millions*

**Actuarial Gain or Loss since Prior Valuation**

In every actuarial valuation, assumptions are made as to the future experience of the plan and covered group of participants. Whenever there is a difference between the actual experience and that anticipated by the actuarial assumptions, there is a gain or loss to the plan. Gains are the result of experience that is more favorable than anticipated (i.e., serves to reduce the unfunded actuarial liability or increase the surplus), while losses are the result of experience that is less favorable than anticipated. The 2011 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, 2011.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2010	\$ 767.6
b. Normal cost at December 31, 2010 (excluding administrative expenses)	\$ 172.6
c. Benefit payments (excluding administrative expenses) for year ending December 31, 2011	\$ (3.7)
d. Interest	\$ 75.1
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 1,011.6
f. Change in actuarial accrued liability at December 31, 2011, due to assumption changes	\$ 0.0
g. Change in actuarial accrued liability at December 31, 2011, due to plan changes	\$ 0.0
h. Expected actuarial accrued liability at December 31, 2011 (e. + f. + g.)	\$ 1,011.6
2. Actuarial accrued liability at December 31, 2011	\$ 986.4
<b>3. Liability gain/(loss) (1.h. - 2)</b>	<b>\$ 25.2</b>
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2010	\$ 659.0
b. Actual contributions for 2011	\$ 171.7
c. Benefit payments and administrative expenses for fiscal year ending December 31, 2011	\$ (10.6)
d. Interest	\$ 59.2
e. Expected actuarial value of assets at December 31, 2011 (a. + b. + c. + d.)	\$ 879.3
5. Actuarial value of assets as of December 31, 2011	\$ 840.5
<b>6. Asset gain/(loss) (5. - 4.e.)</b>	<b>\$ (38.8)</b>
<b>7. Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ (13.6)</b>

*Amounts in millions*



**Reconciliation of the UAL**

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

	<b>OPSRP</b>
<b>UAL, December 31, 2010</b>	<b>\$ 108.6</b>
Normal Cost (including actual administrative expenses)	179.5
Contributions	(171.7)
Liability (gain) or loss	(25.2)
Asset (gain) or loss	38.5
Assumption changes	0.0
Plan changes	0.0
Interest at 8.0%	16.2
<b>UAL, December 31, 2011</b>	<b>\$ 145.9</b>
<i>Amounts in millions</i>	

## OPSRP Contribution Rate Development

### Normal Cost Rates

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

Development of Normal Cost Rate	December 31, 2011			December 31, 2010		
	General Service	Police & Fire	Average Rate	General Service	Police & Fire	Average Rate
<b>Normal Cost</b>						
Pre-retirement Disability Benefits	\$ 5.4	\$ 1.0	\$ 6.3	\$ 4.9	\$ 0.9	\$ 5.8
All Other Benefits	154.0	26.1	180.1	143.8	23.0	166.8
Assumed Administrative Expenses	5.9	0.7	6.6	5.9	0.7	6.6
<b>Total Normal Cost</b>	<b>\$ 165.3</b>	<b>\$ 27.7</b>	<b>\$ 193.0</b>	<b>\$ 154.7</b>	<b>\$ 24.5</b>	<b>\$ 179.2</b>
OPSRP Valuation Payroll	\$ 2,634.7	\$ 307.9	\$ 2,942.6	\$ 2,541.9	\$ 277.8	\$ 2,819.8
<b>Normal Cost Rate</b>						
Pre-retirement Disability Benefits	0.20%	0.31%	0.21%	0.19%	0.32%	0.20%
All Other Benefits	5.84%	8.47%	6.12%	5.66%	8.26%	5.91%
Assumed Administrative Expenses	0.22%	0.22%	0.22%	0.23%	0.23%	0.23%
<b>Total Normal Cost</b>	<b>6.27%</b>	<b>9.00%</b>	<b>6.56%</b>	<b>6.08%</b>	<b>8.82%</b>	<b>6.35%</b>

*Amounts in millions*

### UAL Rates

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

	December 31, 2011	December 31, 2010
1. Total UAL	\$ 145.9	\$ 108.6
2. Next year's UAL payment	\$ 12.5	\$ 9.0
3. Combined valuation payroll	\$ 8,550.5	\$ 8,750.1
4. UAL rate (2 ÷ 3)	0.15%	0.10%

*Amounts in millions*

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

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

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

<b>July 1, 2013 Rates Calculated as of December 31, 2011</b>			
	<b>General Service</b>	<b>Police &amp; Fire</b>	<b>Average Rate</b>
<b>OPSRP pension contribution rates</b>			
Employer normal cost rate	6.27%	9.00%	6.56%
Employer UAL rate	0.15%	0.15%	0.15%
<b>Total OPSRP pension rate</b>	<b>6.42%</b>	<b>9.15%</b>	<b>6.71%</b>

**Calculation of Rate Collar**

The rate collar restricts the average OPSRP contribution rate so it generally cannot change by more than the greater of 3 percentage points or 20 percent of the current average OPSRP contribution rate. However, if the funded percentage is below 70 percent or above 130 percent, the size of the collar is doubled. If the funded percentage is between 70% and 80% or between 120% and 130%, 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, 2013 Rates Calculated as of December 31, 2011			
	General Service	Police & Fire	Average Rate
1. Current employer contribution rate	6.21%	8.92%	6.48%
2. Size of rate collar			
a. Preliminary size of rate collar (Maximum of 3% or 20% of 1.)			3.00%
b. Funded percentage			85%
c. <b>Size of rate collar (If b. &lt; 70% or b. &gt; 130%, 2 x a.. If b. is 80%-120%, a., otherwise a graded rate between a. and b.)</b>			<b>3.00%</b>
3. July 1, 2013 Minimum contribution rate (1. - 2.c.)			3.48%
4. July 1, 2013 Maximum contribution rate (1. + 2.c.)			9.48%
5. July 1, 2013 employer contribution rate before collar	6.42%	9.15%	6.71%
6. July 1, 2013 employer contribution rate after collar	6.42%	9.15%	6.71%
<b>7. Impact of collar (6. - 5.)</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

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

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

July 1, 2013 Rates Calculated as of December 31, 2011			
	General Service	Police & Fire	Average Rate
<b>OPSRP pension contribution rates</b>			
Employer normal cost rate	6.27%	9.00%	6.56%
Employer UAL rate	0.15%	0.15%	0.15%
<b>Total OPSRP pension rate</b>	<b>6.42%</b>	<b>9.15%</b>	<b>6.71%</b>

# Retiree Healthcare Valuation



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

## Retiree Healthcare Assets

### Assets

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

	RHIA	RHIPA	Retiree Healthcare Totals
<b>Additions</b>			
1. Employer contributions	\$ 32.6	\$ 2.3	\$ 35.0
2. Net investment income	\$ 5.5	\$ 0.2	\$ 5.6
3. Other	\$ 0.0	\$ -	\$ 0.0
<b>4. Total additions</b>	<b>\$ 38.1</b>	<b>\$ 2.5</b>	<b>\$ 40.6</b>
<b>Deductions</b>			
4. Healthcare Premium Subsidies	\$ (29.5)	\$ (3.5)	\$ (33.1)
5. Administrative expenses	\$ (1.3)	\$ (0.1)	\$ (1.4)
<b>6. Total deductions</b>	<b>\$ (30.8)</b>	<b>\$ (3.7)</b>	<b>\$ (34.5)</b>
<b>7. Net change</b>	<b>\$ 7.3</b>	<b>\$ (1.2)</b>	<b>\$ 6.1</b>
8. Net assets held in trust for benefits			
a. Beginning of year	\$ 232.3	\$ 5.7	\$ 238.0
<b>b. End of year</b>	<b><u>\$ 239.6</u></b>	<b><u>\$ 4.5</u></b>	<b><u>\$ 244.1</u></b>
<i>Amounts in millions.</i>			

### Retiree Healthcare Liabilities

#### Normal Cost

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

	RHIA			RHIPA		
	12/31/2011	12/31/2010	Percent Change	12/31/2011	12/31/2010	Percent Change
<b>Normal Cost</b>						
Service Retirement	\$ 5.2	\$ 5.4	(3.3%)	\$ 1.0	\$ 1.1	(5.0%)
Vested Benefits	0.4	0.4	(4.8%)	0.0	0.0	0.0%
Duty Disability	0.0	0.0	(37.5%)	0.0	0.0	(15.7%)
Nonduty Disability	0.0	0.0	(10.1%)	0.1	0.1	(7.6%)
Death	0.1	0.1	(7.9%)	0.0	0.0	7.0%
<b>Total Normal Cost</b>	<b>\$ 5.8</b>	<b>\$ 6.0</b>	<b>(3.6%)</b>	<b>\$ 1.1</b>	<b>\$ 1.2</b>	<b>(5.0%)</b>
<i>Amounts in millions</i>						

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

	RHIA	RHIPA
<b>Normal Cost December 31, 2010</b>	<b>\$ 6.0</b>	<b>\$ 1.2</b>
Expected increase	-	-
Assumption changes	-	-
Plan changes	-	-
<b>Deviations from expected experience</b>		
Demographic (gains) or losses	(0.2)	(0.1)
<b>Normal Cost December 31, 2011</b>	<b>\$ 5.8</b>	<b>\$ 1.1</b>
<i>Amounts in millions</i>		

**Actuarial Accrued Liability**

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

	RHIA			RHIPA		
	12/31/2011	12/31/2010	Percent Change	12/31/2011	12/31/2010	Percent Change
<b>Active</b>						
Service Retirement	\$ 92.9	\$ 95.6	(2.8%)	\$ 19.5	\$ 20.7	(6.2%)
Vested Benefits	5.9	6.5	(9.1%)	0.0	0.0	0.0%
Duty Disability	0.1	0.1	(7.7%)	0.1	0.1	(7.0%)
Nonduty Disability	0.6	0.6	(5.1%)	0.8	0.9	(8.6%)
Death	1.6	1.8	(8.6%)	0.4	0.4	7.1%
<b>Total Actives</b>	<b>\$ 101.1</b>	<b>\$ 104.5</b>	<b>(3.3%)</b>	<b>\$ 20.8</b>	<b>\$ 22.2</b>	<b>(6.1%)</b>
<b>Dormant Members</b>	<b>27.5</b>	<b>27.6</b>	<b>(0.2%)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0%</b>
<b>Retired Members and Beneficiaries</b>	<b>332.5</b>	<b>415.0</b>	<b>(19.9%)</b>	<b>13.6</b>	<b>11.8</b>	<b>15.8%</b>
<b>Total Actuarial Accrued Liability</b>	<b>\$ 461.1</b>	<b>\$ 547.1</b>	<b>(15.7%)</b>	<b>\$ 34.4</b>	<b>\$ 33.9</b>	<b>1.5%</b>
<i>Amounts in millions</i>						

The change in actuarial accrued liability since the last valuation reflects the experience of the system. The table below reconciles the actuarial accrued liability from the last valuation to this valuation. The actuarial accrued liability is expected to increase due to benefits earned during the year and interest, and to decrease due to benefits paid during the year. The significant decrease in RHIA actuarial accrued liability between the December 31, 2010 valuation and the December 31, 2011 valuation is due to an alternative interpretation of the participation assumption for retired members.

	RHIA	RHIPA	Total
<b>Actuarial Accrued Liability December 31, 2010</b>	<b>\$ 547.1</b>	<b>\$ 33.9</b>	<b>\$ 581.1</b>
Expected change	19.5	0.3	19.8
Assumption changes	-	-	-
Plan changes	-	-	-
<b>Deviations from expected experience</b>			
Demographic (gains) or losses	(105.6)	0.2	(105.3)
<b>Actuarial Accrued Liability December 31, 2011</b>	<b>\$ 461.1</b>	<b>\$ 34.4</b>	<b>\$ 495.5</b>
<i>Amounts in millions</i>			



## Retiree Healthcare Unfunded Accrued Liability (UAL)

### Calculation of UAL

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

	RHIA			RHIPA		
	12/31/2011	12/31/2010	Percent Change	12/31/2011	12/31/2010	Percent Change
1. Actuarial accrued liability	\$ 461.1	\$ 547.1	(15.7%)	\$ 34.4	\$ 33.9	1.5%
2. Actuarial value of assets	\$ 239.6	\$ 232.3	3.1%	\$ 4.5	\$ 5.7	(20.4%)
3. Unfunded accrued liability	\$ 221.5	\$ 314.8	(29.6%)	\$ 29.9	\$ 28.2	5.9%
4. Funded percentage (2. ÷ 1.)	52.0%	42.5%	22.4%	13.2%	16.8%	(21.6%)
5. Combined valuation payroll	\$ 8,550.5	\$ 8,750.1	(2.3%)	\$ 2,376.9	\$ 2,379.7	(0.1%)
6. Unfunded accrued liability as % of combined valuation payroll (3. ÷ 5.)	2.6%	3.6%	(28.0%)	1.3%	1.2%	6.1%
<i>Amounts in millions</i>						

### Reconciliation of UAL Bases

Beginning with the December 31, 2007 actuarial valuation, each rate-setting valuation establishes an 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, 2009 to December 31, 2011 is amortized on a 10-year basis beginning December 31, 2011.

