DECEMBER 31, 2013 ACTUARIAL VALUATION

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

July 25, 2014

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Introduction

- Today we are presenting a summary of system-wide results of our forthcoming December 31, 2013 actuarial valuation
- This valuation will be the basis for adoption of July 2015 – June 2017 employer contribution rates on September 26th
- A listing of rates for each employer will be included in the materials for the September 26th Board meeting
- Shortly after that meeting we will provide PERS staff with detailed reports for each employer
- PERS will deliver those reports to employers

Valuation Process and Timeline

- Actuarial valuations are conducted annually
  - Alternate between “rate-setting” and “advisory” valuations
  - The 12/31/2013 valuation is rate-setting
- The Board adopts employer contribution rates developed in rate setting valuations, and those rates go into effect 18 months subsequent to the valuation date

Valuation Date	Employer Contribution Rates
12/31/2011 →	July 2013 – June 2015
12/31/2013 →	July 2015 – June 2017

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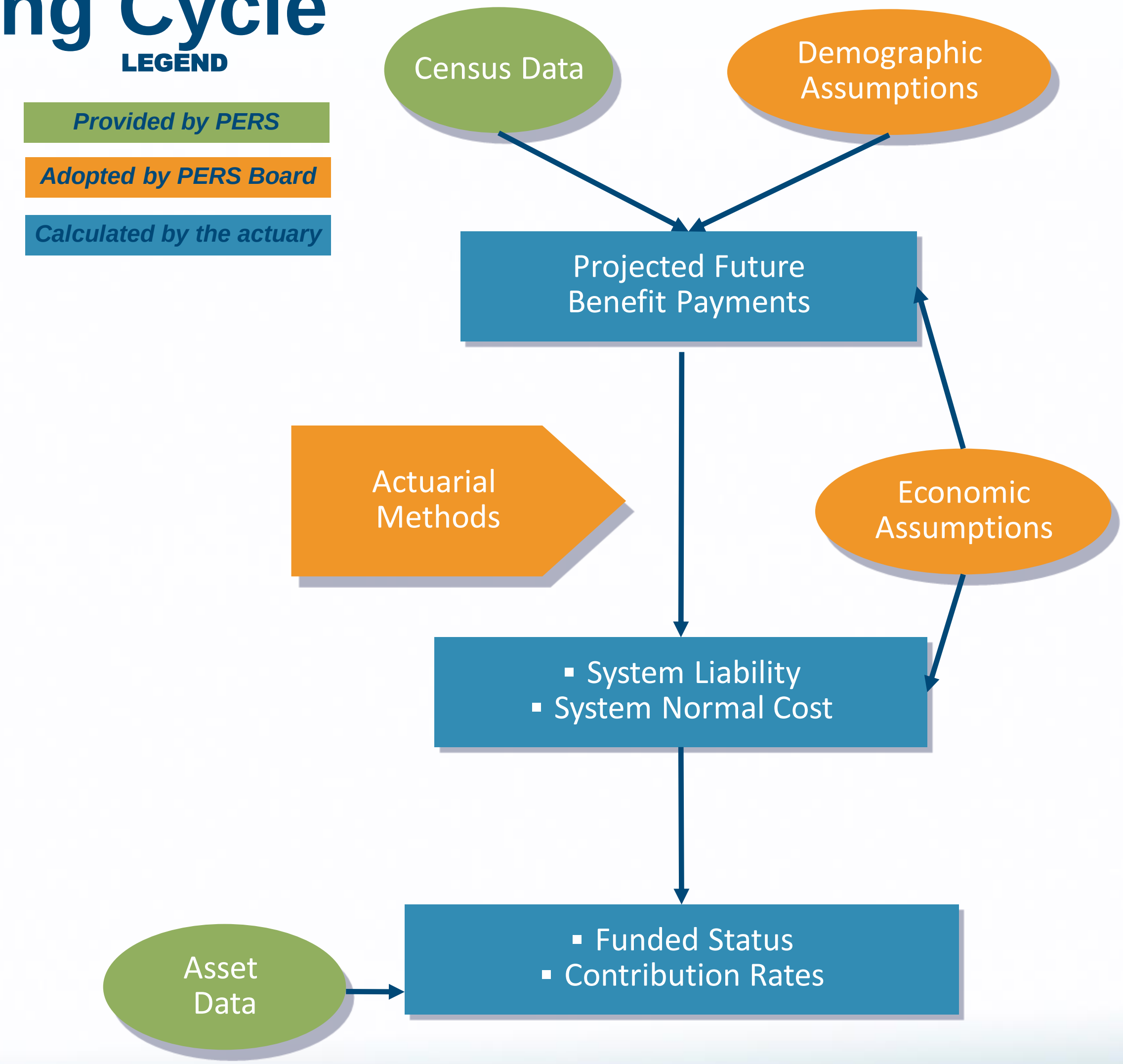
Two-Year Rate-Setting Cycle

