

# DECEMBER 31, 2010 ACTUARIAL VALUATION OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

SEPTEMBER 30, 2011

# Executive Summary

- System-wide funded status increased from 76% at December 2009 to 78% at December 2010 when side accounts are excluded from assets. Funded status including side accounts increased from 86% to 87%
- The actuarial shortfall between assets (excluding side accounts) and liabilities decreased from \$13.6 billion to \$13.3 billion. Including side accounts, the shortfall decreased from \$8.1 billion to \$7.7 billion.
- In the year-end 2010 valuation, advisory base employer contribution rates are 3.6% of payroll above rates currently in effect. Much of the increase is due to the rate collar spreading rate increases to restore funded status across multiple periods.
- Investment returns through the end of August of +3.5% are below assumption. A 50<sup>th</sup> percentile investment return for the rest the year would lead to a lower funded status, larger actuarial shortfall and higher employer contribution rates at the December 2011 rate setting valuation.
- Due to the combined effects of participation and healthcare cost inflation, the funded status for the RHIPA retiree medical program for state employees decreased to 17%.

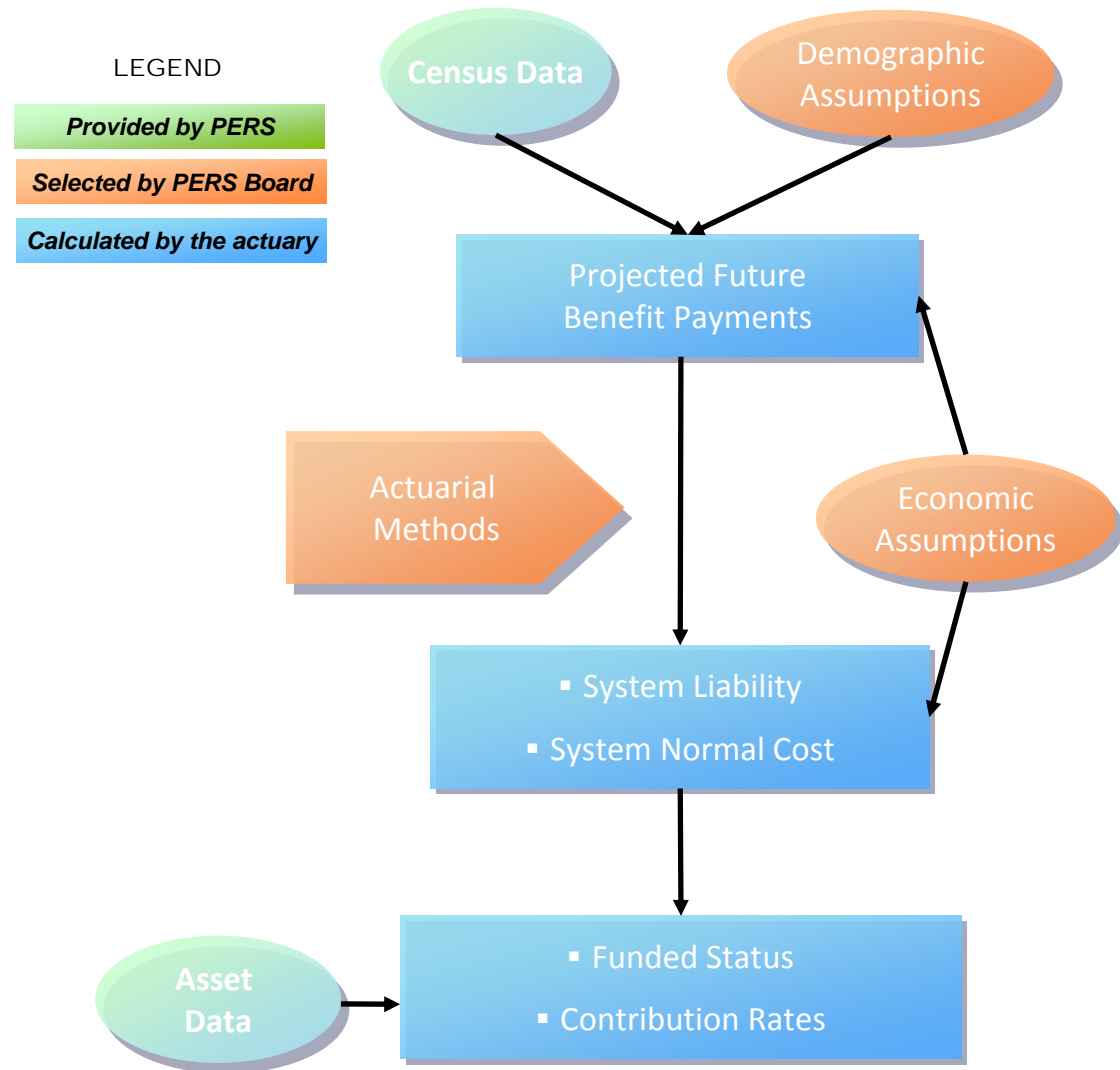
Please note that this presentation cannot be relied upon on its own to meet financial reporting requirements under GASB. The formal actuarial valuation report issued subsequent to this meeting will contain the final results and supporting documentation to allow employer reliance under the applicable professional standards.

# Introduction

## Valuation Process and Timeline

### PERS Board Actuarial Schedule

- May: Actuarial methods and economic assumptions
- July: Demographic assumptions and investment return
- **September: System-wide 12/31/2010 funding results and advisory contribution rates and 2012-2013 actuarial equivalency factors**
- November: Distribution of employer-specific advisory 2013-2015 contribution rates



## Key Findings

### Overview of System-Wide December 31, 2010 Valuation Results

- Funded status improved during 2010, but is still well below 2007 levels

Tier 1/Tier 2/OPSRP Combined Funded Status as of December 31

	2007	2008	2009	<b>2010</b>
Excluding side accounts	98%	71%	76%	<b>78%</b>
Including side accounts	112%	80%	86%	<b>87%</b>

- Unfunded accrued liability (UAL) excluding side accounts as of 12/31/2010 is \$13.3 billion; including side accounts it is \$7.7 billion
- Year-to-date 2011 investment return through Aug 31 was +3.5% for regular accounts
- Employer contribution rates are set biennially based on results of “odd year” actuarial valuations
  - This 12/31/2010 valuation is strictly advisory and does not set rates
  - The 12/31/2011 valuation will set rates for the 2013-2015 biennium

## Key Findings

### Overview of System-Wide December 31, 2010 Valuation Results

- Rates are calculated to amortize shortfalls over a fixed period as a level percent of payroll if all assumptions are met. The methodology includes a rate collar to spread large rate changes over multiple periods.
- Rates shown below do not include Individual Account Program (IAP) contributions or debt service payments on pension obligation bonds.