<i>RHIA</i>						
Amortization Base	UAL, December 31, 2010	Payment	Interest	UAL, December 31, 2011	Next Year's Payment	
December 31, 2007	\$ 217.0	\$ 36.1	\$ 15.8	\$ 196.7	\$ 37.5	
December 31, 2009	59.5	8.0	4.4	55.9	8.3	
December 31, 2011	N/A	N/A	N/A	(31.1)	(3.8)	
<b>Total</b>		<b>\$ 44.1</b>	<b>\$ 20.2</b>	<b>\$ 221.5</b>	<b>\$ 41.9</b>	
<i>RHIPA</i>						
Amortization Base	UAL, December 31, 2010	Payment	Interest	UAL, December 31, 2011	Next Year's Payment	
December 31, 2007	\$ 14.9	\$ 2.5	\$ 1.1	\$ 13.5	\$ 2.6	
December 31, 2009	2.0	0.3	0.2	1.9	0.3	
December 31, 2011	N/A	N/A	N/A	14.5	1.8	
<b>Total</b>		<b>\$ 2.7</b>	<b>\$ 1.2</b>	<b>\$ 29.9</b>	<b>\$ 4.6</b>	
<i>Amounts in millions</i>						

### Actuarial Gain or Loss since Prior Valuation

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

The table below shows the development of the actuarial gain (or loss) for RHIA and RHIPA for the plan year ending December 31, 2011.

	RHIA	RHIPA	Retiree Healthcare Totals
<b>Retiree Healthcare</b>			
1. Expected actuarial accrued liability			
a. Actuarial accrued liability at December 31, 2010	\$ 547.1	\$ 33.9	\$ 581.1
b. Normal cost at December 31, 2010	\$ 6.0	\$ 1.2	\$ 7.2
c. Benefit payments for fiscal year ending December 31, 2011	\$ (29.5)	\$ (3.5)	\$ (33.1)
d. Interest	\$ 43.1	\$ 2.7	\$ 45.7
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$ 566.7	\$ 34.2	\$ 600.9
f. Change in actuarial accrued liability at December 31, 2011, due to assumption changes	\$ -	\$ -	\$ -
g. Change in actuarial accrued liability at December 31, 2011, due to plan changes	\$ -	\$ -	\$ -
h. Expected actuarial accrued liability at December 31, 2011 (e. + f. + g.)	\$ 566.7	\$ 34.2	\$ 600.9
2. Actuarial accrued liability at December 31, 2011	\$ 461.1	\$ 34.4	\$ 495.5
<b>3. Liability gain/(loss) (1.h. - 2)</b>	<b>\$ 105.6</b>	<b>\$ (0.2)</b>	<b>\$ 105.3</b>
4. Expected actuarial value of assets			
a. Actuarial value of assets at December 31, 2010	\$ 232.3	\$ 5.7	\$ 238.0
b. Actual contributions for 2011	\$ 32.6	\$ 2.3	\$ 35.0
c. Benefit payments and expenses for fiscal year ending December 31, 2011	\$ (30.8)	\$ (3.7)	\$ (34.5)
d. Interest	\$ 18.7	\$ 0.4	\$ 19.1
e. Expected actuarial value of assets before changes (a. + b. + c. + d.)	\$ 252.8	\$ 4.8	\$ 257.6
f. Change in actuarial value of assets at December 31, 2011, due to assumption changes	\$ -	\$ -	\$ -
g. Change in actuarial value of assets at December 31, 2011, due to plan changes	\$ -	\$ -	\$ -
h. Expected actuarial value of assets at December 31, 2011 (e. + f. + g.)	\$ 252.8	\$ 4.8	\$ 257.6
5. Actuarial value of assets at December 31, 2011	\$ 239.6	\$ 4.5	\$ 244.1
<b>6. Actuarial asset gain/(loss) (5. - 4.h.)</b>	<b>\$ (13.2)</b>	<b>\$ (0.2)</b>	<b>\$ (13.4)</b>
<b>7. Net actuarial gain/(loss) (3. + 6.)</b>	<b>\$ 92.4</b>	<b>\$ (0.5)</b>	<b>\$ 91.9</b>
<i>Amounts in millions</i>			

**Reconciliation of UAL**

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

The significant decrease in the RHIA UAL is due to an alternative interpretation of the participation assumption for retired members.

	RHIA	RHIPA
<b>UAL, December 31, 2010</b>	\$ 314.8	\$ 28.2
Normal Cost (including actual administrative expenses)	7.3	1.3
Contributions	(32.6)	(2.3)
Liability (gain) or loss	(105.6)	0.2
Asset (gain) or loss	13.2	0.2
Assumption changes	-	-
Interest @ 8.0%	24.4	2.3
<b>UAL, December 31, 2011</b>	<b>\$ 221.5</b>	<b>\$ 29.9</b>
<i>Amounts in millions</i>		

## Retiree Healthcare Contribution Rate Development

### Normal Cost Rate

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

	RHIA		RHIPA	
	December 31, 2011	December 31, 2010	December 31, 2011	December 31, 2010
Normal Cost	\$ 5.8	\$ 6.0	\$ 1.1	\$ 1.2
Tier 1/Tier 2 Valuation Payroll	\$ 5,607.9	\$ 5,930.3	\$ 1,539.5	\$ 1,603.3
<b>Normal Cost Rate</b>	<b>0.10%</b>	<b>0.10%</b>	<b>0.07%</b>	<b>0.07%</b>
<i>Amounts in millions</i>				

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

	December 31, 2011			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
Tier 1/ Tier 2 Valuation Payroll				
a. Total Tier 1/Tier 2 Payroll	\$ 3,179.3	\$ 1,880.7	\$ 547.9	\$ 5,607.9
b. RHIPA Employers' Payroll	\$ 1,522.8	\$ 0.0	\$ 16.6	\$ 1,539.5
Normal Cost Rate				
a. RHIA	0.10%	0.10%	0.10%	0.10%
b. RHIPA	0.07%	0.00%	0.07%	0.07%
<b>Weighted Average Normal Cost Rate</b>	<b>0.13%</b>	<b>0.10%</b>	<b>0.10%</b>	<b>0.12%</b>
<i>Amounts in millions</i>				

**UAL Rate**

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

	RHIA		RHIPA	
	December 31, 2011	December 31, 2010	December 31, 2011	December 31, 2010
1. Total UAL, December 31, 2011	\$ 221.5	\$ 314.8	\$ 29.9	\$ 28.2
2. Next year's UAL payment	41.9	48.8	4.6	4.1
3. Combined valuation payroll	\$ 8,550.5	\$ 8,750.1	\$ 2,376.9	\$ 2,379.7
4. <b>UAL rate (2 ÷ 3)</b>	<b>0.49%</b>	<b>0.56%</b>	<b>0.20%</b>	<b>0.17%</b>
<i>Amounts in millions</i>				

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

	December 31, 2011			
	SLGRP	School Districts	Independent Employers	Retiree Healthcare Total
1. Combined Valuation Payroll				
a. All Employers	\$ 4,935.7	\$ 2,786.0	\$ 828.9	\$ 8,550.5
b. RHIPA Employers' Payroll	\$ 2,360.3	\$ 0	\$ 16.6	\$ 2,376.9
2. UAL Rate				
a. RHIA - Reg	0.49%	0.49%	0.49%	0.49%
b. RHIPA - Reg	0.20%	0.00%	0.20%	0.20%
<b>3. Weighted Average UAL Rate</b> <b>[( 1.a. x 2.a + 1.b. x 2.b. ) / 1.a]</b>	<b>0.58%</b>	<b>0.49%</b>	<b>0.49%</b>	<b>0.54%</b>
<i>Amounts in millions</i>				

**Calculated Employer Contribution Rate Summary**

The following table summarizes the calculated employer contribution rates for the retiree healthcare programs. The normal cost rates are applied against Tier 1/Tier 2 payroll, but the UAL rates are applied against all payroll.

July 1, 2013 Rates Calculated as of December 31, 2011			
	State Agencies and Judiciary	All Other Employers	Retiree Healthcare Total
<b>Normal Cost Rates</b>			
RHIA	0.10%	0.10%	0.10%
RHIPA	0.07%	0.00%	0.02%
<b>Total normal cost rate</b>	<b>0.17%</b>	<b>0.10%</b>	<b>0.12%</b>
<b>UAL Rates</b>			
RHIA	0.49%	0.49%	0.49%
RHIPA	0.20%	0.00%	0.05%
<b>Total UAL rate</b>	<b>0.69%</b>	<b>0.49%</b>	<b>0.54%</b>
<b>Total retiree healthcare rate</b>	<b>0.86%</b>	<b>0.59%</b>	<b>0.66%</b>

## Accounting / CAFR Exhibits



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

## Accounting/CAFR Exhibits

The following information as of December 31, 2011 has been prepared and provided to Oregon PERS for inclusion in the Actuarial Section of the 2012 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

In addition, the Schedules of Funding Progress, the Schedules of Employer Contributions and the Notes to Required Supplementary Schedules are provided for the Financial Section of the CAFR. 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.

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. For financial reporting purposes, supplemental deposits are not considered as contributions toward meeting the Annual Required Contribution (ARC) or the contractually required contribution for employers in a cost-sharing pool. The Schedule of Funding Progress and Solvency Test also include side accounts as part of the Plan's assets.

Our understanding is the Schedule of Employer Contributions exhibit for 2005 and prior years were prepared by Oregon PERS. Due to the phase-in of the significant contribution rate increases calculated in the December 31, 2003 valuation, the schedule indicates that only a portion of the pension annual required contribution (ARC) was contributed in 2006 and 2007. Effective July 1, 2007, contribution rates were implemented to return pension contributions for the system to the full ARC. During the July 2011 to June 2013 biennium, the percentage of the ARC contribution will be less than 100 percent due to the application of the contribution rate stabilization method (rate collar).

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

The exhibits are provided on the following pages.



## Actuarial Schedules

### Schedule of Active Member Valuation Data

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

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

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

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

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

<sup>4</sup> In the 12/31/2010 valuation only, approximately 16,000 active records with very low annual pay (average <\$5,000) were reported. The inclusion of those records for a single valuation did not significantly affect plan liabilities, but it did affect the per-participant pay averages and the year-to-year changes to those averages for 2010 and 2011.

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

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

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

<sup>3</sup> The amount shown as "added to rolls" in annual allowancees includes the value of COLA increases to continuing retirees.

<sup>4</sup> For purposes of this exhibit, a retired member who is also a surviving beneficiary of a deceased retiree is counted twice.

## GASB Nos. 25 and 43 Information

### Schedule of Funding Progress by Rate Pool

The GASB Statement Nos. 25 and 43 liabilities and assets resulting from the last seven actuarial valuations are as follows (dollar amounts in millions):