- July 2013: Assumptions & methods endorsed by Board in consultation with the actuary
- September 2013: System-wide 12/31/12 “advisory” actuarial valuation results
- November 2013: Advisory 2015-2017 employer-specific contribution rates
- **July 2014: System-wide 12/31/13 “rate-setting” actuarial valuation results**
- September 2014: Disclosure & adoption of employer-specific 2015-2017 contribution rates



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Guiding Principles

- In setting rates, the PERS Board has identified the following guiding principles:
  - Transparent
  - Predictable and stable rates
  - Protect funded status
  - Equitable across generations
  - Actuarially sound
  - GASB compliant
- Tension exists between some of the goals (e.g. stability of rates and protecting funded status)
  - Balancing the competing priorities is important to the policy decisions surrounding the rate-setting cycle

Guiding Principles

- Recently, several notable organizations have published principles and policy objectives for public plan sponsors to consider
  - GFOA and “Big 7”, American Academy of Actuaries, Conference of Consulting Actuaries, Society of Actuaries
  - Many similarities to the PERS framework shown on prior slide
- For example, GFOA recommends that sponsoring employers:
  - Base contributions on an actuarially determined rate
  - Fully fund the actuarial rate in each period
  - Develop the actuarial rate to balance goals of:
    - Keeping contributions stable, and
    - Equitably allocating costs over periods of service
  - Demonstrate accountability and transparency

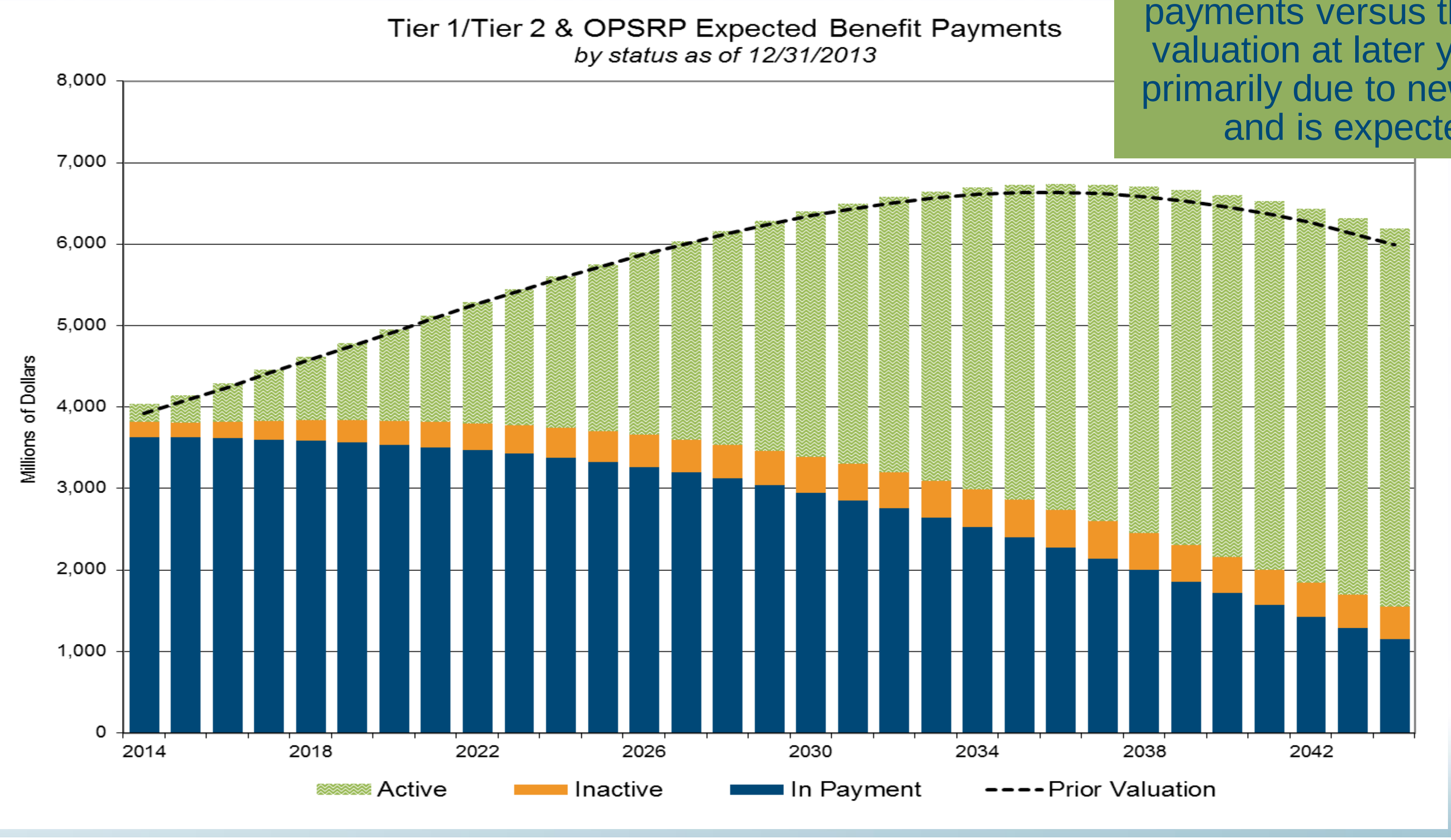
Changes Since Last Rate-Setting Valuation