#### System-Wide Tier 1/Tier 2/OPSRP Plus Retiree Health Care Contribution Rates

	<b>2009-2011</b>	<b>Collared 2011-2013</b>	<b>Advisory Collared 2013-2015</b>	Advisory Uncollared 2013-2015
Base rates (before effect of side account offsets)	<b>12.4%</b>	<b>16.3%</b>	<b>19.9%</b>	20.3%
Net rates (reflect side account rate offsets)	<b>5.2%</b>	<b>10.8%</b>	<b>14.2%</b>	14.6%

- Unlike base rates, net rates are affected by side account rate offset levels. Changes in side account rate offset levels are closely linked to investment performance during each biennium compared to the investment return assumption.

# Key Findings

## Projection to Year-End 2011 Excluding Side Accounts

Percentile	2011 Asset Return	Projection to 12/31/2011			Change from 2011-13 Collared Base Rate
		Funded Status (Excluding Side Accounts)	UAL Excluding Side Accounts (billions)	Advisory Uncollared Base Rate	
5 <sup>th</sup>	-7.8%	66%	\$21.0	26.3%	10.0%
10 <sup>th</sup>	-4.7%	68%	\$19.6	25.2%	8.9%
25 <sup>th</sup>	0.5%	72%	\$17.3	23.4%	7.1%
<b>50<sup>th</sup></b>	<b>6.2%</b>	<b>76%</b>	<b>\$14.6</b>	<b>21.5%</b>	<b>5.2%</b>
75 <sup>th</sup>	11.9%	80%	\$12.1	19.6%	3.3%
90 <sup>th</sup>	17.1%	83%	\$10.1	18.1%	1.8%
95 <sup>th</sup>	20.1%	85%	\$9.0	17.2%	0.9%
<b>Values at 12/31/2010:</b>		<b>78%</b>	<b>\$13.3</b>	<b>20.3%</b>	

Assumptions and methods underlying the projection are described in the appendix. Actual experience will vary from projection.

- Since returns through August are below assumption, the majority of return scenarios modeled show a 2011 total return below 8%
- All modeled scenarios have a forecast rate increase when compared to the current rates

## Key Findings

### Average Base Contribution Rates Including Retiree Health Care (Excluding IAP)

- While system-wide advisory base rates increased by 3.6% of payroll, the increase varied from rate pool to rate pool
  - The State and Local Government Rate Pool (SLGRP), which is 79% funded excluding side accounts, has lower rates and a lower increase than the School District rate pool, which is 75% funded

Average Base Employer Rates	SLGRP	School Districts	OPSRP	System-wide
2011-2013 Base Rates	15.8%	19.5%	14.7%	16.3%
<b>2013-2015 Advisory Base Rates</b>	<b>19.2%</b>	<b>23.8%</b>	<b>18.2%</b>	<b>19.9%</b>
Base Rate Increase	3.4%	4.3%	3.5%	3.6%

- Changes in base rates vary significantly by individual employer and to a lesser extent by rate pool

## Key Findings

### Average Net Contribution Rates Including Retiree Health Care (Excluding IAP)

- Increases in advisory net rates are very similar to the increases in the advisory base rates
  - This indicates that based on 2010 investment experience side account rate offset levels are forecast to remain relatively constant
  - Poor investment performance in 2011 could lead to lower side account rate offsets and net rate increases in excess of base rate increases

Average Net Employer Rates <sup>1</sup>	SLGRP	School Districts	OPSRP	System-wide
2011-2013 Net Rates	10.8%	11.7%	9.2%	10.8%
<b>2013-2015 Advisory Net Rates</b>	<b>14.2%</b>	<b>15.8%</b>	<b>12.5%</b>	<b>14.2%</b>
Net Rate Increase	3.4%	4.1%	3.3%	3.4%

- Changes in net rates vary significantly by individual employer and to a lesser extent by rate pool

<sup>1</sup> In this exhibit, 2011-2013 and 2013-2015 base rates are adjusted by two factors to calculate estimated system-wide net rates. Adjustments are for side accounts and pre-SLGRP liabilities/(surpluses) and are assumed not to be limited when an individual employer reaches a 0% contribution rate.

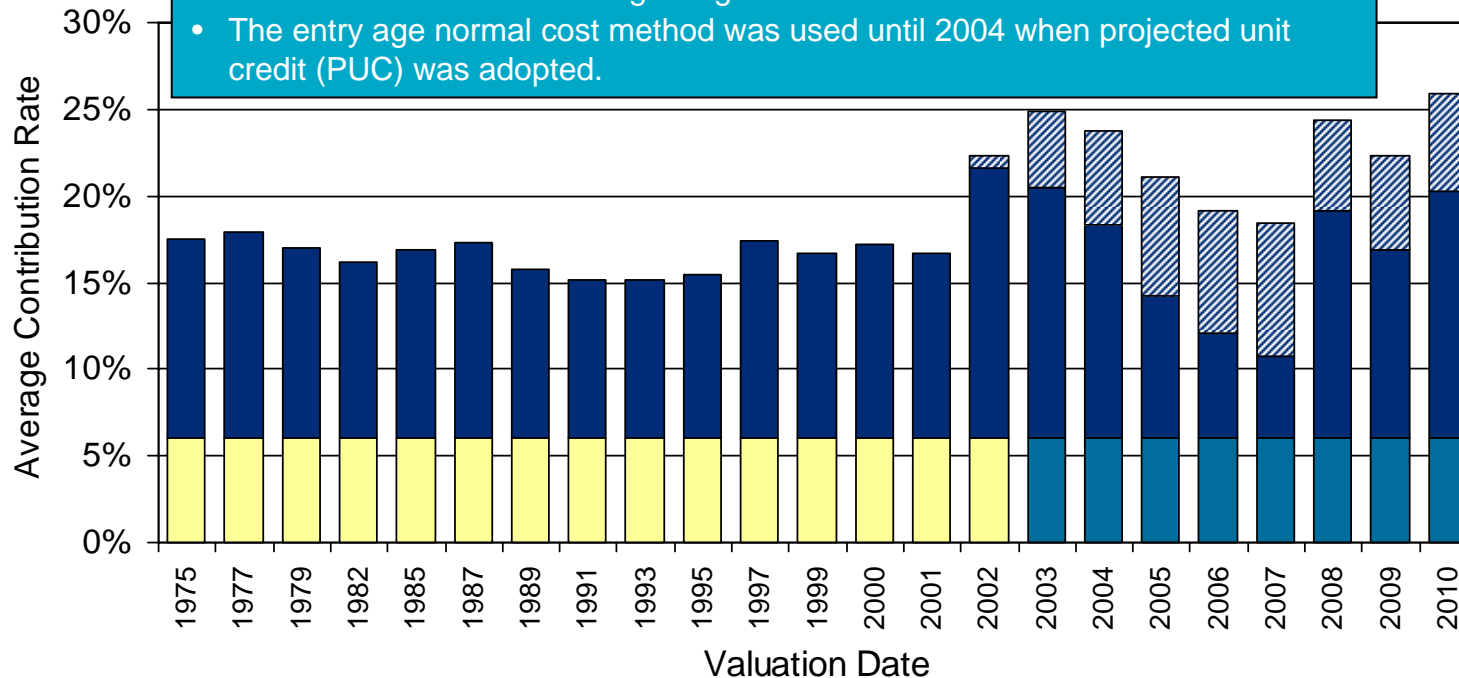


# Key Findings

## Historical Perspective on Valuation Rates (Including IAP)

When comparing historical valuation rates, please note that there have been a number of changes including:

- Money Match benefits were not valued until 1997.
- A smoothed value of assets was used from 2000 through 2003.
- PERS reform was valued beginning in 2001.
- The entry age normal cost method was used until 2004 when projected unit credit (PUC) was adopted.



Member 6% Contribution
  IAP 6% Contribution  
 Adjusted Employer Contribution
  Average Adjustment\*

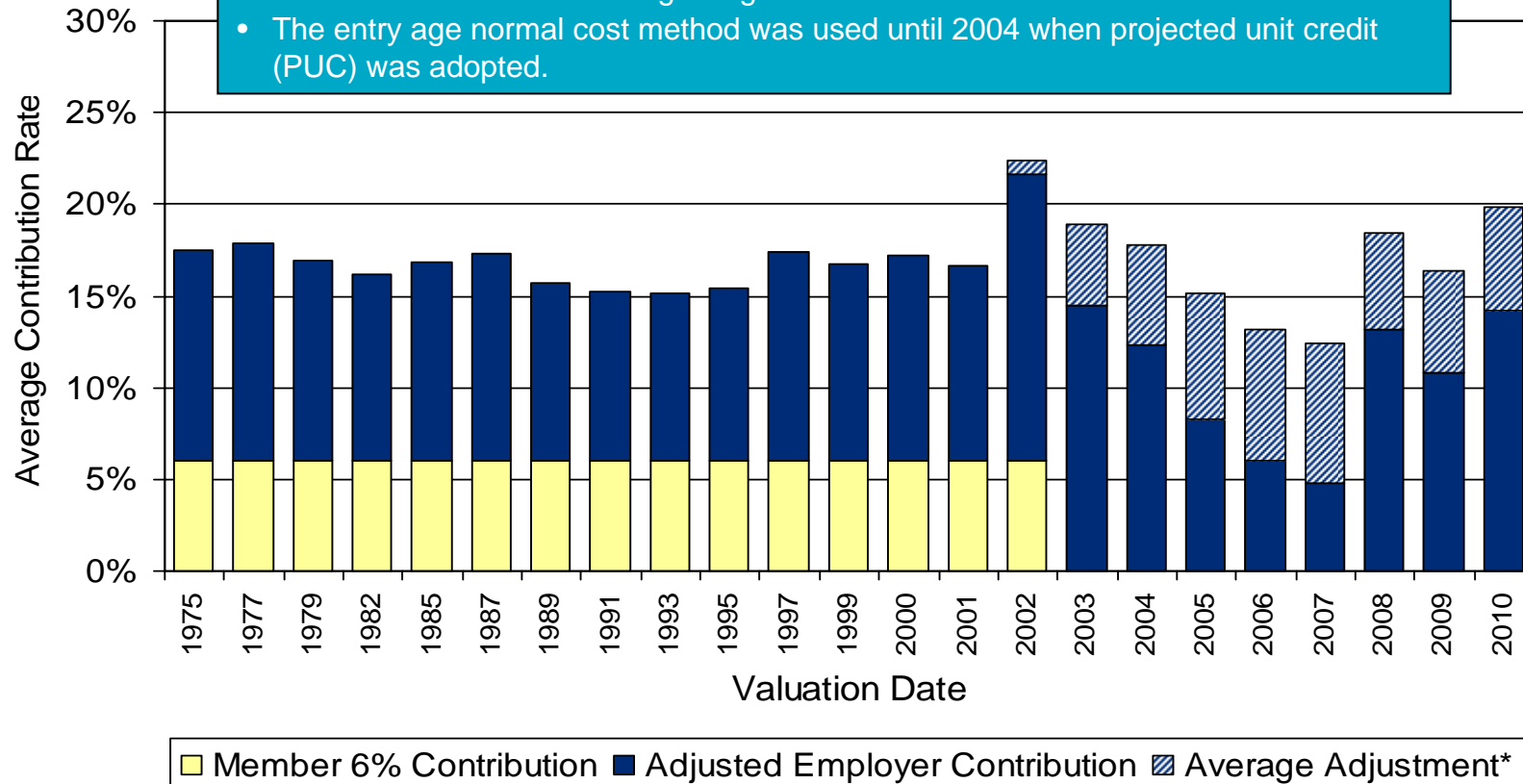
\* Adjustments to individual employer contribution rates are made for side accounts and pre-SLGRP liabilities or surpluses

# Key Findings

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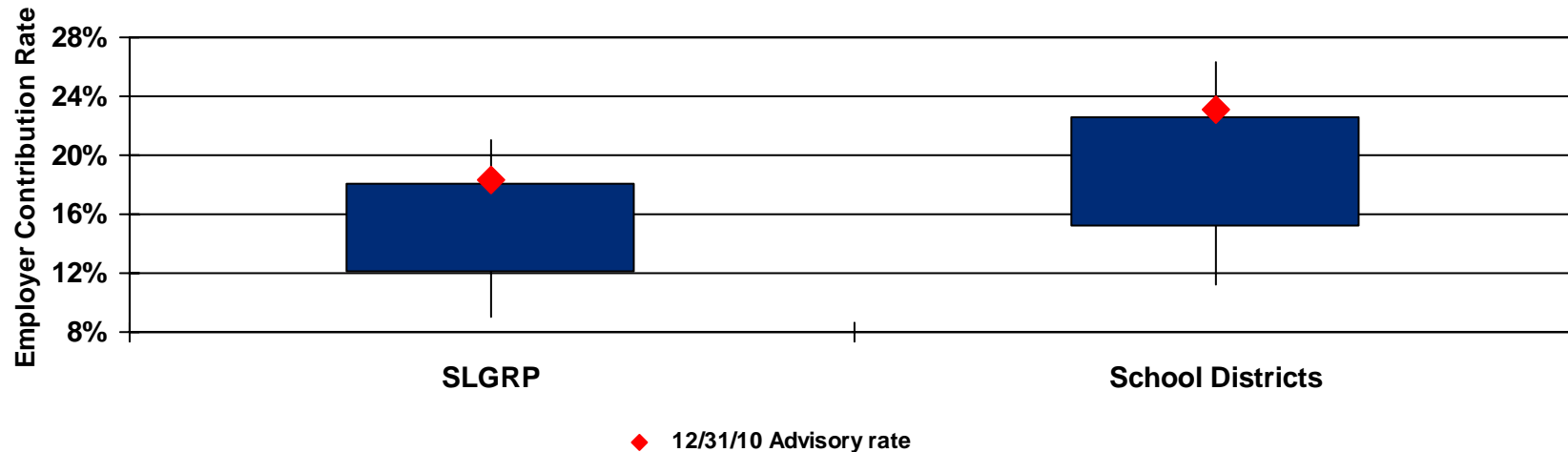