Actuarial Valuation Date	Actuarial Value of Assets <sup>1,2</sup> (a)	Actuarial Accrued Liability (AAL) <sup>2</sup> (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll <sup>3</sup> (c)	UAAL as a % of Covered Payroll ((b-a)/c)
<b>Tier 1/Tier 2 State &amp; Local Government Rate Pool</b>						
12/31/2005 <sup>4</sup>	\$ 25,556.3	\$ 24,450.3	\$ (1,106.0)	104.5%	\$ 3,089.8	(35.8%)
12/31/2006	\$ 28,177.2	\$ 25,390.0	\$ (2,787.3)	111.0%	\$ 3,174.6	(87.8%)
12/31/2007 <sup>5</sup>	\$ 30,314.8	\$ 26,883.1	\$ (3,431.7)	112.8%	\$ 3,448.1	(99.5%)
12/31/2008	\$ 22,301.2	\$ 27,551.8	\$ 5,250.6	80.9%	\$ 3,452.7	152.1%
12/31/2009 <sup>6</sup>	\$ 25,068.8	\$ 29,029.1	\$ 3,960.3	86.4%	\$ 3,465.1	114.3%
12/31/2010	\$ 26,499.5	\$ 30,285.0	\$ 3,785.4	87.5%	\$ 3,333.1	113.6%
12/31/2011 <sup>7</sup>	\$ 25,679.2	\$ 31,109.1	\$ 5,429.9	82.5%	\$ 3,179.3	170.8%
<b>Tier 1/Tier 2 School District Rate Pool</b>						
12/31/2005	\$ 21,095.0	\$ 20,151.8	\$ (943.2)	104.7%	\$ 2,126.5	(44.4%)
12/31/2006	\$ 23,033.4	\$ 20,825.0	\$ (2,208.4)	110.6%	\$ 2,233.7	(98.9%)
12/31/2007	\$ 24,053.6	\$ 21,299.3	\$ (2,754.3)	112.9%	\$ 2,185.0	(126.1%)
12/31/2008	\$ 17,458.5	\$ 21,742.7	\$ 4,284.2	80.3%	\$ 2,153.7	198.9%
12/31/2009	\$ 19,388.0	\$ 22,517.6	\$ 3,129.6	86.1%	\$ 2,079.2	150.5%
12/31/2009	\$ 20,343.5	\$ 23,303.3	\$ 2,959.8	87.3%	\$ 2,027.5	146.0%
12/31/2011 <sup>7</sup>	\$ 19,668.2	\$ 23,973.7	\$ 4,305.5	82.0%	\$ 1,880.7	228.9%
<b>Tier 1/Tier 2 Independent Employers and State Judiciary</b>						
12/31/2005 <sup>4</sup>	\$ 4,742.9	\$ 4,575.0	\$ (167.9)	103.7%	\$ 894.9	(18.8%)
12/31/2006	\$ 5,330.5	\$ 4,860.1	\$ (470.4)	109.7%	\$ 928.1	(50.7%)
12/31/2007 <sup>5</sup>	\$ 4,765.5	\$ 4,423.2	\$ (342.3)	107.7%	\$ 628.8	(54.4%)
12/31/2008	\$ 3,576.7	\$ 4,566.0	\$ 989.3	78.3%	\$ 619.4	159.7%
12/31/2009 <sup>6</sup>	\$ 3,926.7	\$ 4,665.9	\$ 739.3	84.2%	\$ 579.1	127.7%
12/31/2010	\$ 4,189.4	\$ 4,913.1	\$ 723.7	85.3%	\$ 569.7	127.0%
12/31/2011 <sup>7</sup>	\$ 4,083.2	\$ 5,069.8	\$ 986.6	80.5%	\$ 547.9	180.1%
<b>OPSRP Rate Pool</b>						
12/31/2005	\$ 55.0	\$ 53.8	\$ (1.2)	102.3%	\$ 680.7	(0.2%)
12/31/2006	\$ 151.4	\$ 115.0	\$ (36.4)	131.6%	\$ 990.4	(3.7%)
12/31/2007	\$ 275.1	\$ 203.0	\$ (72.1)	135.5%	\$ 1,459.9	(4.9%)
12/31/2008	\$ 270.5	\$ 336.8	\$ 66.3	80.3%	\$ 1,904.3	3.5%
12/31/2009	\$ 445.4	\$ 535.5	\$ 90.1	83.2%	\$ 2,388.8	3.8%
12/31/2010	\$ 659.0	\$ 767.6	\$ 108.6	85.8%	\$ 2,819.8	3.9%
12/31/2011	\$ 840.5	\$ 986.4	\$ 145.9	85.2%	\$ 2,942.6	5.0%
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>						
12/31/2005	\$ 181.0	\$ 495.9	\$ 314.9	36.5%	\$ 6,111.2	5.2%
12/31/2006	\$ 221.3	\$ 511.8	\$ 290.5	43.2%	\$ 6,336.4	4.6%
12/31/2007	\$ 250.8	\$ 499.6	\$ 248.8	50.2%	\$ 6,261.9	4.0%
12/31/2008	\$ 183.8	\$ 494.0	\$ 310.2	37.2%	\$ 6,225.8	5.0%
12/31/2009	\$ 214.1	\$ 511.2	\$ 297.1	41.9%	\$ 6,123.4	4.9%
12/31/2010	\$ 232.3	\$ 547.1	\$ 314.8	42.5%	\$ 5,930.3	5.3%
12/31/2011	\$ 239.6	\$ 461.1	\$ 221.5	52.0%	\$ 5,607.9	3.9%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>						
12/31/2005	\$ 6.1	\$ 27.0	\$ 20.9	22.7%	\$ 1,621.2	1.3%
12/31/2006	\$ 7.0	\$ 23.4	\$ 16.4	30.0%	\$ 1,665.7	1.0%
12/31/2007	\$ 7.8	\$ 23.3	\$ 15.5	33.6%	\$ 1,692.1	0.9%
12/31/2008	\$ 5.7	\$ 21.3	\$ 15.6	26.7%	\$ 1,708.5	0.9%
12/31/2009	\$ 6.4	\$ 24.5	\$ 18.2	25.9%	\$ 1,705.1	1.1%
12/31/2010	\$ 5.7	\$ 33.9	\$ 28.2	16.8%	\$ 1,603.3	1.8%
12/31/2011	\$ 4.5	\$ 34.4	\$ 29.9	13.2%	\$ 1,539.5	1.9%

Notes:

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

<sup>2</sup> Excludes effect of Multnomah Fire District (net UAAL of \$162 million as of 12/31/2011).

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

<sup>4</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2006.

<sup>5</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2008.

<sup>6</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.

<sup>7</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.

## Solvency Test

### Pension and Retiree Healthcare Plans

(dollar amounts in millions)

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

<sup>1</sup> Includes effect of Multnomah Fire District (net UAAL of \$162 million as of 12/31/2011); assets in 12/31/2011 amount excludes \$535.3 million of Contingency Reserve assets.

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

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

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

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

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

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

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

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

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

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

## Solvency Test

### Analysis of Financial Experience

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

Pension and Retiree Healthcare Plans	\$ Gain (or Loss) for Year	
	2011	2010
<b><i>Type of Activity</i></b>		
Retirements from Active Status	\$ (68.2)	\$ (134.0)
Active Mortality and Withdrawal	19.1	(37.4)
Pay Increases	130.7	121.4
Contributions	(37.9)	26.1
Interest Crediting Experience	171.9	(70.0)
Investment Income	(2,372.9)	1,455.9
Retirement, Mortality and Lump Sums from Dormant Status	38.3	98.1
Retiree and Beneficiary Mortality	(110.0)	(127.6)
Data Corrections	27.7	(5.2)
COLA Experience	54.0	29.3
New Entrants	(21.8)	(43.4)
Other	(0.5)	(60.1)
<b>Gain (or Loss) During Year From Financial Experience</b>	<b>\$ (2,169.6)</b>	<b>\$ 1,253.1</b>
<b><i>Non-Recurring Items</i></b>		
Assumption Changes	-	(243.3)
Plan Changes	-	-
<b>Composite Gain (or Loss) During Year</b>	<b>\$ (2,169.6)</b>	<b>\$ 1,009.8</b>

## GASB Nos. 25 and 43 Required Supplementary Information

## Schedules of Funding Progress

(dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
<b>Pension Benefits - Tier 1/Tier 2 and OPSRP<sup>1</sup></b>						
12/31/2000	41,739.6	42,783.9	1,044.3	97.6%	6,195.9	16.9%
12/31/2001	39,772.7	45,386.1	5,613.4	87.6%	6,254.0 <sup>2</sup>	89.8%
12/31/2001 <sup>3</sup>	39,772.7	37,258.3	(2,514.4)	106.7%	6,254.0	(40.2%)
12/31/2002 <sup>3</sup>	35,446.9	38,947.0	3,500.1	91.0%	6,383.5	54.8%
12/31/2003 <sup>3</sup>	42,753.3	44,078.1	1,324.8	97.0%	6,248.5	21.2%
12/31/2004 <sup>4,5</sup>	45,581.1	47,398.6	1,817.5	96.2%	6,772.4 <sup>6</sup>	26.8%
12/31/2005 <sup>6,7</sup>	51,382.6	49,294.0	(2,088.6)	104.2%	6,791.9	(30.8%)
12/31/2006	56,616.5	51,252.9	(5,363.5)	110.5%	7,326.8	(73.2%)
12/31/2007 <sup>8</sup>	59,327.8	52,871.2	(6,456.7)	112.2%	7,721.8	(83.6%)
12/31/2008	43,520.6	54,259.5	10,738.9	80.2%	8,130.1	132.1%
12/31/2009 <sup>9</sup>	48,729.2	56,810.6	8,081.4	85.8%	8,512.2	94.9%
12/31/2010	51,583.6	59,329.5	7,746.0	86.9%	8,750.1	88.5%
12/31/2011 <sup>10</sup>	50,168.2	61,198.4	11,030.2	82.0%	8,550.5	129.0%
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>						
12/31/2000	62.1	543.5	481.4	11.4%	6,195.9	7.8%
12/31/2001	76.6	532.1	455.5	14.4%	6,254.0 <sup>2</sup>	7.3%
12/31/2001 <sup>3</sup>	76.6	533.2	456.6	14.4%	6,254.0	7.3%
12/31/2002 <sup>3</sup>	87.4	542.3	454.9	16.1%	6,383.5	7.1%
12/31/2003 <sup>3</sup>	117.1	522.5	405.4	22.4%	6,248.5	6.5%
12/31/2004 <sup>5</sup>	148.0	556.9	408.9	26.6%	6,772.4 <sup>6</sup>	6.0%
12/31/2005	181.0	495.9	314.9	36.5%	6,791.9	4.6%
12/31/2006	221.3	511.8	290.5	43.2%	7,326.8	4.0%
12/31/2007	250.8	499.6	248.8	50.2%	7,721.8	3.2%
12/31/2008	183.8	494.0	310.2	37.2%	8,130.1	3.8%
12/31/2009	214.1	511.2	297.1	41.9%	8,512.2	3.5%
12/31/2010	232.3	547.1	314.8	42.5%	8,750.1	3.6%
12/31/2011	239.6	461.1	221.5	52.0%	8,550.5	2.6%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>						
12/31/2000	2.9	23.1	20.2	12.6%	1,984.0	1.0%
12/31/2001	3.0	29.5	26.5	10.2%	1,954.1 <sup>2</sup>	1.4%
12/31/2001 <sup>3</sup>	2.9	29.6	26.7	9.8%	1,954.1	1.4%
12/31/2002 <sup>3</sup>	2.9	30.1	27.2	9.6%	1,741.9	1.6%
12/31/2003 <sup>3</sup>	4.0	25.0	21.0	16.0%	1,711.9	1.2%
12/31/2004 <sup>5</sup>	5.2	28.2	23.0	18.4%	1,851.4 <sup>6</sup>	1.2%
12/31/2005	6.1	27.0	20.9	22.7%	1,827.0	1.1%
12/31/2006	7.0	23.4	16.4	30.0%	1,946.8	0.8%
12/31/2007	7.8	23.3	15.5	33.6%	2,080.2	0.7%
12/31/2008	5.7	21.3	15.6	26.7%	2,217.9	0.7%
12/31/2009	6.4	24.5	18.2	25.9%	2,371.8	0.8%
12/31/2010	5.7	33.9	28.2	16.8%	2,379.7	1.2%
12/31/2011	4.5	34.4	29.9	13.2%	2,376.9	1.3%

## Notes:

<sup>1</sup> Includes UAAL for Multnomah Fire District (\$162 million as of 12/31/2011); assets in 12/31/2011 amount excludes \$535.3 million of Contingency Reserve assets.

<sup>2</sup> Effective with the 2001 valuation, Annual Active Member Payroll excludes the member pick-up, if any.

<sup>3</sup> The 2001 valuation was revised to include the impact of PERS Reform Legislation enacted in 2003. Figures through 12/31/2003 do not reflect the judicial review or subsequent Board action.

<sup>4</sup> Effective with the 2004 valuation, the Oregon Supreme Court rulings in *Strunk v. PERB, et al.* (Issued March 8, 2005) and *City of Eugene v. State of Oregon, PERB, et al.* (Issued August 11, 2005) are reflected.

<sup>5</sup> Effective with the 2004 valuation, the cost method was changed from Entry Age Normal to Projected Unit Credit, and the actuarial value of assets was changed from a 4-year smoothed value to market value.

<sup>6</sup> Assets and liabilities for OPSRP are first valued in the 2005 valuation. OPSRP payroll, however, was included in the amortization of the UAAL beginning with the 2004 valuation.

<sup>7</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2006.

<sup>8</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2008.

<sup>9</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2010.

<sup>10</sup> Reflects the transfer in assets and liabilities for new employers that joined the SLGRP effective 1/1/2012.

## Schedules of Employer Contributions

(dollar amounts in millions)

Actuarial Valuation Date	Annual Required Contribution <sup>1,2,3</sup>	Percentage Contributed
<b>Pension Benefits - Tier 1/Tier 2 and OPSRP</b>		
12/31/2006	\$938.6	63%
12/31/2007	\$805.7	74%
12/31/2008	\$707.4	100% <sup>4</sup>
12/31/2009	\$630.8	100% <sup>4</sup>
12/31/2010	\$472.4	100% <sup>4</sup>
12/31/2011	\$779.1	83% <sup>4</sup>
<b>Postemployment Healthcare Benefits - Retirement Health Insurance Account</b>		
12/31/2006	\$44.3	89%
12/31/2007	\$38.8	91%
12/31/2008	\$33.0	85%
12/31/2009	\$29.8	87%
12/31/2010	\$26.5	83%
12/31/2011	\$37.0	88%
<b>Postemployment Healthcare Benefits - Retiree Health Insurance Premium Account</b>		
12/31/2006	\$2.5	90%
12/31/2007	\$2.7	79%
12/31/2008	\$2.9	63%
12/31/2009	\$2.6	68%
12/31/2010	\$2.3	64%
12/31/2011	\$2.8	83%

<sup>1</sup> The Annual Required Contribution prior to 7/1/2007 is based on the 7/1/2005 rates developed in the 12/31/2003 Milliman valuation prior to the adjustment to phase-in the rate increase and adjusted for supplemental payments since 12/31/2003. For most employers, the actual pension amount contributed from 7/1/2005 to 6/30/2007 was based on the phased-in rates.

<sup>2</sup> The Annual Required Contribution shown for 12/31/2010 and prior is an estimated amount based on system-wide contribution rates in effect for the year in question and system payroll as reported by PERS. For example, the 2010 pension benefits ARC is based on rates developed in the 12/31/2007 actuarial valuation and 2010 payroll as reported by PERS.