- 12/31/2011 valuation developed initial 2013-2015 contribution rates
- 2013 legislative changes (SB 822 & 861) lowered projected benefits
  - Reflected in final 2013-2015 rates per legislative direction
- PERS Board adopted new assumptions and methods from the 2012 Experience Study, including:
  - Lowering investment return assumption to 7.75%
  - Change to Entry Age actuarial cost allocation method
  - Re-amortizing all existing Tier 1/Tier 2 Unfunded Accrued Liability (UAL) as of 12/31/2013 over a twenty-year period
- 2012 and 2013 asset returns were greater than assumed
  - Generated approximately $6.4 billion actuarial gain over the biennium

Development of Liabilities

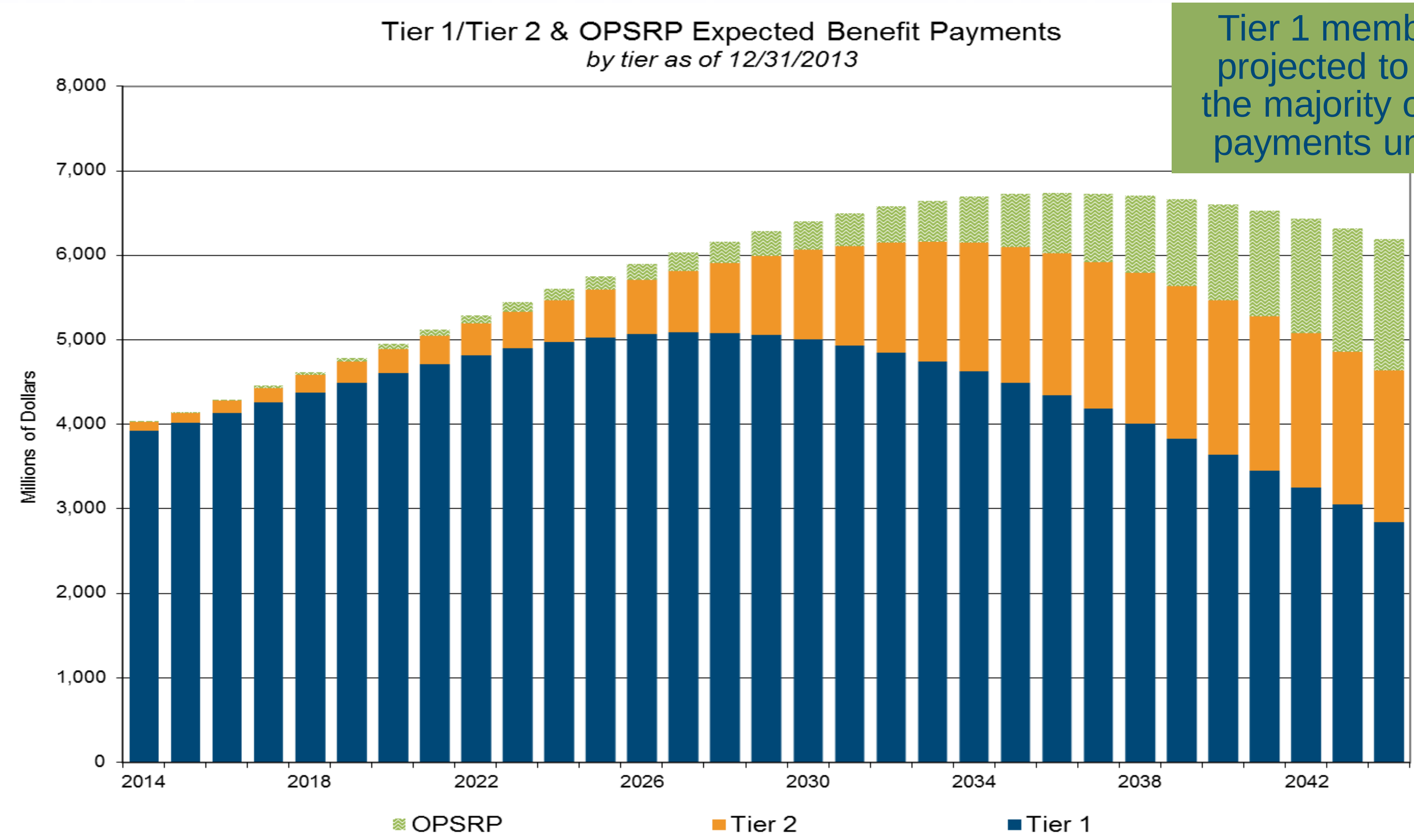
Liabilities are calculated from projected benefit payments

Slight increase in projected payments versus the prior valuation at later years is primarily due to new hires, and is expected.



Development of Liabilities

This chart shows projected payments split by membership group



Tier 1 members are projected to receive the majority of benefit payments until 2042

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System-Wide Valuation Results

Tier 1/Tier 2 & OPSRP (Excluding Retiree Health Care)