\* Adjustments to individual employer contribution rates are made for side accounts and pre-SLGRP liabilities or surpluses

## Key Findings

### Collar Limits for Base Rates Effective 2013-2015 (Excluding Retiree Health Care and IAP)

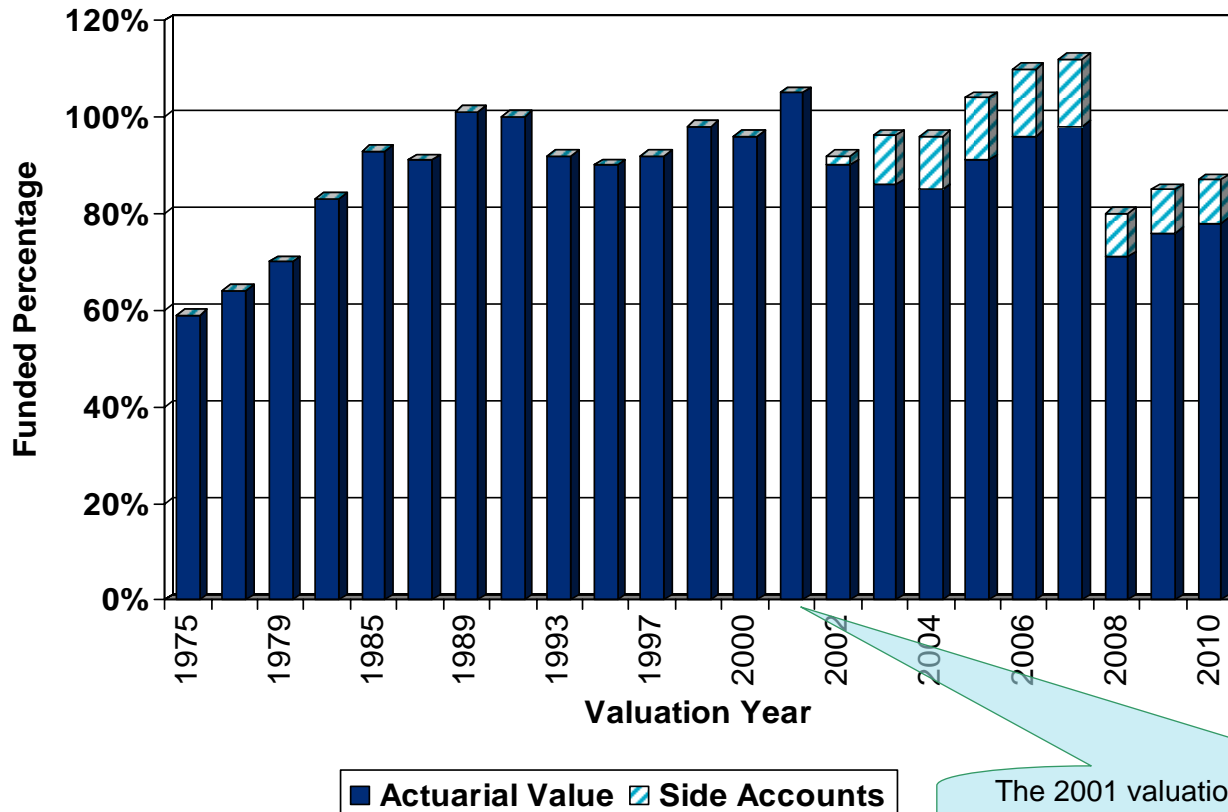
July 1, 2013 Collar Limits



- A rate collar limits rate changes from period to period. Rates currently in effect set the collar for the 2013-2015 period.
- The blue boxes show the width of the collar if funded status is at least 80%. The width of the double collar in effect if funded status is 70% or lower is shown by the line above the box.
- Collars are set on a rate pool by rate pool basis.
- UAL rates are charged on all payroll (for example, the Tier 1/Tier 2 UAL rate is charged on both Tier 1/Tier 2 payroll and OPSRP payroll).

# Key Findings

## Tier 1/Tier 2/OPSRP Historical Funded Status



When comparing historical Funded status, please note that there have been a number of changes including:

- Money Match benefits were not valued until 1997.
- A smoothed value of assets was used from 2000 through 2003.
- PERS reform was valued beginning in 2001.
- The entry age normal cost method was used until 2004 when projected unit credit (PUC) was adopted.

The 2001 valuation was revised to include the impact of PERS reform legislation enacted in 2003. Prior to the revision, the funded percentage was 88%.

12/31/2010 TIER 1/TIER 2 & OPSRP  
VALUATION  
OREGON PUBLIC EMPLOYEES  
RETIREMENT SYSTEM

# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation Assets

- Valuation assets used to set Tier 1/Tier 2 & OPSRP contribution rates exclude:
  - The Contingency and Tier 1 Rate Guarantee Reserves,
  - Side accounts,
  - Pre-SLGRP liabilities and surpluses, and
  - IAP and Retiree Health Care (RHIA, RHIPA) assets

<i>(amounts in millions)</i>	Tier 1/ Tier 2	OPSRP	Side Accounts	Contingency Reserve	Rate Guarantee Reserve
<b>Assets as of January 1, 2010</b>	43,251	445	5,490	653	(442)
<b>Contributions &amp; side account transfers</b>	838	147	(559)	0	0
<b>Benefit payments &amp; expenses</b>	(3,093)	(8)	(0)	0	0
<b>Investment income</b>	4,996	75	648	81	243
<b>Assets as of December 31, 2010</b>	45,992	659	5,579	734	(199)
<b>Negative RGR adjustment</b>	(199)	0	0	0	199
<b>Pre-SLGRP liabilities/(surplus)</b>	(448)	0	0	0	0
<b>Valuation assets</b>	45,345	659	5,579	734	0

## 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation Normal Cost Rate

- The average normal cost rate decreased 3 basis points since the last valuation
- Active members projected to retire under the Money Match formula have a 0% normal cost rate. As a result, Tier 1 general service members have the lowest normal cost rate.
- Normal cost rates are expected to rise over time as the OPSRP tier's average age and service increase and as long-service Tier 1 actives retire under the Money Match formula and are replaced by new OPSRP members.