<sup>3</sup> The Annual Required Contribution shown beginning in 12/31/2011 is based on contribution rates in effect for individual employers for the year in question, system payroll as reported by PERS, and contribution rates for individual employers that would have been effective in the absence of the contribution rate stabilization method (rate collar).

<sup>4</sup> For both the July 2007-June 2009 and July 2009-June 2011 biennia, system employers are generally required to contribute 100% of the Annual Required Contribution for Tier 1/Tier 2 and OPSRP, as a percent of pay. The actual dollar amount contributed in a given calendar year can vary from the estimated Annual Required Contribution based on factors such as month-to-month variations in payroll and timing of contributions. During the July 2011-June 2013 biennium, the percentage of ARC contributed is less than 100% due to the application of the contribution rate stabilization method (rate collar).

**Notes to Required Supplementary Schedules**

Valuation Date:	December 31, 2011
Actuarial Cost Method:	Projected Unit Credit
Amortization Method	The UAL is amortized as a level percentage of payroll. The Tier 1/Tier 2 regular UAL and Retiree Healthcare regular UAL as of December 31, 2007 are amortized over a closed period. For the Tier 1/Tier 2 UAL, this period is 20 years; for Retiree Healthcare it is 10 years. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over 20 years (10 years for Retiree Healthcare) from the odd-year valuation in which they are first recognized. Contribution rates effective July 1, 2007 through June 30, 2011 reflect an accelerated amortization of the change in UAL due to the change from Entry Age Normal to Projected Unit Credit on December 31, 2004. Gains and losses for OPSRP benefits are amortized over a closed 16 years from the odd-year valuation in which they are first recognized.
Equivalent Single Amortization Period:	
Pension	24 years
RHIA	7 years
RHIPA	9 years
The Equivalent Single Amortization Period (ESAP) calculation is performed with the ARC-setting valuation. This was calculated most recently in the December 31, 2011 actuarial valuation and the ESAPs for that valuation are shown above. The ARC for the July 2009-June 2011 and July 2011-June 2013 biennia were based on the December 31, 2007 and December 31, 2009 valuations, respectively.	
Actuarial Assumptions:	
Investment Rate of Return:	8.00 percent
Payroll Growth:	3.75 percent
Consumer Price Inflation:	2.75 percent
Health Cost Inflation:	Graded from 6.9 percent in 2012 to 4.5 percent in 2029.
Cost-of-Living Adjustments:	2.00 percent
Method used to Value Assets:	The actuarial value of assets equals the fair market value of assets, excluding the Contingency, Capital Preservation and Rate Guarantee Reserves. The Rate Guarantee Reserve is only excluded from assets when it has a balance greater than zero.



## Data Exhibits

**This valuation is based upon the membership of the System as of December 31, 2011.**

## 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	\$ 1,418.8	\$ 260.0	\$ 1,678.8
Tier 2	1,216.6	283.9	1,500.5
Tier 1/Tier 2 Valuation Payroll	2,635.4	543.9	3,179.3
OPSRP Valuation Payroll	1,517.1	239.3	1,756.4
<b>Combined Valuation Payroll</b>	<b>\$ 4,152.5</b>	<b>\$ 783.2</b>	<b>\$ 4,935.7</b>

*Amounts in millions*

	December 31				2010
	2011				
	Tier 1	Tier 2	OPSRP	Total	
<b>Active Members</b>					
General Service	21,143	21,211	35,226	77,580	86,864
Police & Fire	3,248	4,093	4,042	11,383	11,728
Total	24,391	25,304	39,268	88,963	98,592
Average Age	54.2	48.1	41.1	46.7	46.3
Average Service	21.7	11.3	4.2	11.0	10.2
Average prior year Covered Salary <sup>1</sup>	\$ 70,361	\$ 60,175	\$ 41,913	\$ 54,907	\$ 50,445
<b>Active Members outside the Pool with previous Segments in the Pool</b>					
General Service	4,674	2,819		7,493	10,266
Police & Fire	401	359		760	882
Total	5,075	3,178		8,253	11,148
Average Age	52.9	44.9		49.8	49.5
Average Service	2.7	2.0		2.4	2.0
<b>Dormant Members<sup>2</sup></b>					
General Service	12,773	8,949	1,937	23,659	23,373
Police & Fire	818	707	172	1,697	1,400
Total	13,591	9,656	2,109	25,356	24,773
Average Age	56.1	50.1	45.0	52.9	52.8
Average Monthly Benefit <sup>3</sup>	\$ 1,832	\$ 570	\$ 280	\$ 1,222	\$ 1,378
<b>Retired Members and Beneficiaries<sup>2</sup></b>					
General Service	56,927	3,227	180	60,334	57,406
Police & Fire	7,744	611	18	8,373	7,858
Total	64,671	3,838	198	68,707	65,264
Average Age	70.1	64.6	64.8	69.8	69.7
Average Monthly Benefit <sup>3</sup>	\$ 1,961	\$ 759	\$ 350	\$ 1,889	\$ 1,837
<b>Grand Total Number of Members</b>	<b>107,728</b>	<b>41,976</b>	<b>41,575</b>	<b>191,279</b>	<b>199,777</b>

<sup>1</sup> Amounts shown for 12/31/2011 are prior year (i.e. 2011) reported covered salary. Amounts shown for 12/31/2010 are following year (i.e. 2011) projected salary subject to contributions.

<sup>2</sup> Dormant and Retiree counts are by lives within each rate pool. As a result, individuals with segments in more than one rate pool will be counted more than once.

<sup>3</sup> Per rate pool life (see footnote 2)

School District Pool

	General Service	Police & Fire	Total
Tier 1	\$ 1,004.5	\$ 1.9	\$ 1,006.4
Tier 2	873.2	1.1	874.3
Tier 1/Tier 2 Valuation Payroll	1,877.7	3.0	1,880.7
OPSRP Valuation Payroll	904.5	0.8	905.3
<b>Combined Valuation Payroll</b>	<b>\$ 2,782.2</b>	<b>\$ 3.8</b>	<b>\$ 2,786.0</b>

*Amounts in millions*

	December 31				
	2011				2010
	Tier 1	Tier 2	OPSRP	Total	
<b>Active Members</b>					
General Service	18,617	19,711	30,070	68,398	80,059
Police & Fire	31	22	17	70	86
Total	18,648	19,733	30,087	68,468	80,145
Average Age	53.9	47.5	41.7	46.7	46.1
Average Service	21.2	11.1	4.7	11.0	9.9
Average prior year Covered Salary <sup>1</sup>	\$ 54,206	\$ 44,023	\$ 28,482	\$ 39,967	\$ 36,817
<b>Active Members outside the Pool with previous Segments in the Pool</b>					
General Service	2,036	1,316		3,352	4,306
Police & Fire	10	6		16	21
Total	2,046	1,322		3,368	4,327
Average Age	54.4	45.8		51.0	51.3
Average Service	4.9	2.8		4.1	3.4
<b>Dormant Members<sup>2</sup></b>					
General Service	8,066	6,895	1,664	16,625	15,301
Police & Fire	23	19	1	43	78
Total	8,089	6,914	1,665	16,668	15,379
Average Age	57.0	49.1	46.7	52.7	52.8
Average Monthly Benefit <sup>3</sup>	\$ 1,471	\$ 461	\$ 205	\$ 926	\$ 1,097
<b>Retired Members and Beneficiaries<sup>2</sup></b>					
General Service	56,621	1,846	74	58,541	56,435
Police & Fire	150	24	0	174	159
Total	56,771	1,870	74	58,715	56,594
Average Age	71.2	64.7	65.0	71.0	70.9
Average Monthly Benefit <sup>3</sup>	\$ 2,042	\$ 707	\$ 347	\$ 1,997	\$ 1,945
<b>Grand Total Number of Members</b>	<b>85,554</b>	<b>29,839</b>	<b>31,826</b>	<b>147,219</b>	<b>156,445</b>

<sup>1</sup> Amounts shown for 12/31/2011 are prior year (i.e. 2011) reported covered salary. Amounts shown for 12/31/2010 are following year (i.e. 2011) projected salary subject to contributions.

<sup>2</sup> Dormant and Retiree counts are by lives within each rate pool. As a result, individuals with segments in more than one rate pool will be counted more than once.

<sup>3</sup> Per rate pool life (see footnote 2)

**Independents**

	General Service	Police & Fire	Total
Tier 1	\$ 191.1	\$ 90.8	\$ 281.9
Tier 2	181.6	84.4	266.0
Tier 1/Tier 2 Valuation Payroll	372.7	175.2	547.9
OPSRP Valuation Payroll	213.1	67.8	280.9
<b>Combined Valuation Payroll</b>	<b>\$ 585.8</b>	<b>\$ 243.0</b>	<b>\$ 828.8</b>

*Amounts in millions*

	December 31				2010
	2011				
	Tier 1	Tier 2	OPSRP	Total	
<b>Active Members</b>					
General Service	2,860	3,083	4,615	10,558	11,731
Police & Fire	983	1,010	990	2,983	3,101
Total	3,843	4,093	5,605	13,541	14,832
Average Age	53.0	46.8	40.7	46.0	45.6
Average Service	21.0	11.3	4.2	11.1	10.3
Average prior year Covered Salary <sup>1</sup>	\$ 76,010	\$ 65,654	\$ 46,731	\$ 60,760	\$ 55,689
<b>Active Members outside the Pool with previous Segments in the Pool</b>					
General Service	1,457	1,156		2,613	3,240
Police & Fire	339	302		641	727
Total	1,796	1,458		3,254	3,967
Average Age	52.4	44.8		49.0	49.0
Average Service	4.4	2.8		3.7	3.2
<b>Dormant Members<sup>2</sup></b>					
General Service	1,686	1,385	263	3,334	3,179
Police & Fire	251	158	29	438	404
Total	1,937	1,543	292	3,772	3,583
Average Age	55.0	49.5	47.0	52.1	52.3
Average Monthly Benefit <sup>3</sup>	\$ 1,424	\$ 499	\$ 281	\$ 957	\$ 1,167
<b>Retired Members and Beneficiaries<sup>2</sup></b>					
General Service	7,821	630	30	8,481	7,957
Police & Fire	2,537	138	1	2,676	2,531
Total	10,358	768	31	11,157	10,488
Average Age	68.9	64.1	63.5	68.6	68.6
Average Monthly Benefit <sup>3</sup>	\$ 1,980	\$ 752	\$ 282	\$ 1,891	\$ 1,849
<b>Grand Total Number of Members</b>	<b>17,934</b>	<b>7,862</b>	<b>5,928</b>	<b>31,724</b>	<b>32,870</b>

<sup>1</sup> Amounts shown for 12/31/2011 are prior year (i.e. 2011) reported covered salary. Amounts shown for 12/31/2010 are following year (i.e. 2011) projected salary subject to contributions.

<sup>2</sup> Dormant and Retiree counts are by lives within each rate pool. As a result, individuals with segments in more than one rate pool will be counted more than once.

<sup>3</sup> Per rate pool life (see footnote 2)

**Total**

	General Service	Police & Fire	Total
Tier 1	\$ 2,614.5	\$ 352.7	\$ 2,967.2
Tier 2	2,271.3	369.4	2,640.7
Tier 1/Tier 2 Valuation Payroll	4,885.8	722.1	5,607.9
OPSRP Valuation Payroll	2,634.7	307.9	2,942.6
<b>Combined Valuation Payroll</b>	<b>\$ 7,520.5</b>	<b>\$ 1,030.0</b>	<b>\$ 8,550.5</b>

Amounts in millions

	December 31				
	2011			2010	
	Tier 1	Tier 2	OPSRP	Total	
<b>Active Members</b>					
General Service	42,620	44,005	69,911	156,536	178,654
Police & Fire	4,262	5,125	5,049	14,436	14,915
Total	46,882	49,130	74,960	170,972	193,569
Average Age	54.0	47.8	41.3	46.6	46.1
Average Service	21.4	11.2	4.4	11.0	10.1
Average prior year Covered Salary <sup>1</sup>	\$ 64,398	\$ 54,144	\$ 36,882	\$ 49,388	\$ 45,204
<b>Dormant Members<sup>2</sup></b>					
General Service	22,525	17,229	3,864	43,618	41,853
Police & Fire	1,092	884	202	2,178	1,882
Total	23,617	18,113	4,066	45,796	43,735
Average Age	56.3	49.7	45.8	52.8	52.7
Average Monthly Benefit <sup>3</sup>	\$ 1,675	\$ 522	\$ 249	\$ 1,092	\$ 1,262
<b>Retired Members and Beneficiaries<sup>2</sup></b>					
General Service	121,369	5,703	284	127,356	121,798
Police & Fire	10,431	773	19	11,223	10,548
Total	131,800	6,476	303	138,579	132,346
Average Age	70.5	64.6	64.7	70.2	70.1
Average Monthly Benefit <sup>3</sup>	\$ 1,997	\$ 743	\$ 342	\$ 1,935	\$ 1,884
<b>Grand Total Number of Members</b>	<b>202,299</b>	<b>73,719</b>	<b>79,329</b>	<b>355,347</b>	<b>369,650</b>

<sup>1</sup> Amounts shown for 12/31/2011 are prior year (i.e. 2011) reported covered salary. Amounts shown for 12/31/2010 are following year (i.e. 2011) projected salary subject to contributions.