Reflects:	**12/31/2011**	**12/31/2012**	**12/31/2013**
SB 822 & SB 861 Benefit Changes?	***No***	***Yes***	***Yes***
2012 Experience Study Assumptions?	***No***	***Yes***	***Yes***
Accrued Liability	$61.2	$60.4	$62.6
Assets (excluding side accounts)	$44.9	$49.3	$54.1
Unfunded Accrued Liability (UAL)	$16.3	$11.1	$8.5
Funded Status (excluding side accounts)	**73%**	**82%**	**86%**
Assets (including side accounts)	$50.2	$54.8	$60.0
UAL (including side accounts)	$11.0	$5.6	$2.6
Funded Status (including side accounts)	**82%**	**91%**	**96%**

(amounts in billions)

Uncollared System Average Base Rates

Excludes Retiree Health Care, IAP Contributions, Rate Collar, Side Accounts

	12/31/2011[1] 2013 - 2015 Rates			12/31/2013[1] 2015 - 2017 Rates		
	Tier 1 / Tier 2	OPSRP	System-Wide	Tier 1 / Tier 2	OPSRP	System-Wide
Normal Cost	9.00%	6.56%	8.16%	13.18%	7.79%	10.94%
Tier 1/Tier 2 UAL	14.77%	14.77%	14.77%	6.63%	6.63%	6.63%
OPSRP UAL	0.15%	0.15%	0.15%	0.61%	0.61%	0.61%
Valuation Uncollared Rate	**23.92%**	**21.48%**	**23.08%**	**20.42%**	**15.03%**	**18.18%**
Effect of SB 822 & SB 861	**-4.28%**	**-4.28%**	**-4.28%**			
Modified Uncollared Base Rate	**19.64%**	**17.20%**	**18.80%**			