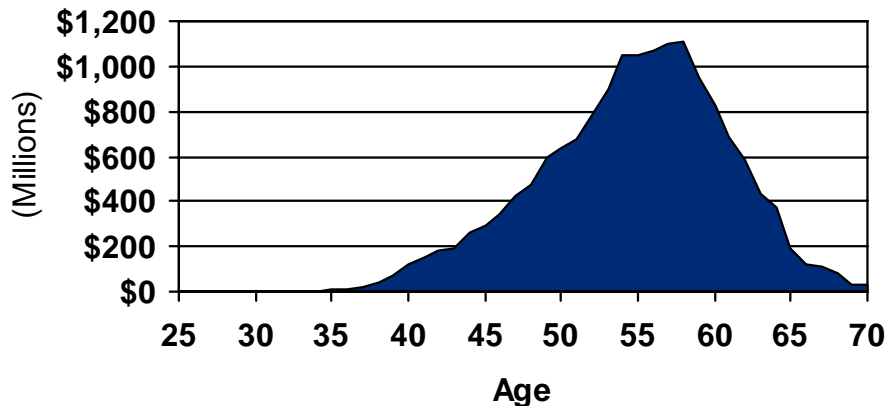
	Valuation		
	12/31/2008	12/31/2009	12/31/2010
T-1, General	5.02%	5.81%	5.73%
T-1, P&F	14.61%	15.79%	14.84%
<b>T-1, Average</b>	<b>6.12%</b>	<b>6.98%</b>	<b>6.81%</b>
T-2, General	9.52%	9.95%	10.32%
T-2, P&F	14.03%	14.67%	14.81%
<b>T-2, Average</b>	<b>10.13%</b>	<b>10.60%</b>	<b>10.95%</b>
OPSRP, General	5.90%	6.13%	6.08%
OPSRP, P&F	8.61%	8.84%	8.82%
<b>OPSRP, Average</b>	<b>6.16%</b>	<b>6.40%</b>	<b>6.35%</b>
<b>System Average</b>	<b>7.44%</b>	<b>7.96%</b>	<b>7.93%</b>

# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation

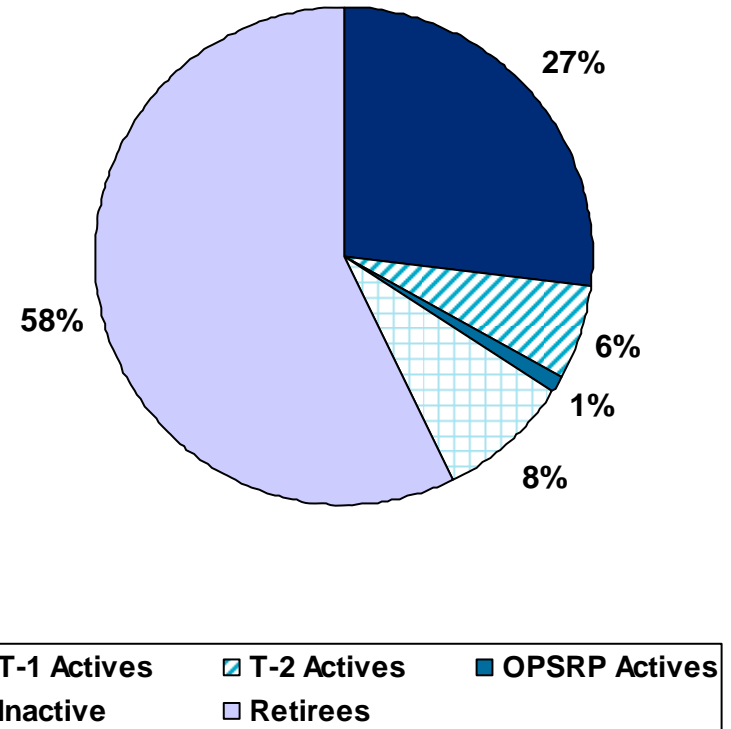
## Actuarial Accrued Liabilities

- While Tier 1 members represent the predominant portion of the active member liability, 66% of the system's total accrued liability is for members who are no longer working in covered employment
- Over 54% of the Tier 1 active member liability is for members over age 55, and approximately 80% of the Tier 1 active member liability is for members over age 50

**Distribution of Tier 1 Active Liability**



**Actuarial Accrued Liability by Member Category**

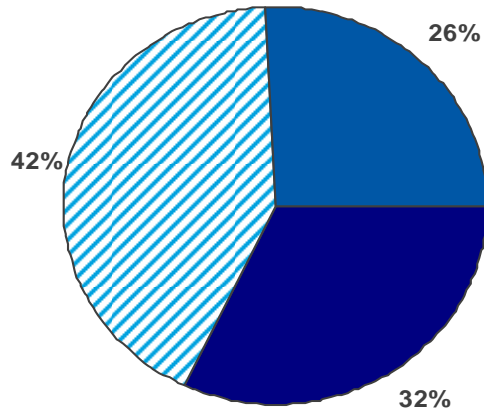




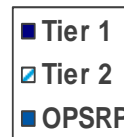
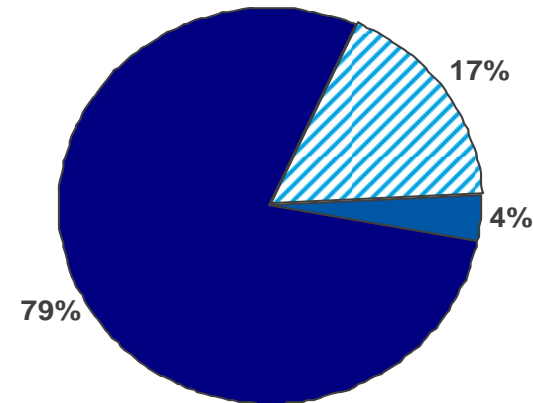
# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation

## Active Member Liabilities

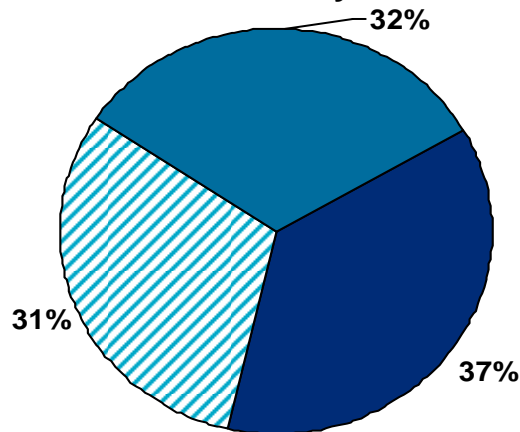
Normal Cost



Actuarial Accrued Liability



Valuation Payroll



- While Tier 1 represents 79% of the accrued liability for active members, it is only 37% of the payroll and 32% of the normal cost
- Tier 2 represents 17% of the accrued liability, 31% of the payroll and 42% of the normal cost
- OPSRP represents 32% of the payroll and 26% of the normal cost, but only 4% of the active member liability

# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation

## Funded Status Measures

- **Unfunded Accrued Liability (UAL) Excluding Side Accounts**
  - The UAL excluding side accounts is used to calculate the employer contribution rates for the SLGRP and School District pools and for independent employers
  - The side accounts are treated as prepaid contributions for the individual employers who have made supplemental contributions
- **Unfunded Accrued Liability (UAL) Including Side Accounts**
  - The UAL including side accounts is used to report the funded status of the system as a whole in financial reporting documents
  - Side accounts are held within the PERS Trust and are available to pay PERS benefits
- **Employer Net Obligation**
  - The employer net obligation is the UAL including side accounts but adjusted for the outstanding principal on pension obligation bonds (POBs)
  - This measure is not used by PERS, but can be used in a broader financial context to understand the outstanding obligations related to PERS

## 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation Unfunded Accrued Liability (UAL)

<i>(amounts in millions)</i>	12/31/2009 Valuation	12/31/2010 Valuation
	System-Wide <sup>1</sup>	System-Wide <sup>1</sup>
Accrued Liability	\$56,811	\$59,330
Assets	\$43,239	\$46,004
<b>UAL Excluding Side Accounts</b>	<b>\$13,572</b>	<b>\$13,325</b>
Side Accounts	\$5,490	\$5,579
<b>UAL Including Side Accounts</b>	<b>\$8,081</b>	<b>\$7,746</b>
POBs	\$6,109	\$6,000
<b>Employer Net Obligations</b>	<b>\$14,191</b>	<b>\$13,746</b>

***The ratio of Side Accounts to outstanding Pension Obligation Bonds (POBs) went from 0.90 to 0.93 between 12/31/2009 and 12/31/2010***

<sup>1</sup> System-wide results include Multnomah Fire District #10

# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation Unfunded Accrued Liability (UAL)

<i>(amounts in millions)</i>	12/31/2009 Valuation	12/31/2010 Valuation
	System-Wide <sup>1</sup>	System-Wide <sup>1</sup>
Payroll (T1/T2 + OPSRP)	\$8,512	\$8,750
UAL Excluding Side Accounts	\$13,572	\$13,325
<b>UAL Excluding Side Accounts as % of Payroll</b>	<b>159%</b>	<b>152%</b>
UAL Including Side Accounts	\$8,081	\$7,746
<b>UAL Including Side Accounts as % of Payroll</b>	<b>95%</b>	<b>89%</b>
UAL Including Side Accounts Adjusted for POBs	\$14,191	\$13,746
<b>Employer Net Obligations as % of Payroll</b>	<b>167%</b>	<b>157%</b>

<sup>1</sup> System-wide results include Multnomah Fire District #10

# 12/31/2010 Tier 1/Tier 2 & OPSRP Valuation 2013-2015 Advisory Contribution Rates (Excluding Retiree Health Care and IAP)

	SLGRP	School Districts	OPSRP	System-Wide
<b>Tier 1/Tier 2/OPSRP</b>				
Normal Cost	8.96%	7.72%	6.35%	7.93%
T1/T2 UAL	9.40%	15.35%	11.16%	11.16%
OPSRP UAL	0.10%	0.10%	0.10%	0.10%
<b>Base Rate, Excluding Retiree Health Care &amp; IAP</b>	<b>18.46%</b>	<b>23.17%</b>	<b>17.61%</b>	<b>19.19%</b>
<b>Adjustments<sup>1</sup></b>				
Side Accounts	(4.34%)	(8.02%)	(5.25%)	(5.25%)
Pre-SLGRP Liabs	(0.74%)	N/A	(0.42%)	(0.42%)
Average Adjustment	(5.08%)	(8.02%)	(5.67%)	(5.67%)
<b>Net Rate, Excluding Retiree Health Care &amp; IAP<sup>1</sup></b>	<b>13.38%</b>	<b>15.15%</b>	<b>11.94%</b>	<b>13.52%</b>

<sup>1</sup> For this exhibit, adjustments are assumed not to be limited due to an individual employer reaching a 0.00% contribution rate.



12/31/2010 RETIREE HEALTH CARE  
VALUATION  
OREGON PUBLIC EMPLOYEES  
RETIREMENT SYSTEM

# 12/31/2010 Retiree Health Care Valuation

## Overview

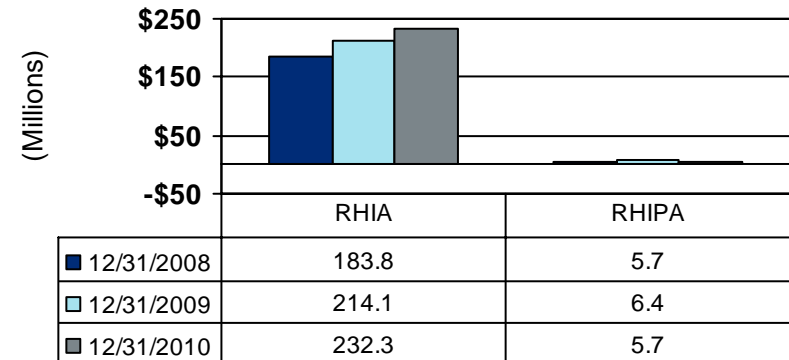
- RHIA provides \$60 per month subsidy toward healthcare premiums for Tier 1/Tier 2 retirees who are eligible for Medicare. OPSRP retirees are not eligible for the RHIA subsidy.
- RHIPA provides Tier 1/Tier 2 State employees who retire prior to age 65 with an alternative to PEBB coverage until they reach Medicare eligibility. OPSRP retirees are not eligible for the RHIPA subsidy.
- These benefits are funded through 401(h) accounts within the PERS trust, but the funds are, by law, kept separate from the pension funds. Consequently, side accounts cannot be used to make RHIA or RHIPA contributions.
- RHIA and RHIPA are not as well-funded as the pension plan.
  - To address that, in July 2009 the Board shortened the amortization period to 10 years to more rapidly improve funded status of those programs.
  - Contribution rates effective July 2011 first reflect this accelerated amortization.
- Contribution rates for RHIA and RHIPA increased effective 2011-2013 due to investment losses and the change from a 20-year amortization period to a 10-year period. They will increase again effective 2013-2015 due to the increase in past and assumed future rates of participation.