<sup>2</sup> Dormant and Retiree counts are by lives within each rate pool. As a result, individuals with segments in more than one rate pool will be counted more than once.

<sup>3</sup> Per rate pool life (see footnote 2)

### Age/Service and Valuation 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
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	4	11	0	0	0	0	0	15
\$	0	0	56,300	46,697	0	0	0	0	0	49,258
35-39	1	10	94	359	12	0	0	0	0	476
\$	122,481	32,575	49,509	57,418	60,864	0	0	0	0	55,557
40-44	12	42	371	2,355	444	10	0	0	0	3,234
\$	90,157	31,269	52,648	64,184	62,513	51,636	0	0	0	62,261
45-49	12	64	335	2,900	2,273	488	14	0	0	6,086
\$	90,166	46,389	50,456	63,892	67,763	63,022	69,896	0	0	64,410
50-54	11	69	386	3,582	3,317	2,319	509	11	0	10,204
\$	99,706	47,114	49,403	58,397	64,217	68,901	62,968	63,609	0	62,537
55-59	9	74	362	4,216	4,186	2,460	1,372	159	1	12,839
\$	67,366	49,286	48,102	55,521	63,112	68,761	71,353	64,530	21,371	62,097
60-64	6	35	244	2,600	2,636	1,361	704	204	15	7,805
\$	91,504	56,428	51,336	55,742	61,802	67,550	73,162	71,338	60,482	61,729
65-69	2	9	48	589	571	296	126	49	12	1,702
\$	3,016	43,144	53,694	56,914	61,258	64,578	71,877	83,070	63,611	61,385
70-74	0	3	10	77	58	27	15	6	11	207
\$	0	23,694	44,718	46,090	65,120	55,963	89,525	113,229	86,709	59,571
75+	0	1	6	16	13	6	3	2	5	52
\$	0	51,893	46,137	37,409	48,456	60,073	62,741	72,329	57,950	48,851
<b>Total</b>	<b>53</b>	<b>307</b>	<b>1,860</b>	<b>16,705</b>	<b>13,510</b>	<b>6,967</b>	<b>2,743</b>	<b>431</b>	<b>44</b>	<b>42,620</b>
\$	<b>85,745</b>	<b>45,577</b>	<b>50,335</b>	<b>58,870</b>	<b>63,805</b>	<b>67,910</b>	<b>70,368</b>	<b>70,551</b>	<b>66,715</b>	<b>62,343</b>

#### Tier 2 General Service Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
25-29	12	158	21	0	0	0	0	0	0	191
\$	29,391	37,896	42,112	0	0	0	0	0	0	37,825
30-34	48	1,872	830	5	0	0	0	0	0	2,755
\$	33,674	47,413	49,776	61,191	0	0	0	0	0	47,911
35-39	60	2,549	4,093	80	0	0	0	0	0	6,782
\$	29,548	51,469	56,853	57,690	0	0	0	0	0	54,598
40-44	29	2,227	4,771	216	0	0	0	0	0	7,243
\$	30,155	53,008	58,139	62,420	0	0	0	0	0	56,577
45-49	25	2,074	4,457	240	0	0	0	0	0	6,796
\$	32,570	49,429	54,788	59,894	0	0	0	0	0	53,251
50-54	25	2,059	5,015	272	0	0	0	0	0	7,371
\$	28,530	45,652	50,193	55,702	0	0	0	0	0	49,054
55-59	17	1,821	4,868	303	0	0	0	0	0	7,009
\$	24,758	47,694	50,471	54,094	0	0	0	0	0	49,844
60-64	23	1,155	2,855	171	0	0	0	0	0	4,204
\$	32,125	48,476	51,746	54,378	0	0	0	0	0	50,847
65-69	10	387	890	58	0	0	0	0	0	1,345
\$	33,584	45,752	50,679	52,436	0	0	0	0	0	49,210
70-74	3	65	156	10	0	0	0	0	0	234
\$	45,083	35,679	43,305	48,715	0	0	0	0	0	41,441
75+	0	20	53	2	0	0	0	0	0	75
\$	0	18,724	29,730	63,102	0	0	0	0	0	27,685
<b>Total</b>	<b>252</b>	<b>14,387</b>	<b>28,009</b>	<b>1,357</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44,005</b>
\$	<b>30,852</b>	<b>48,915</b>	<b>53,377</b>	<b>56,944</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>51,900</b>

**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
25-29	0	0	0	0	0	0	0	0	0	0
\$	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	1	0	0	0	0	0	1
\$	0	0	0	92,034	0	0	0	0	0	92,034
35-39	0	1	13	132	0	0	0	0	0	146
\$	0	47,064	73,275	87,489	0	0	0	0	0	85,947
40-44	0	2	30	715	127	0	0	0	0	874
\$	0	33,288	68,281	87,347	88,021	0	0	0	0	86,667
45-49	0	3	15	454	668	90	0	0	0	1,230
\$	0	43,239	81,858	85,872	88,222	98,423	0	0	0	87,914
50-54	0	2	7	262	439	254	53	0	0	1,017
\$	0	72,533	52,996	79,533	84,877	94,774	91,007	0	0	86,048
55-59	0	0	10	156	233	148	75	7	0	629
\$	0	0	69,715	75,700	79,517	85,792	87,416	87,326	0	80,920
60-64	0	0	4	80	122	59	29	4	1	299
\$	0	0	61,604	67,194	70,412	79,530	89,571	103,980	122,702	73,714
65-69	1	0	2	19	17	11	4	2	3	59
\$	10,346	0	71,419	68,772	79,393	75,137	77,865	78,342	104,568	74,879
70-74	0	0	0	0	3	0	1	0	0	4
\$	0	0	0	0	81,628	0	60,897	0	0	76,445
75+	0	0	1	1	0	0	1	0	0	3
\$	0	0	75,994	156,034	0	0	107,318	0	0	113,115
<b>Total</b>	<b>1</b>	<b>8</b>	<b>82</b>	<b>1,820</b>	<b>1,609</b>	<b>562</b>	<b>163</b>	<b>13</b>	<b>4</b>	<b>4,262</b>
<b>\$</b>	<b>10,346</b>	<b>48,553</b>	<b>70,271</b>	<b>83,827</b>	<b>84,577</b>	<b>91,008</b>	<b>88,692</b>	<b>91,068</b>	<b>109,102</b>	<b>84,944</b>

**Tier 2 Police and Fire Active Members**

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
25-29	0	16	0	0	0	0	0	0	0	16
\$	0	65,735	0	0	0	0	0	0	0	65,735
30-34	5	279	166	0	0	0	0	0	0	450
\$	57,618	75,376	78,433	0	0	0	0	0	0	76,307
35-39	4	401	1,021	34	0	0	0	0	0	1,460
\$	51,249	74,261	78,092	83,501	0	0	0	0	0	77,092
40-44	0	248	987	98	0	0	0	0	0	1,333
\$	0	71,021	76,974	84,458	0	0	0	0	0	76,416
45-49	0	132	561	44	0	0	0	0	0	737
\$	0	66,780	73,070	84,981	0	0	0	0	0	72,655
50-54	1	109	368	26	0	0	0	0	0	504
\$	29,672	60,995	67,115	76,555	0	0	0	0	0	66,204
55-59	2	63	281	18	0	0	0	0	0	364
\$	28,191	61,989	63,465	65,332	0	0	0	0	0	63,108
60-64	1	51	135	9	0	0	0	0	0	196
\$	76,291	61,057	63,542	58,264	0	0	0	0	0	62,718
65-69	0	16	39	4	0	0	0	0	0	59
\$	0	67,304	63,018	67,783	0	0	0	0	0	64,503
70-74	0	1	3	0	0	0	0	0	0	4
\$	0	17,556	119,453	0	0	0	0	0	0	93,979
75+	0	1	1	0	0	0	0	0	0	2
\$	0	17,118	77,784	0	0	0	0	0	0	47,451
<b>Total</b>	<b>13</b>	<b>1,317</b>	<b>3,562</b>	<b>233</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,125</b>
<b>\$</b>	<b>50,418</b>	<b>70,667</b>	<b>74,037</b>	<b>80,760</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73,417</b>



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

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
25-29	12	174	21	0	0	0	0	0	0	207
\$	29,391	40,456	42,112	0	0	0	0	0	0	39,983
30-34	53	2,151	1,000	17	0	0	0	0	0	3,221
\$	35,933	51,040	54,559	53,627	0	0	0	0	0	51,898
35-39	65	2,961	5,221	605	12	0	0	0	0	8,864
\$	32,313	54,490	60,915	65,481	60,864	0	0	0	0	58,871
40-44	41	2,519	6,159	3,384	571	10	0	0	0	12,684
\$	47,716	54,403	60,876	69,552	68,187	51,636	0	0	0	62,184
45-49	37	2,273	5,368	3,638	2,941	578	14	0	0	14,849
\$	51,250	50,343	56,504	66,626	72,410	68,535	69,896	0	0	61,659
50-54	37	2,239	5,776	4,142	3,756	2,573	562	11	0	19,096
\$	49,721	46,468	51,222	59,671	66,632	71,455	65,612	63,609	0	58,682
55-59	28	1,958	5,521	4,693	4,419	2,608	1,447	166	1	20,841
\$	38,699	48,214	51,012	56,138	63,977	69,727	72,185	65,491	21,371	58,562
60-64	30	1,241	3,238	2,860	2,758	1,420	733	208	16	12,504
\$	45,473	49,217	52,219	55,989	62,183	68,048	73,811	71,966	64,371	58,372
65-69	13	412	979	670	588	307	130	51	15	3,165
\$	27,093	46,532	51,361	56,927	61,783	64,956	72,062	82,885	71,802	56,521
70-74	3	69	169	87	61	27	16	6	11	449
\$	45,083	34,895	44,740	46,392	65,932	55,963	87,735	113,229	86,709	50,579
75+	0	22	61	19	13	6	4	2	5	132
\$	0	20,159	32,890	46,357	48,456	60,073	73,885	72,329	57,950	38,264
<b>Total</b>	<b>319</b>	<b>16,019</b>	<b>33,513</b>	<b>20,115</b>	<b>15,119</b>	<b>7,529</b>	<b>2,906</b>	<b>444</b>	<b>48</b>	<b>96,012</b>
<b>\$</b>	<b>40,705</b>	<b>50,639</b>	<b>55,446</b>	<b>61,252</b>	<b>66,015</b>	<b>69,634</b>	<b>71,395</b>	<b>71,151</b>	<b>70,248</b>	<b>59,151</b>

Age/Service and Valuation 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
25-29	7	107	14	0	0	0	0	0	0	128
\$	30,684	44,459	49,294	0	0	0	0	0	0	44,234
30-34	30	908	603	11	0	0	0	0	0	1,552
\$	36,478	53,575	54,033	52,857	0	0	0	0	0	53,418
35-39	36	1,341	2,524	399	7	0	0	0	0	4,307
\$	31,233	57,760	63,091	67,087	60,467	0	0	0	0	61,531
40-44	13	1,253	3,226	1,733	396	6	0	0	0	6,627
\$	42,169	60,736	63,915	71,782	68,893	51,950	0	0	0	65,615
45-49	17	1,066	2,849	1,906	1,561	374	10	0	0	7,783
\$	38,036	58,889	63,341	70,323	74,582	69,834	77,928	0	0	66,971
50-54	14	1,054	2,793	2,029	2,046	1,149	346	8	0	9,439
\$	40,541	55,360	60,493	69,130	70,843	73,233	66,464	68,191	0	65,767
55-59	17	1,030	2,800	2,146	2,348	1,419	695	118	0	10,573
\$	27,424	56,545	59,939	66,387	71,048	74,678	75,187	65,440	0	66,374
60-64	19	714	1,768	1,491	1,524	848	460	123	11	6,958
\$	37,207	55,879	59,309	64,362	70,398	76,184	80,560	71,071	57,406	66,075
65-69	7	268	587	413	358	193	88	36	10	1,960
\$	26,047	52,800	59,309	64,439	69,304	74,795	84,093	88,695	72,203	64,450
70-74	2	40	100	53	42	18	14	3	10	282
\$	34,365	43,072	52,629	53,672	75,618	69,175	94,609	139,411	82,197	59,876
75+	0	16	36	13	8	4	3	2	4	86
\$	0	21,605	35,917	56,141	60,358	57,541	85,448	72,329	56,182	43,108
<b>Total</b>	<b>162</b>	<b>7,797</b>	<b>17,300</b>	<b>10,194</b>	<b>8,290</b>	<b>4,011</b>	<b>1,616</b>	<b>290</b>	<b>35</b>	<b>49,695</b>
<b>\$</b>	<b>34,692</b>	<b>56,746</b>	<b>61,398</b>	<b>68,144</b>	<b>71,369</b>	<b>74,060</b>	<b>75,538</b>	<b>71,604</b>	<b>68,577</b>	<b>65,175</b>