Without the 2013 benefit changes, 2015-17 uncollared base rates are preliminarily estimated to be 4.5%-5.0% higher

2015 - 2017 uncollared rates reflect a re-amortization (as a level percentage of payroll) of Tier 1/Tier 2 UAL over twenty years

[1] *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*

Collared System Average Base Rates

Excludes Retiree Health Care & IAP Contributions, Side Account Offsets

	12/31/2011[1] 2013 - 2015 Rates			12/31/2013[1] 2015 - 2017 Rates		
	Tier 1 / Tier 2	OPSRP	System-Wide	Tier 1 / Tier 2	OPSRP	System-Wide
Uncollared Rate	**19.64%**	**17.20%**	**18.80%**	**20.42%**	**15.03%**	**18.18%**
Collar Adjustment	(2.30%)	(2.30%)	(2.30%)	(0.72%)	(0.72%)	(0.72%)
Collared Base Rate	**17.34%**	**14.90%**	**16.50%**	**19.70%**	**14.31%**	**17.46%**
Change from 2013-2015				**2.36%**	**(0.59%)**	**0.96%**

The rate collar methodology sets the maximum allowable change in base contribution rates from one biennium to the next. For base rates effective July 2015, the collar:

- ***Limited base rate increases for SLGRP employers by 1.14%***
- ***Had no effect on School Districts (i.e., 2015-17 uncollared & collared rates are equal)***

These effects, combined with independent employer results, led to a system average collar adjustment of 0.72% for 2015 – 2017 system average base rates.

[1] *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*

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Understanding Base Rate Changes

- Tier 1/Tier 2 base rates increased, while OPSRP base rates decreased
- 2012-13 investment results lowered UAL rates
  - UAL rates are charged uniformly across both Tier 1/Tier 2 and OPSRP payrolls
- Change to the GASB-endorsed Entry Age cost method increased Normal Cost rates
  - Change was not uniform across both payrolls; differing effects of Entry Age explain rate changes

	Collared Base Rates		
	2013-15	2015-17	Change
Tier 1/Tier 2	17.34%	19.70%	2.36%
OPSRP	14.90%	14.31%	(0.59%)
	Difference =		**2.95%**

	Normal Cost Rates		
	2013-15	2015-17	Change
Tier 1/Tier 2	9.00%	13.18%	4.18%
OPSRP	6.56%	7.79%	1.23%
	Difference =		**2.95%**

Collared System Average Net Rates

Excludes Retiree Health Care & IAP Contributions

	12/31/2011[1] 2013 - 2015 Rates			12/31/2013[1] 2015 - 2017 Rates		
	Tier 1 / Tier 2	OPSRP	System-Wide	Tier 1 / Tier 2	OPSRP	System-Wide
Collared Base Rate	**17.34%**	**14.90%**	**16.50%**	**19.70%**	**14.31%**	**17.46%**
Side Account (Offset)	(5.26%)	(5.26%)	(5.26%)	(6.38%)	(6.38%)	(6.38%)
SLGRP Net (Offset)	(0.44%)	(0.44%)	(0.44%)	(0.47%)	(0.47%)	(0.47%)
Collared Net Rate	**11.64%**	**9.20%**	**10.80%**	**12.85%**	**7.46%**	**10.61%**
Change from 2013-2015				**1.21%**	**(1.74%)**	**(0.19%)**

Rates vary substantially by employer and by pool, and not all employers have side account offsets

Changes in side account offsets are not collared, and thus are more volatile than base rates

[1] *For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.*

Comments on System Average Rates

- No single employer pays the system average rate
  – School district base rates are above the average
  – Most SLGRP employers' base rates are below the average
- Rates shown do not include the effects of:
  – Individual Account Plan (IAP) contributions
  – Rates for the RHIA & RHIPA retiree healthcare programs
  – Debt service payments on pension obligation bonds