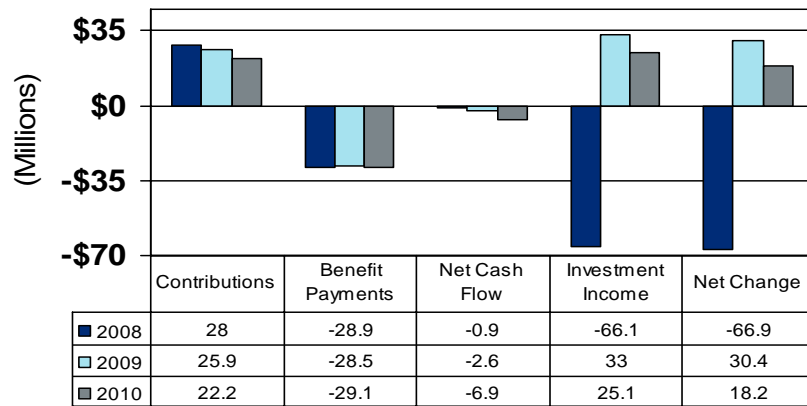
# 12/31/2010 Retiree Health Care Valuation Assets

- During the two year period illustrated, the cumulative net change in retiree health care assets was a \$49 million (or 26%) increase
- For both programs, benefit payments have exceeded contributions
  - For RHIPA, benefit payments increased significantly in 2010, leading to a decline in total assets despite investment gains.

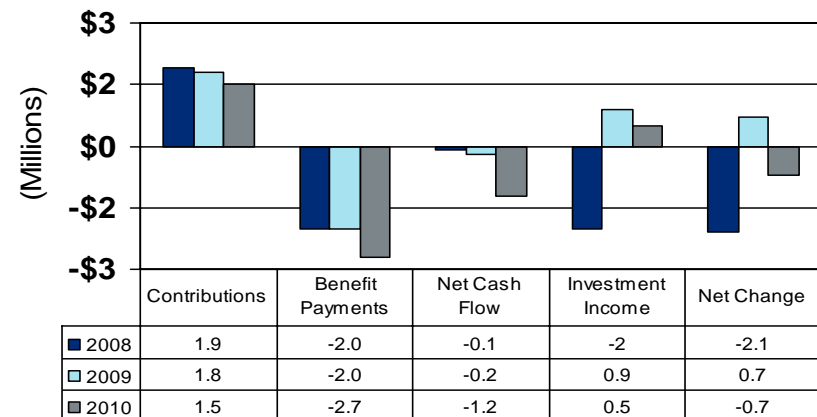
Retiree Health Care Assets



Changes in RHIA Plan Assets



Changes in RHIPA Plan Assets



# 12/31/2010 Retiree Health Care Valuation

## Normal Cost

	RHIA		RHIPA	
	12/31/2009	12/31/2010	12/31/2009	12/31/2010
Normal Cost	\$5.5	\$6.0	\$0.8	\$1.2
Normal Cost Payroll	\$6,123	\$5,930	\$1,705	\$1,603
<b>Normal Cost Rate</b>	<b>0.09%</b>	<b>0.10%</b>	<b>0.05%</b>	<b>0.07%</b>

- Normal cost rates for RHIA and RHIPA have increased since 12/31/2009
- These rates remain very sensitive to the participation assumption
  - In addition, RHIPA rates are sensitive to the effects of current and assumed future healthcare cost inflation

# 12/31/2010 Retiree Health Care Valuation Unfunded Accrued Liability

Funded status lags significantly behind the funded status of Tier 1/Tier 2 and OPSRP.

<i>(amounts in millions)</i>	RHIA		RHIPA	
	12/31/2009	12/31/2010	12/31/2009	12/31/2010
Accrued Liability	\$511	\$547	\$25	\$34
Assets	\$214	\$232	\$ 6	\$ 6
UAL	\$297	\$315	\$18	\$28
<b>Funded Percentage</b>	<b>42%</b>	<b>42%</b>	<b>26%</b>	<b>17%</b>
Combined Valuation Payroll	\$8,512	\$8,750	\$2,372	\$2,380
<b>UAL Rate</b>	<b>0.50%</b>	<b>0.56%</b>	<b>0.11%</b>	<b>0.17%</b>

*Amounts In Millions*

RHIPA assets at the end of 2010 were only between two and three times the size of 2010 RHIPA benefit payments

## Next Steps

- Full system-wide valuation report will be published prior to the next meeting
- At the meeting, we will present listings of individual employer advisory rates
- PERS staff will deliver individual employer reports via e-mail

# Important Notices

Mercer has prepared this presentation exclusively for the Oregon PERS Board to present the system-wide results of a valuation of the Oregon Public Employees Retirement System as of December 31, 2010, and to provide advisory information on system-wide employer contribution rates for the period beginning July 1, 2013. This presentation may not be used or relied upon by any other party or for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this presentation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

The Oregon Investment Council (OIC) is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the OIC.

To prepare this report, various *actuarial assumptions*, as described in the Appendix, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

# Important Notices

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely “correct” and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A “sensitivity analysis” shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At PERS’ request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the “present value” of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely “correct” level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year’s valuation.

# Important Notices

Assumptions used are based on the last experience study, as adopted by the Board on July 29, 2011. The Board is responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Appendix. Oregon PERS is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by the Oregon Public Employees Retirement System and summarized in the Appendix. Oregon PERS is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of December 31, 2010, that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the provisions described in Oregon Revised Statutes Sections 238 and 238A and legislative amendments supplied by the Oregon Public Employees Retirement System, as summarized in the prior valuation report as of December 31, 2009. We have assumed for the purposes of this valuation that copies of all relevant documents, including legislative amendments, have been provided to Mercer, along with a written summary of any other substantive commitments. The Oregon Public Employees Retirement System is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

We understand that the market values of private equity and some real estate investments are reported on a 3-month lag. We have made no adjustment to the reported market value of assets to account for this lag. A very brief discussion of this issue is provided in the Executive Summary of the prior valuation report as of December 31, 2009.

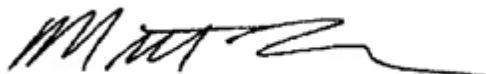
Oregon PERS should notify Mercer promptly after receipt of this report if it disagrees with anything contained in the report or is aware of any information that would affect the results of the report that has not been communicated to Mercer or incorporated therein. The report will be deemed final and acceptable to Oregon PERS unless it promptly provides such notice to Mercer.

# Important Notices

## Professional Qualifications

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. The actuarial certification of healthcare cost assumptions related to the RHIPA program is covered in the 2010 Experience Study report, and is incorporated herein by reference. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.


We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.