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
25-29	2	49	5	0	0	0	0	0	0	56
\$	10,338	31,111	24,017	0	0	0	0	0	0	29,736
30-34	18	1,063	274	5	0	0	0	0	0	1,360
\$	27,512	45,861	48,846	47,638	0	0	0	0	0	46,226
35-39	24	1,357	2,188	121	2	0	0	0	0	3,692
\$	28,887	48,616	55,453	52,444	50,904	0	0	0	0	52,666
40-44	15	1,063	2,363	1,272	108	2	0	0	0	4,823
\$	21,291	45,108	54,176	62,236	60,507	41,283	0	0	0	54,337
45-49	9	1,029	2,086	1,395	1,080	137	3	0	0	5,739
\$	22,506	39,269	44,387	58,745	66,292	58,048	39,149	0	0	51,371
50-54	12	1,018	2,584	1,823	1,387	1,242	173	2	0	8,241
\$	12,990	35,182	39,394	47,367	57,880	67,450	60,163	56,378	0	48,379
55-59	6	786	2,323	2,203	1,714	994	650	30	1	8,707
\$	17,280	34,853	38,855	44,293	52,554	61,512	67,963	64,995	21,371	47,399
60-64	4	429	1,206	1,167	1,009	484	234	73	2	4,608
\$	19,648	35,944	39,162	44,119	48,949	53,014	59,702	69,815	63,291	45,238
65-69	3	117	309	222	190	91	35	12	4	983
\$	30,985	30,932	34,452	41,759	45,974	44,413	40,494	64,399	65,595	39,529
70-74	1	23	58	29	13	7	2	1	1	135
\$	66,517	20,587	28,320	30,274	37,281	29,239	39,618	16,165	131,824	29,460
75+	0	6	18	6	4	2	1	0	0	37
\$	0	16,303	25,900	25,158	24,158	65,136	39,197	0	0	26,515
<b>Total</b>	<b>94</b>	<b>6,940</b>	<b>13,414</b>	<b>8,243</b>	<b>5,507</b>	<b>2,959</b>	<b>1,098</b>	<b>118</b>	<b>8</b>	<b>38,381</b>
\$	<b>23,710</b>	<b>41,416</b>	<b>45,287</b>	<b>50,153</b>	<b>55,801</b>	<b>61,841</b>	<b>63,941</b>	<b>67,357</b>	<b>67,769</b>	<b>48,970</b>

Tier 1/Tier 2 Independent Employers Active Members

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
25-29	3	18	2	0	0	0	0	0	0	23
\$	39,076	42,103	37,075	0	0	0	0	0	0	41,271
30-34	5	180	123	1	0	0	0	0	0	309
\$	62,978	68,841	69,866	92,034	0	0	0	0	0	69,229
35-39	5	263	509	85	3	0	0	0	0	865
\$	56,535	68,128	73,607	76,497	68,431	0	0	0	0	72,109
40-44	13	203	570	379	67	2	0	0	0	1,234
\$	83,754	63,985	71,447	83,911	76,391	61,047	0	0	0	74,429
45-49	11	178	433	337	300	67	1	0	0	1,327
\$	95,190	63,171	69,888	78,344	83,135	82,723	81,811	0	0	74,996
50-54	11	167	399	290	323	182	43	1	0	1,416
\$	101,476	59,148	62,920	70,831	77,533	87,558	80,678	41,412	0	71,419
55-59	5	142	398	344	357	195	102	18	0	1,561
\$	102,737	61,740	59,165	68,052	72,322	75,581	78,641	66,652	0	67,916
60-64	7	98	264	202	225	88	39	12	3	938
\$	82,667	58,779	64,384	62,768	65,886	72,331	78,860	94,222	90,630	65,760
65-69	3	27	83	35	40	23	7	3	1	222
\$	25,644	51,917	58,099	64,503	69,557	63,679	78,654	87,113	92,631	61,757
70-74	0	6	11	5	6	2	0	2	0	32
\$	0	35,234	59,604	62,710	60,206	30,588	0	122,487	0	57,749
75+	0	0	7	0	1	0	0	0	1	9
\$	0	0	35,295	0	50,437	0	0	0	65,024	40,281
<b>Total</b>	<b>63</b>	<b>1,282</b>	<b>2,799</b>	<b>1,678</b>	<b>1,322</b>	<b>559</b>	<b>192</b>	<b>36</b>	<b>5</b>	<b>7,936</b>
\$	<b>81,527</b>	<b>63,431</b>	<b>67,344</b>	<b>73,897</b>	<b>74,996</b>	<b>79,122</b>	<b>79,159</b>	<b>79,948</b>	<b>85,909</b>	<b>70,669</b>

**OPSRP Active General Service Members Age/Service and Valuation Payroll**

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-20	75	0	0	0	0	0	0	0	0	75
\$	6,978	0	0	0	0	0	0	0	0	6,978
20-24	1,831	104	0	0	0	0	0	0	0	1,935
\$	17,444	20,207	0	0	0	0	0	0	0	17,593
25-29	7,277	1,836	0	0	0	0	0	0	0	9,113
\$	29,787	35,600	0	0	0	0	0	0	0	30,958
30-34	7,188	5,102	0	0	0	0	0	0	0	12,290
\$	34,670	41,629	0	0	0	0	0	0	0	37,559
35-39	5,871	4,084	0	0	0	0	0	0	0	9,955
\$	36,218	43,600	0	0	0	0	0	0	0	39,246
40-44	5,338	4,109	0	0	0	0	0	0	0	9,447
\$	34,543	41,873	0	0	0	0	0	0	0	37,731
45-49	4,195	3,919	0	0	0	0	0	0	0	8,114
\$	33,637	38,322	0	0	0	0	0	0	0	35,900
50-54	3,693	3,712	0	0	0	0	0	0	0	7,405
\$	34,472	37,337	0	0	0	0	0	0	0	35,908
55-59	3,172	2,943	0	0	0	0	0	0	0	6,115
\$	33,448	38,158	0	0	0	0	0	0	0	35,714
60-64	1,864	1,864	0	0	0	0	0	0	0	3,728
\$	33,683	38,359	0	0	0	0	0	0	0	36,021
65-69	587	708	0	0	0	0	0	0	0	1,295
\$	27,791	32,311	0	0	0	0	0	0	0	30,262
70-74	146	165	0	0	0	0	0	0	0	311
\$	17,992	19,853	0	0	0	0	0	0	0	18,979
75+	47	81	0	0	0	0	0	0	0	128
\$	12,777	14,460	0	0	0	0	0	0	0	13,842
<b>Total</b>	<b>41,284</b>	<b>28,627</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>69,911</b>
<b>\$</b>	<b>32,756</b>	<b>39,469</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>35,505</b>

**OPSRP Active Police and Fire Members Age/Service and Valuation Payroll**

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	2	0	0	0	0	0	0	0	0	2
\$	1,456	0	0	0	0	0	0	0	0	1,456
20-24	99	4	0	0	0	0	0	0	0	103
\$	43,857	24,540	0	0	0	0	0	0	0	43,106
25-29	835	236	0	0	0	0	0	0	0	1,071
\$	52,838	60,681	0	0	0	0	0	0	0	54,566
30-34	766	655	0	0	0	0	0	0	0	1,421
\$	55,883	62,266	0	0	0	0	0	0	0	58,825
35-39	461	421	0	0	0	0	0	0	0	882
\$	54,973	63,606	0	0	0	0	0	0	0	59,094
40-44	344	274	0	0	0	0	0	0	0	618
\$	50,306	60,177	0	0	0	0	0	0	0	54,683
45-49	178	167	0	0	0	0	0	0	0	345
\$	48,418	56,663	0	0	0	0	0	0	0	52,409
50-54	137	117	0	0	0	0	0	0	0	254
\$	51,377	53,436	0	0	0	0	0	0	0	52,325
55-59	108	76	0	0	0	0	0	0	0	184
\$	53,564	55,865	0	0	0	0	0	0	0	54,514
60-64	57	70	0	0	0	0	0	0	0	127
\$	52,525	48,112	0	0	0	0	0	0	0	50,093
65-69	14	19	0	0	0	0	0	0	0	33
\$	72,713	47,460	0	0	0	0	0	0	0	58,173
70-74	2	5	0	0	0	0	0	0	0	7
\$	27,917	74,120	0	0	0	0	0	0	0	60,919
75+	2	0	0	0	0	0	0	0	0	2
\$	27,433	0	0	0	0	0	0	0	0	27,433
<b>Total</b>	<b>3,005</b>	<b>2,044</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,049</b>
<b>\$</b>	<b>53,073</b>	<b>60,210</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55,962</b>

All OPSRP Active Members Age/Service and Valuation Payroll

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20	77	0	0	0	0	0	0	0	0	77
\$	6,835	0	0	0	0	0	0	0	0	6,835
20-24	1,930	108	0	0	0	0	0	0	0	2,038
\$	18,799	20,367	0	0	0	0	0	0	0	18,882
25-29	8,112	2,072	0	0	0	0	0	0	0	10,184
\$	32,160	38,457	0	0	0	0	0	0	0	33,441
30-34	7,954	5,757	0	0	0	0	0	0	0	13,711
\$	36,713	43,977	0	0	0	0	0	0	0	39,763
35-39	6,332	4,505	0	0	0	0	0	0	0	10,837
\$	37,583	45,470	0	0	0	0	0	0	0	40,862
40-44	5,682	4,383	0	0	0	0	0	0	0	10,065
\$	35,497	43,017	0	0	0	0	0	0	0	38,772
45-49	4,373	4,086	0	0	0	0	0	0	0	8,459
\$	34,239	39,072	0	0	0	0	0	0	0	36,573
50-54	3,830	3,829	0	0	0	0	0	0	0	7,659
\$	35,076	37,829	0	0	0	0	0	0	0	36,452
55-59	3,280	3,019	0	0	0	0	0	0	0	6,299
\$	34,110	38,603	0	0	0	0	0	0	0	36,264
60-64	1,921	1,934	0	0	0	0	0	0	0	3,855
\$	34,242	38,712	0	0	0	0	0	0	0	36,485
65-69	601	727	0	0	0	0	0	0	0	1,328
\$	28,837	32,707	0	0	0	0	0	0	0	30,956
70-74	148	170	0	0	0	0	0	0	0	318
\$	18,126	21,449	0	0	0	0	0	0	0	19,902
75+	49	81	0	0	0	0	0	0	0	130
\$	13,376	14,460	0	0	0	0	0	0	0	14,051
<b>Total</b>	<b>44,289</b>	<b>30,671</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74,960</b>
<b>\$</b>	<b>34,134</b>	<b>40,851</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36,883</b>

### Inactive Member Data Exhibits

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

#### Total Tier 1/Tier 2

Dormants		
	Count	Average Monthly Benefit
0-20	0	\$ 0
20-24	3	65
25-29	142	308
30-34	1,088	589
35-39	2,718	1,037
40-44	3,816	1,344
45-49	4,389	1,544
50-54	6,254	1,540
55-59	8,035	1,483
60-64	5,812	1,368
65-69	2,493	1,080
70-74	734	947
75+	957	750
<b>Total</b>	<b>36,441</b>	<b>\$ 1,345</b>

Benefits in Force		
	Count	Average Monthly Benefit
0-45	509	\$ 1,287
45-49	361	1,705
50-54	1,470	2,555
55-59	8,521	3,055
60-64	23,127	2,789
65-69	27,147	2,556
70-74	19,836	2,247
75-79	14,190	1,952
80-84	10,734	1,619
85-90	7,642	1,226
90-94	3,516	940
95-99	922	789
100+	130	797
<b>Total</b>	<b>118,105</b>	<b>\$ 2,270</b>

#### OPSRP

Dormants		
	Count	Average Monthly Benefit
0-20	0	\$ 0
20-24	12	130
25-29	280	211
30-34	763	275
35-39	565	304
40-44	474	286
45-49	420	293
50-54	414	270
55-59	356	270
60-64	274	238
65-69	360	85
70-74	133	54
75+	15	119
<b>Total</b>	<b>4,066</b>	<b>\$ 249</b>

Benefits in Force		
	Count	Average Monthly Benefit
0-45	1	\$ 1,182
45-49	1	1,388
50-54	1	172
55-59	32	160
60-64	95	309
65-69	147	390
70-74	19	313
75-79	7	454
80-84	0	0
85-90	0	0
90-94	0	0
95-99	0	0
100+	0	0
<b>Total</b>	<b>303</b>	<b>\$ 342</b>

**System-Wide Totals**

<b>Dormants</b>		
	<b>Count</b>	<b>Average Monthly Benefit</b>
0-20	0	\$ 0
20-24	15	117
25-29	422	244
30-34	1,851	459
35-39	3,283	911
40-44	4,290	1,227
45-49	4,809	1,435
50-54	6,668	1,461
55-59	8,391	1,432
60-64	6,086	1,317
65-69	2,853	954
70-74	867	810
75+	972	740
<b>Total</b>	<b>40,507</b>	<b>\$ 1,235</b>

<b>Benefits in Force</b>		
	<b>Count</b>	<b>Average Monthly Benefit</b>
0-45	510	\$ 1,286
45-49	362	1,704
50-54	1,471	2,553
55-59	8,553	3,044
60-64	23,222	2,779
65-69	27,294	2,544
70-74	19,855	2,245
75-79	14,197	1,951
80-84	10,734	1,619
85-90	7,642	1,226
90-94	3,516	940
95-99	922	789
100+	130	797
<b>Total</b>	<b>118,408</b>	<b>\$ 2,265</b>

### Retiree Healthcare Member Data Exhibits

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

#### RHIA Members

	As of December 31, 2011	As of December 31, 2010
<b>Dormant Members</b>		
Number	15,948	15,519
Average Age	52.8	53.2
<b>Deferred Members</b>		
Number	30,231	31,315
Average Age	60.2	60.4
<b>Members in Payment</b>		
Number	42,163	40,398
Average Age	75.8	75.8

#### RHIPA Members

	As of December 31, 2011	As of December 31, 2010
<b>Active Employees of RHIPA Employers</b>		
Number	25,804	27,746
Average Age	51.5	51.0
Average Service	16.8	16.1
<b>Members in Payment</b>		
Number	1,096	910
Average Age	61.3	61.1
Average Monthly Benefit Amount	\$ 283.7	\$ 287.1

# Actuarial Methods and Assumptions

## Tier 1/Tier 2

### Actuarial Methods and Valuation Procedures

On July 29, 2011, the Board adopted the following actuarial methods and valuation procedures for the December 31, 2010 and 2011 actuarial valuations of PERS Tier 1/Tier 2 benefits. The actuarial cost method and contribution rate stabilization method were first adopted effective December 31, 2004.