Pool average rates for the two large employer rate pools (SLGRP, School Districts) are shown at the end of this presentation

12/31/2013 Retiree Health Care Valuation

- Two separate health care benefit subsidies are valued:
  - RHIA provides a $60 per month subsidy toward healthcare premiums for Medicare-eligible Tier 1/Tier 2 retirees
  - RHIPA provides Tier 1/Tier 2 state employees who retire prior to age 65 with an alternative to PEBB coverage until they reach Medicare eligibility
- OPSRP retirees are not eligible for either subsidy
- RHIA and RHIPA benefits are currently less well funded than Tier 1/Tier 2 & OPSRP benefits
  - To help address that, in July 2009 the Board shortened the shortfall amortization period to ten years to improve funded status over time
  - Rates reflecting the shorter amortization were first effective July 2011

12/31/2013 Retiree Health Care Valuation

- While funded status is low, RHIA and RHIPA liabilities combined are less than 1% of the pension liability
- In last year's experience study, we recommended restructuring the RHIPA participation assumption for future state government retirements
  – We assumed higher participation rates for retirees eligible for the largest employer-paid subsidies
  – RHIPA program has historically had participation levels less than 20%

12/31/2013 Retiree Health Care Valuation

- RHIPA funded status increased slightly in the past year from 7% to 9%
- The higher employer contribution rates effective July 2011 have helped mitigate the program's negative cash flow
- Additional employer contribution rate increases due to the updated assumptions will be first effective in July 2015
- RHIPA warrants continued monitoring, as funded status is very low and subsidy payments are sensitive to actual participation levels

12/31/2013 Retiree Health Care Valuation

Unfunded Accrued Liability (UAL) and Advisory Contribution Rates

(amounts in millions)	RHIA		RHIPA*	
	12/31/2012	12/31/2013	12/31/2012	12/31/2013
Accrued Liability	$472	$474	$60	$61
Assets	$292	$354	$ 4	$ 5
UAL	$180	$120	$56	$56
Funded Status	**62%**	**75%**	**7%**	**9%**
Normal Cost Rate	**0.08%**	**0.08%**	**0.09%**	**0.09%**
UAL Rate	**0.48%**	**0.45%**	**0.34%**	**0.35%**
Total Rate	**0.56%**	**0.53%**	**0.43%**	**0.44%**

**State Agencies, OUS, and State Judiciary are the only employers who pay RHIPA rates*

RHIPA assets at year-end 2013 were only slightly larger than the magnitude of 2013 RHIPA benefit payments

Pool Average Employer Contribution Rates

- A listing of contribution rates for each employer will be presented at the September Board meeting
- Employer rates are developed by payroll category
  - Tier 1/Tier 2
  - OPSRP General Service
  - OPSRP Police & Fire
- An employer's rates in each category depend on:
  - Tier 1/Tier 2 pooling arrangement (SLGRP, school district, independent)
  - Employer-specific items like side accounts or pre-SLGRP liabilities
- Following slides show <u>pool average</u> "base" and "net" rates for employers in the two large Tier 1/Tier 2 rate pools

SLGRP Average Contribution Rates

(Includes Retiree Health Care, Excludes IAP)

	Pool Average Base Rate			Pool Average Net Rate		
	2013-15	2015-17	Change	2013-15	2015-17	Change
Tier 1/Tier 2 GS/PF Payroll	16.05%	19.58%	3.53%	11.03%	13.79%	2.76%
OPSRP GS Payroll	13.04%	13.13%	0.09%	8.02%	7.34%	(0.68%)
OPSRP PF Payroll	15.77%	17.24%	1.47%	10.75%	11.45%	0.70%
Weighted Average	**15.11%**	**17.06%**	**1.95%**	**10.09%**	**11.27%**	**1.18%**

- Between the 2011 and 2013 rate-setting valuations the SLGRP's Tier 1/Tier 2 UAL decreased from $7.9 billion to $3.9 billion
  - SLGRP payroll is approximately $5.1 billion
- Individual employer rates will vary from average due to:
  - Member payroll split between tiers and job classifications
  - Employer-specific pre-SLGRP liabilities or surpluses
  - Employer side accounts