September 30, 2011

**Matthew R. Larrabee, FSA, EA, MAAA**  
**Enrolled Actuary No. 11-6154**

**Date**



September 30, 2011

**Scott D. Preppernau, FSA, EA, MAAA**  
**Enrolled Actuary No. 11-7360**

**Date**

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The information contained in this document is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.



# APPENDIX

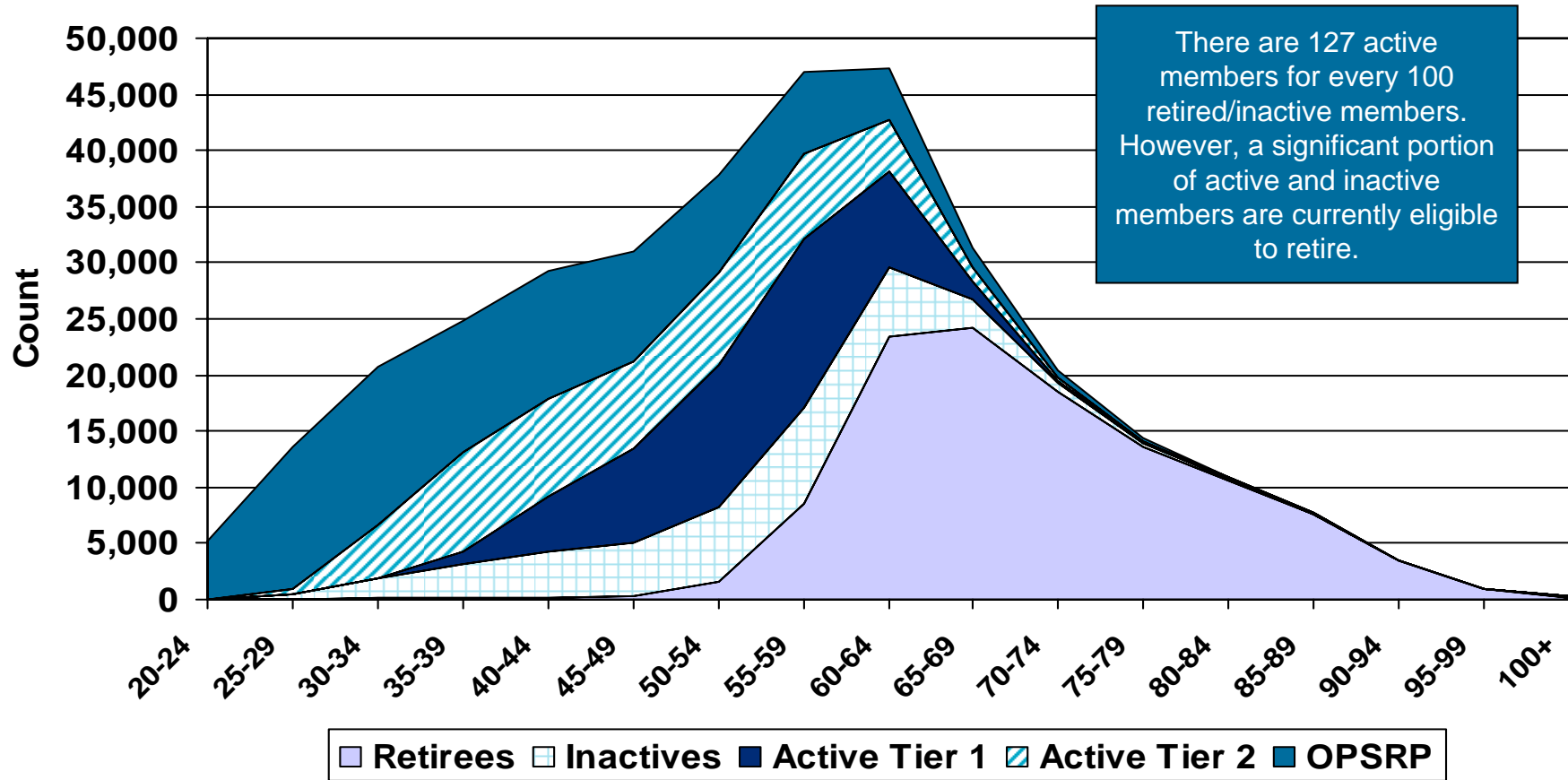
# Appendix

## Data Exhibits

	December 31				
	2010				2009
	Tier 1	Tier 2	OPSRP	Total	Total
<b>Active Members</b>					
Count	52,786	52,389	88,394	193,569	178,606
Average age	53.6	47.1	41.1	46.1	46.2
Average total service	20.7	10.2	3.6	10.1	10.3
Average valuation payroll	\$ 61,392	\$ 51,340	\$ 31,900	\$ 45,204	\$ 47,659
<b>Dormant Members<sup>1</sup></b>					
Count	21,266	15,630	2,457	39,353	39,317
Average age	56.0	49.4	45.9	52.7	52.1
Average monthly deferred benefit	\$ 2,110	\$ 626	\$ 214	\$ 1,402	\$ 1,235
<b>Retired Members and Beneficiaries<sup>1</sup></b>					
Count	109,836	3,513	115	113,464	110,724
Average age	70.8	64.7	\$ 65.0	70.6	70.4
Average monthly benefit	\$ 2,249	\$ 637	\$ 353	\$ 2,198	\$ 2,127
<b>Total members</b>	<b>183,888</b>	<b>71,532</b>	<b>90,966</b>	<b>346,386</b>	<b>328,647</b>

1. 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.

## Age Distribution



# 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, 2010, were based on values provided by Oregon PERS reflecting the Board's earnings crediting decisions for 2010. Assets and year-to-date returns as of August 31, 2011 as published by the Oregon Investment Council (OIC) were used as the basis for projecting December 31, 2011 assets, where applicable. Year-to-date 2011 returns as of that date on regular accounts are 3.53%.

### Methods / Policies

*Actuarial Cost Method:* Projected Unit Credit, as described in the December 31, 2009, Actuarial Valuation ("2009 Valuation Report") for the Oregon Public Employees Retirement System.

*UAL Amortization:* The UAL for Tier 1/Tier 2, OPSRP, and Retiree Health Care 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 OPSRP, it is 16 years; for Retiree Health Care, it is 10 years. 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.

The amortization of the 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.

# Appendix

## Actuarial Basis

### Methods / Policies (cont'd)

*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 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. The “sliding scale” implementation of the double rate collar was approved by the Board in January 2010 and was effective with the 2009 Valuation.

*Expenses:* OPSRP administration expenses are assumed to be equal to \$6.6M 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 2010 Experience Study.

### Provisions

Provisions valued are as detailed in the 2009 Valuation Report.

### Arken and Robinson Litigation

We have made no adjustment to these valuation results to reflect any interpretation of Judge Kantor's rulings in the *Arken and Robinson* cases.



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