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#### *Actuarial cost method*

**Projected Unit Credit.** Under the Projected Unit Credit (PUC) cost method, the objective is to fund each member's benefit under the plan as it accrues, 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 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 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 **accrued benefit** for valuation purposes related to a particular separation date is the accrued benefit described under the plan, determined using the projected compensation and service that would be used in the calculation of the benefit on the expected separation date, multiplied by the ratio of credited service as of the valuation date over credited service as of the expected separation date. In no event can this be less than the accrued benefit described under the plan, determined using the compensation and service as of the valuation date.
  - The **benefit** deemed to accrue for an individual member during a plan year is the excess of the accrued benefit for valuation purposes at the end of the plan year over the accrued benefit for valuation purposes at the beginning of the plan year. Both accrued benefits are calculated from the same projections to the various anticipated separation dates as described above.
  - An individual member's **accrued liability** is the present value of the accrued benefit for valuation purposes at the beginning of the plan year, and an individual member's **normal cost** is the present value of the benefit deemed to accrue in the plan year. The accrued liability and the normal cost for an individual member are the sum of the component accrued liabilities and normal costs associated with the various anticipated separation dates. Such accrued liabilities and normal costs reflect the accrued benefits as modified to obtain the benefits payable on those dates and the probability of the member separating on those dates.
    - The plan's **normal cost** is the sum of the individual member normal costs, and the plan's **accrued liability** is the sum of the accrued liabilities for all members under the plan.
-



<i>Amortization of change in Unfunded Actuarial Liability (UAL) due to change in actuarial cost method (PUC change UAL)</i>	<p>Contribution rates effective July 1, 2007 through June 30, 2011 reflected an accelerated amortization of the change in UAL that occurred when the PUC actuarial cost method was first adopted for the December 31, 2004 valuation. By the time the current contribution rates changed on July 1, 2011, four years of contributions had been collected toward the 3-year amortization base. Consequently, the PUC change amortization was eliminated from the December 31, 2009 valuation so it will not be included in contribution rates effective on or after July 1, 2011.</p>
<i>Tier 1/Tier 2 UAL and Retiree Healthcare UAL amortization</i>	<p>The Tier 1/Tier 2 regular UAL and Retiree Healthcare regular UAL as of December 31, 2007 are amortized as a level percentage of combined valuation payroll over a closed period. For the Tier 1/Tier 2 UAL, this period is 20 years; for Retiree Healthcare, it is 10 years. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over 20 (10 for Retiree Healthcare) years from the odd-year valuation in which they are first recognized.</p> <p>The amortization of the unfunded actuarial liability (UAL) using the current amortization method results in an initial payment less than the "interest only" payment on the UAL. Payments less than the interest only amount will result in the UAL increasing for an initial period of time.</p>
<i>Asset valuation method</i>	<p>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.</p> <p>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 such effects.</p>
<i>Contribution rate stabilization method</i>	<p>Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) are confined to a collar based on the prior contribution rate (prior to application of side accounts, pre-SLGRP liabilities, and 6 percent Independent Employer minimum). The new contribution rate will generally not increase or decrease from the prior contribution rate by more than the greater of 3 percentage points or 20 percent of the prior contribution rate. If the funded percentage excluding side accounts drops below 70% or increases above 130%, the size of the collar doubles. If the funded percentage excluding side accounts is between 70% and 80% or between 120% and 130%, the size of the rate collar is increased on a graded scale.</p>
<i>Allocation of Liability for Service Segments</i>	<p>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 utilizes account balance, and the Full Formula methodology, which utilizes service. The allocation is 40% (10% for police &amp; fire) based on account balance with each employer and 60% (90% for police &amp; fire) based on service with each employer. The entire Normal Cost is allocated to the current employer.</p>
<i>Allocation of Benefits-In-Force (BIF) Reserve</i>	<p>The BIF is allocated to each rate pool in proportion to the retiree liability attributable to the rate pool.</p>

### Economic Assumptions

The Board adopted the following economic assumptions for the December 31, 2010 and 2011 actuarial valuations. The investment return assumption was first adopted in 1989, and the regular account interest crediting assumption was adopted in 2003. The healthcare cost inflation assumption was adopted December 31, 2008. This interest crediting assumption for variable account balances was adopted December 31, 2010. All other economic assumptions were first adopted in 2005.

<i>Investment return</i>	8.00% compounded annually																																											
<i>Interest crediting</i>	8.00% compounded annually on members' regular account balances 8.25% compounded annually on members' variable account balances																																											
<i>Inflation</i>	2.75% compounded annually																																											
<i>Payroll growth</i>	3.75% compounded annually. This assumption represents the sum of the inflation assumption and a real wage growth assumption of 100 basis points.																																											
<i>Healthcare cost inflation</i>	Health cost trend rates are used to predict increases in the RHIPA Maximum Subsidy. The trend rates shown below do not attempt to incorporate any potential impact of the excise tax associated with the Patient Protection and Affordable Care Act.																																											
	<table border="1"> <thead> <tr> <th>Year<sup>1</sup></th> <th>Rate</th> <th>Year</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>2012</td> <td>6.9%</td> <td>2021</td> <td>6.0%</td> </tr> <tr> <td>2013</td> <td>6.9</td> <td>2022</td> <td>5.8</td> </tr> <tr> <td>2014</td> <td>6.9</td> <td>2023</td> <td>5.6</td> </tr> <tr> <td>2015</td> <td>6.9</td> <td>2024</td> <td>5.4</td> </tr> <tr> <td>2016</td> <td>6.8</td> <td>2025</td> <td>5.2</td> </tr> <tr> <td>2017</td> <td>6.8</td> <td>2026</td> <td>5.0</td> </tr> <tr> <td>2018</td> <td>6.6</td> <td>2027</td> <td>4.9</td> </tr> <tr> <td>2019</td> <td>6.4</td> <td>2028</td> <td>4.7</td> </tr> <tr> <td>2020</td> <td>6.2</td> <td>2029+</td> <td>4.5</td> </tr> </tbody> </table>				Year <sup>1</sup>	Rate	Year	Rate	2012	6.9%	2021	6.0%	2013	6.9	2022	5.8	2014	6.9	2023	5.6	2015	6.9	2024	5.4	2016	6.8	2025	5.2	2017	6.8	2026	5.0	2018	6.6	2027	4.9	2019	6.4	2028	4.7	2020	6.2	2029+	4.5
Year <sup>1</sup>	Rate	Year	Rate																																									
2012	6.9%	2021	6.0%																																									
2013	6.9	2022	5.8																																									
2014	6.9	2023	5.6																																									
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2020	6.2	2029+	4.5																																									

<sup>1</sup> For valuation purposes, the health cost trend rates are assumed to be applied at the beginning of the plan year.

### Demographic Assumptions

The Board adopted the following demographic assumptions for the December 31, 2010 and 2011 actuarial valuations.

#### Mortality

The following mortality tables were first adopted in the December 31, 2010 valuation, except for the Police and Fire male table which was adopted in the December 31, 2008 valuation.

#### Healthy Retired Members

Basic Table	RP 2000, Generational Combined Active/Healthy Annuitant, Sex Distinct
School District male	White collar, set back 18 months
Other General Service male (including male beneficiary)	Blended 25% blue collar, set back 12 months
Police & Fire male	Blended 33% blue collar, no set back
School District female	White collar, set back 24 months
Other female (including female beneficiary)	White collar, no set back

The following disabled retiree mortality rates were first adopted for the December 31, 2008 actuarial valuation.

#### Disabled Retired Members

Basic Table	RP 2000, Static, Combined Active/Healthy Annuitant, No Collar, Sex Distinct
Male	Set forward 60 months, min of 2.25%
Female	Set forward 48 months, min of 2.25%

The following mortality rates were first adopted for non-annuitant members for the December 31, 2010 actuarial valuation, except for the School District male, Police & Fire male, and Other General Service female rates which were adopted in the December 31, 2008 valuation.

#### Non-Annuitant Members

Basic Table	Percent of Healthy Retired Mortality Tables
School District male	75%
Other General Service male	85%
Police & Fire male	70%
School District female	60%
Other female	50%

**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, 2010 valuation.

Judge members are assumed to retire at age 63.

Age	Police & Fire			General Service		School Districts		General Service (Including School Districts)
	< 13 yrs	13-24 yrs	25+ yrs	<15 yrs	15-29 yrs	<15 yrs	15-29 yrs	30+ yrs
Less than 50								18.00%
50	1.00%	2.00%	25.00%					18.00%
51	1.00%	2.00%	16.50%					18.00%
52	1.00%	2.00%	16.50%					32.00%
53	1.00%	2.00%	16.50%					28.00%
54	1.00%	2.00%	16.50%					27.00%
55	3.00%	7.50%	16.50%	1.00%	3.50%	1.00%	6.00%	26.00%
56	3.00%	7.50%	16.50%	1.00%	3.25%	1.00%	5.00%	25.00%
57	3.00%	7.50%	16.50%	1.00%	3.00%	1.00%	5.00%	24.00%
58	3.00%	7.50%	16.50%	1.50%	9.00%	2.50%	15.00%	28.00%
59	3.00%	7.50%	16.50%	2.00%	8.00%	2.50%	12.00%	21.00%
60	3.00%	7.50%	16.50%	4.00%	8.00%	3.50%	12.00%	21.00%
61	3.00%	7.50%	16.50%	4.00%	8.00%	4.50%	12.00%	21.00%
62	13.00%	22.00%	35.00%	8.50%	15.00%	9.00%	21.00%	29.00%
63	8.00%	20.00%	30.00%	7.00%	13.00%	8.00%	16.00%	22.00%
64	8.00%	10.00%	30.00%	7.00%	13.00%	8.00%	16.00%	22.00%
65	100.00%	100.00%	100.00%	12.00%	22.00%	17.00%	27.00%	26.00%
66				19.00%	31.00%	14.00%	32.00%	18.00%
67				13.00%	25.00%	12.00%	24.00%	18.00%
68				12.00%	21.00%	10.00%	24.00%	18.00%
69				12.00%	21.00%	8.00%	24.00%	18.00%
70				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, 2010.

Partial Lump Sum:	6% for all years
Total Lump Sum:	4.5% for 2012, declining by 0.5% per year until reaching 0.0%
No Lump Sum:	89.5% in 2012, increasing by 0.5% until reaching 94.0%

**Purchase of Credited Service at Retirement**

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

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 ordinary disability were first adopted effective December 31, 2010. The rates for duty disability were first adopted effective December 31, 2008.

Percentage of the 1985 Disability Class 1 Rates	
Duty Disability Police & Fire	15%
Duty Disability General Service	1.5%
Ordinary Disability	50% with 0.18% cap

**Termination Assumptions**

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

- Termination from active status prior to retirement eligibility
- Probability that a member will not take a lump sum distribution prior to retirement.

The termination assumptions for School District and Police & Fire members were first adopted effective December 31, 2008. The assumptions for General Service members were adopted December 31, 2010.

**Termination Rates**

Sample termination rates are shown for each group below:

<b>Age</b>	<b>School District</b>	<b>General Service Male</b>	<b>General Service Female</b>	<b>Police &amp; Fire</b>
30	4.32%	6.16%	8.75%	3.45%
40	2.63%	3.64%	4.42%	2.17%
50	1.90%	2.61%	3.00%	1.24%

For a complete table of rates, please refer to the 2010 Experience Study for the System, which was published by Mercer on September 21, 2011.

### Salary Increase Assumptions

The salary increase assumptions reflected in the actuarial valuation include:

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

#### Merit Increases

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

Duration	School	Other General	
	District	Service	Police & Fire
5	2.05%	1.97%	2.55%
10	1.11%	1.00%	1.20%
15	0.35%	0.51%	0.67%
20	-0.18%	0.33%	0.59%

For a complete table of rates, please refer to the 2010 Experience Study for the System, which was published by Mercer on September 21, 2011.

#### Unused Sick Leave

Members covered by the provision allowing unused sick leave to be used to increase final average salary are assumed to receive increases in their final average salary in accordance with the table below. This adjustment is not applied to disability benefits. Local general service females were adopted effective December 31, 2001, and local general service males were adopted effective December 31, 2005. All other rates were adopted effective December 31, 2010.