School District Average Contribution Rates

(Includes Retiree Health Care, Excludes IAP)

	Pool Average Base Rate			Pool Average Net Rate		
	2013-15	2015-17	Change	2013-15	2015-17	Change
Tier 1/Tier 2 Payroll	22.29%	22.33%	0.04%	13.94%	11.71%	(2.23%)
OPSRP GS Payroll	20.29%	17.64%	(2.65%)	11.94%	7.02%	(4.92%)
Weighted Average	**21.64%**	**20.50%**	**(1.14%)**	**13.29%**	**9.88%**	**(3.41%)**

- Between the 2011 and 2013 rate-setting valuations school districts' Tier 1/Tier 2 UAL decreased from $7.0 billion to $3.4 billion
  – School district payroll is approximately $2.7 billion
  – The UAL decrease is similar to the SLGRP's but school district payroll is barely half of SLGRP payroll, making school district base rates more sensitive to investment outperformance than SLGRP base rates
- Side accounts further leveraged net rate changes
- Individual district rates will vary from average due to side accounts

Wrap Up / Next Steps

- Valuation next steps
  - Present employer-specific rates for adoption at September meeting
  - Issue system-wide December 31, 2013 actuarial valuation report
  - Prepare employer-specific rate-setting valuation reports
    - PERS distributes to employers
- Work with PERS, employers and auditors to transition to new GASB reporting standards
  - Employer reporting under the new standard will first occur for the fiscal year ending on June 30, 2015

Certification

This presentation summarizes key preliminary results of an actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2013, for the Plan Year ending December 31, 2013. The results are preliminary in nature and may not be relied upon to, for example, prepare the System’s Consolidated Annual Financial Report (CAFR). The reliance document will be the forthcoming formal December 31, 2013 System-Wide Actuarial Valuation Report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System’s staff. This information includes, but is not limited to, statutory provisions, employee 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 our best estimate of anticipated experience affecting the System.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan 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 plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The PERS Board has the final decision regarding the appropriateness of the assumptions.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Actuarial computations presented in this report under GASB Statements No. 25 and 27, 43 and 45 are for purposes of fulfilling financial accounting 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

Certification

funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the plan provisions described in the appendix of 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.

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The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel. The signing actuaries are independent of the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

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

Appendix

Data Exhibits

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

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

Appendix

Actuarial Basis

Data

We have based our calculation of the liabilities on the data supplied by the Oregon Public Employees Retirement System and summarized in the data exhibits on the preceding slides.

Assets as of December 31, 2013, were based on values provided by Oregon PERS reflecting the Board's earnings crediting decisions for 2013.

Methods / Policies

Actuarial Cost Method: Entry Age Normal, adopted effective December 31, 2012.

UAL Amortization: The UAL for OPSRP and Retiree Health Care as of December 31, 2007 are amortized as a level percentage of combined valuation payroll over a closed 16 year period for OPSRP and a closed 10 year period for Retiree Health Care. For the Tier 1/Tier 2 UAL, the amortization period is reset at 20 years as of December 31, 2013. Gains and losses between subsequent odd-year valuations are amortized as a level percentage of combined valuation payroll over the amortization period (20 years for Tier/Tier 1, 16 years for OPSRP, 10 years for Retiree Health Care) from the odd-year valuation in which they are first recognized.

Contribution rate stabilization method: Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) are confined to a 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 60% or increases above 140%, the size of the collar doubles. If the funded percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Appendix

Actuarial Basis

Methods / Policies (cont'd)

Expenses: OPSRP administration expenses are assumed to be equal to $5.5M and are added to the OPSRP normal cost.

Actuarial Value of Assets: Equal to Market Value of Assets excluding Contingency and Tier 1 Rate Guarantee Reserves. The Tier 1 Rate Guarantee Reserve is not excluded from assets if it is negative (i.e. in deficit status).

Assumptions

Assumptions for valuation calculations are as described in the 2012 Experience Study for Oregon PERS and were presented to the PERS Board in July 2013.

Provisions

Provisions valued are as detailed in the 2012 Valuation Report, and include the provisions of Senate Bill 822, which was enacted by the Oregon Legislature in April 2013, and SB 861, enacted in October 2013.