Unused Sick Leave	
<b>Actives</b>	
State General Service Male	6.25%
State General Service Female	3.75%
School District Male	8.25%
School District Female	6.50%
Local General Service Male	4.25%
Local General Service Female	3.00%
State Police & Fire	5.50%
Local Police & Fire	7.50%
<b>Dormant Members</b>	2.50%

**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, 2010.

	Rates
Tier 1 Non-School District/Judges	1.00%
Tier 1 School District	0.25%
Tier 2	0.00%

**Retiree Healthcare Participation**

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

RHIPA	13%
RHIA	
• Healthy Retired	48%
• Disabled Retired	20%

The RHIA disabled retired rate was first adopted December 31, 2008. All other rates were first adopted effective December 31, 2010.



**OPSRP**

Most of the methods and assumptions adopted for the OPSRP valuation are the same as those used for Tier 1/ Tier 2. A summary of the methods and assumptions that differ for OPSRP are summarized below. The Board adopted the following methods, procedures and assumptions for the December 31, 2010 and December 31, 2011 actuarial valuations

**Actuarial Methods and Valuation Procedures**

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

<i>Administrative expenses</i>	\$6.6 million per year is added to the normal cost.
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**Demographic Assumptions**

**Retirement Assumptions**

Retirement from Active Status

Age	Police & Fire			General Service		
	<13 Years	13 - 24 Years	25+ Years	< 15 years	15-29 Years	30+ Years
50	1.00%	2.00%	5.50%			
51	1.00%	2.00%	5.50%			
52	1.00%	2.00%	5.50%			
53	1.00%	2.00%	30.00%			
54	1.00%	2.00%	16.50%			
55	3.00%	5.00%	16.50%	1.00%	5.00%	5.00%
56	3.00%	5.00%	16.50%	1.00%	4.00%	5.00%
57	3.00%	5.00%	16.50%	1.00%	3.00%	7.50%
58	3.00%	5.00%	16.50%	2.00%	3.00%	35.00%
59	3.00%	5.00%	16.50%	2.00%	3.00%	25.00%
60	3.00%	15.00%	16.50%	4.00%	3.75%	20.00%
61	3.00%	8.50%	16.50%	4.00%	5.00%	20.00%
62	13.00%	22.00%	35.00%	7.00%	12.00%	30.00%
63	8.00%	20.00%	30.00%	6.00%	10.00%	20.00%
64	8.00%	10.00%	30.00%	6.00%	10.00%	20.00%
65	100.00%	100.00%	100.00%	14.00%	40.00%	20.00%
66				17.25%	33.00%	20.00%
67				12.00%	22.00%	30.00%
68				10.00%	17.00%	20.00%
69				10.00%	17.00%	20.00%
70				100.00%	100.00%	100.00%

Retirement from Dormant Status

Dormant members are assumed to retire at Normal Retirement Age.

## Demographic Assumptions

### Termination Assumptions

The termination rates are based on 3-year select and ultimate rates, with the ultimate rates being the same as the Tier 1/Tier 2 termination rates. The following table illustrates sample rates at several ages.

School District					Police & Fire			
Age	1st Select	2nd Select	3rd Select	Ultimate	1st Select	2nd Select	3rd Select	Ultimate
	Period	Period	Period		Period	Period	Period	
25	11.32%	9.98%	8.64%	7.30%	12.73%	10.18%	7.64%	5.09%
35	6.78%	5.89%	5.00%	4.11%	6.53%	5.22%	3.92%	2.61%
45	4.83%	4.14%	3.45%	2.76%	4.45%	3.56%	2.67%	1.78%

Other General Service Male					Other General Service Female			
Age	1st Select	2nd Select	3rd Select	Ultimate	1st Select	2nd Select	3rd Select	Ultimate
	Period	Period	Period		Period	Period	Period	
25	20.91%	17.93%	14.94%	11.95%	21.23%	18.20%	15.16%	12.13%
35	13.36%	9.29%	7.74%	6.19%	13.09%	10.92%	9.74%	7.28%
45	10.73%	6.58%	5.04%	3.28%	12.86%	7.81%	6.59%	3.96%

For a complete table of rates, please refer to the 2010 Experience Study for the System, which was published by Mercer on September 21, 2011.

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

A summary of key changes implemented since the December 31, 2010 valuation are described briefly below.

### Changes in Actuarial Methods and Allocation Procedures

There were no changes to actuarial methods since the December 31, 2010 actuarial valuation.

### Changes in Economic and Demographic Assumptions

There were no changes to assumptions since the December 31, 2010 actuarial 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 the PERS administrative office.

<i>Membership</i>	All employees of public employers participating in this System who are in qualifying positions become members of the System after completing six months of service except those who are eligible for and have elected to participate in an optional retirement plan. Different benefit provisions of the plan apply based on date of hire.	
	<b>Tier 1</b>	Hired prior to 1996
	<b>Tier 2</b>	Hired after 1995 and before August 29, 2003
	<b>OPSRP</b>	Hired after August 28, 2003, not a judge, and not a former Tier 1/Tier 2 member eligible to reestablish Tier 1/Tier 2 membership
	<b>Judges</b>	Members of the State Judiciary
<i>Employee Contributions</i>	<b>Judges</b>	7% of salary
	<b>All others</b>	None
<i>Employer Contributions</i>	Set by the PERS Board based on actuarial calculations that follow Board rate-setting policies for employers.	

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

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

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

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

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

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

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

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

*Normal Retirement Allowance (continued)*

**Judges**

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

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

*Final Average Salary*

The greater of:

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

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

*Creditable Service*

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

*Prior Service Pension*

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

*SB 656/HB 3349 Adjustment*

All members receive an increase to their monthly retirement benefit equal to the greater of the increase under Senate Bill 656 (SB 656) or House Bill 3349 (HB 3349). The adjustment for SB 656 only applies to members who established membership prior to July 14, 1995. Effective for retirements January 1, 2012 and later, HB3349 will only apply for members who maintain residence in Oregon.

**SB 656 Increase**

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

**HB 3349 Increase**

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

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



<i>Disability Benefits</i>	<p>The normal retirement allowance calculated based on the service credit that would have been earned if the member had continued working to age 58 (age 55 for police and fire, age 65 for judge members) payable commencing immediately.</p> <p><b>Fire and Police Members' Alternative</b></p> <p>In lieu of the above, firefighters and police officers who qualify for duty disability may elect to receive a benefit of 50% of final average monthly salary at the time of disablement.</p> <p><b>Minimum Monthly Retirement Allowance</b></p> <p>Judges ..... 45% of final average monthly salary.</p> <p>All others ..... \$100 for a member with at least 15 years of creditable service, actuarially reduced if an optional form of benefit is chosen.</p>
<i>Waiting Time Service Purchases</i>	<p><b>Reduction of Benefits</b></p> <p>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.</p> <p>For Tier Two members, the disability benefit may not exceed the member's salary at the time of disablement.</p>
<i>Police &amp; Fire Unit Purchases</i>	<p>Members with at least 10 years of combined credited and/or prior service under PERS may elect to purchase service credit for the six-month "waiting time" period worked prior to establishing membership in the system. The waiting time purchase is interest-free and must be purchased in one payment prior to retirement.</p>
<i>Postretirement Adjustments</i>	<p>Police &amp; fire members may purchase 60-month annuity benefits (up to \$80 per month) that must be paid out by age 65 and cannot commence prior to the earliest retirement age. The amount purchased by the member is matched by the employer. In certain situations, such as termination of employment prior to retiring, or working beyond age 65, the employer's matching purchase is forfeited.</p> <p>All monthly pension and annuity benefits except unit purchases are eligible for postretirement adjustments.</p> <p><b>Automatic Adjustments</b>      Benefits are adjusted annually to reflect the increase or decrease in the Consumer Price Index (Portland area - all items) as published by the Bureau of Labor Statistics. The maximum adjustment to be made for any year is 2% of the previous year's benefit. Any CPI change in excess of 2% is accumulated for future benefit adjustments which would otherwise be less than 2%. No benefit will be decreased below its original amount.</p> <p><b>Ad Hoc Adjustments</b>      From time to time, as granted by the Legislature, retired members and beneficiaries have received increases in their monthly benefits.</p>
<i>Variable Annuity Program</i>	<p><b>Contributions</b>      Prior to January 1, 2004, a member could elect to have 25, 50 or 75 percent of his or her contributions invested in the variable account.</p>

	<b>Benefit</b>	At retirement, a member may elect to receive a variable annuity with the funds accumulated in his or her variable account. Alternatively, a member may elect to have all or a portion of the funds in his or her variable account transferred back to the regular account and receive an annuity from the System as though no variable annuity program existed. The employer provided benefit, however, is based on the earnings the member would have received in the regular account.
<i>Interest Credit on Member Accounts</i>	<b>Tier 1 Regular</b>	Actuarially assumed rate of return until the rate guarantee reserve has been fully funded for three consecutive years and the Board elects to credit additional interest.
	<b>Tier 2 Regular</b>	Amount determined by the Board based on actual investment earnings of the regular account.
	<b>Variable</b>	Actual earnings in variable account.
<i>Retiree Healthcare – Medicare Supplement (RHIA)</i>	<b>Retiree Eligibility</b>	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.
	<b>Surviving Spouse or Dependent Eligibility</b>	A surviving spouse or dependent of a deceased RHIA-eligible retiree is eligible for RHIA benefits if they are enrolled in both Medicare Part A and Part B, and <i>either</i> of the following criteria are met: (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.
	<b>Benefit Amount</b>	A monthly contribution of up to \$60 per retiree is applied to PERS-sponsored Medicare supplemental insurance costs.

<i>Retiree Healthcare – Under Age 65 (RHIPA)</i>	<b>Retiree Eligibility</b>	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.
	<b>Surviving Spouse or Dependent Eligibility</b>	A surviving spouse or dependent of a deceased RHIPA-eligible retiree is eligible for RHIPA benefits if they are not yet eligible for Medicare, and <i>either</i> of the following criteria are met: (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.
	<b>Benefit</b>	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 2012 is \$316.16 per month.

Years of Service	Subsidized Amount
Under 8	0%
8-9	50
10-14	60
15-19	70
20-24	80
25-29	90
30 & Over	100

<i>Benefits Not Included in the Valuation</i>	No material benefits have been excluded from the liabilities.
<i>Changes in Plan Provisions</i>	House Bill 2456, signed into law in August 2011, removed the HB 3349 “tax remedy” adjustment for members who retire after 2011 and are not residents of Oregon. The effects of this legislation were not reflected in this valuation. In our professional judgment, reflecting the effects of HB 2456 would not have materially affected system funded status as of December 31, 2011 or 2013 – 2015 employer contribution rates.

## Summary of Chapter 238A Provisions — OPSRP

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

<i>Disability Benefit Amounts</i>	<b>Preretirement Benefit</b>	45% of salary during last full month of employment before disability, reduced if the total benefit exceeds 75% of salary. Benefit is payable monthly until normal retirement age.
	<b>Retirement Benefit</b>	Same formula as Normal Retirement Benefit, except: Final average salary is adjusted to reflect cost-of-living increases from date of disability to normal retirement age, and Retirement credits continue to accrue from date of disability to normal retirement age.
<i>Postretirement Adjustments</i>	All monthly pension and annuity benefits are eligible for postretirement adjustments.	
	<b>Automatic Adjustments</b>	Benefits are adjusted annually to reflect the increase or decrease in the Consumer Price Index (Portland area - all items) as published by the Bureau of Labor Statistics. The maximum adjustment to be made for any year is 2% of the previous year's benefit. Any CPI change in excess of 2% is accumulated for future benefit adjustments which would otherwise be less than 2%. No benefit will be decreased below its original amount.
	<b>Ad Hoc Adjustments</b>	From time to time, as granted by the Legislature, retired members and beneficiaries have received increases in their monthly benefits.
<i>Changes in Plan Provisions</i>	There were no changes in OPSRP plan provisions since the December 31, 2010 actuarial valuation.	

# Glossary

## Glossary

**Actuarial Accrued Liability.** The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.

**Actuarial Asset Value.** The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

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

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

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

**Agent Multiple-Employer Plan (Agent Plan).** An aggregation of single-employer plans, with pooled administrative and investment functions. Separate accounts are maintained for each employer so that the employer’s contributions provide benefits only for the employees of that employer. A separate actuarial valuation is performed for each individual employer’s plan to determine the employer’s periodic contribution rate and other information for the individual plan.

**Annual Pension Cost.** A measure of the periodic cost of an employer’s participation in a defined benefit pension plan.

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

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

**Cost Sharing Multiple-Employer Plan.** A single plan with pooling (cost-sharing) arrangements for the participating employers. All risks, rewards, and costs, including benefit costs, are shared and are not attributed individually to employers.

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

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

**Net Pension Obligation (NPO).** The cumulative difference since the effective date of GASB 27 between annual pension cost and the employer's contributions to the plan, including the pension liability (asset) at transition, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to pension-related debt.

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

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

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

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

**Present Value.** Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

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

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

**Statement No. 25 of the Governmental Accounting Standards Board (GASB 25).** The accounting standard establishing financial reporting standards for defined benefit pension plans.

**Statement No. 27 of the Governmental Accounting Standards Board (GASB 27).** The accounting standard governing a governmental employer's accounting for pensions.

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

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

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

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

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