

# **DECEMBER 31, 2011 ACTUARIAL VALUATION OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**August 28, 2012**

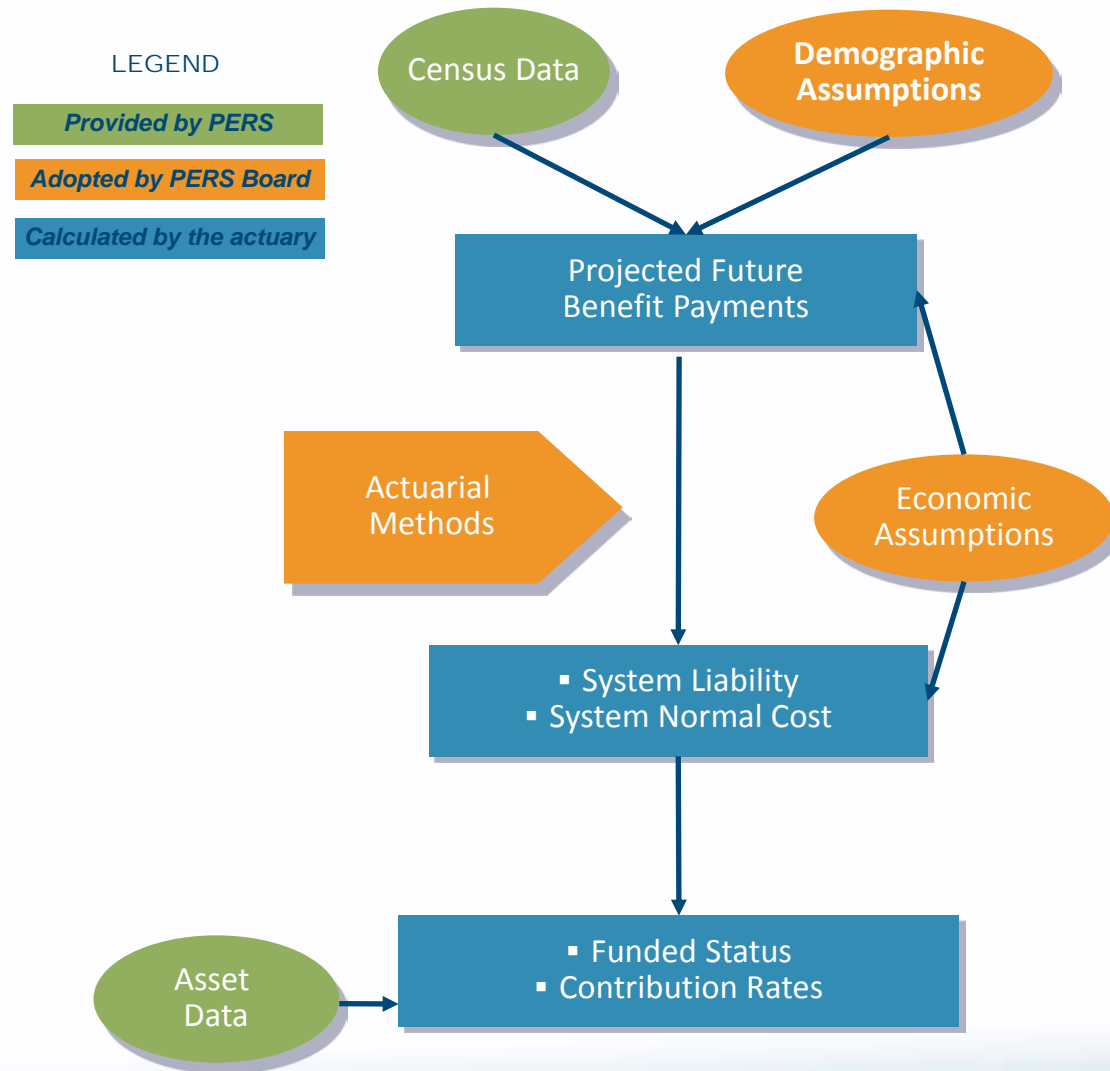


# Introduction

- Today we will be presenting a summary of system-wide results of our December 31, 2011 actuarial valuation
- This valuation is the basis for setting July 2013 – June 2015 employer contribution rates
- A listing of rates for each employer will be included in the Board materials for the September 28<sup>th</sup> meeting
- Shortly after that meeting we will provide PERS staff with detailed reports for each employer
- PERS will deliver those reports to employers

# Introduction

- July 2011: Assumptions & methods adopted by Board in consultation with the actuary
- August 2012: System-wide actuarial valuation results
- September 2012: Disclosure and adoption of employer-specific contribution rates effective July 2013
- October 2012: Delivery of detailed valuation reports to employers
- July 2013: New contribution rates become effective



# Introduction

## Valuation Process and Timeline

- Actuarial valuations are conducted annually
  - Alternate between “rate setting valuations” and “advisory valuations”
- Rate setting valuation results are adopted by the Board and rates go into effect 18 months subsequent to the valuation date

Valuation Date	Employer Contribution Rates
12/31/2009	July 2011 – June 2013
12/31/2011	July 2013 – June 2015

# Introduction

- In setting rates, PERS Board has identified the following guiding principles:
  - Transparent
  - Predictable and stable rates
  - Protect funded status
  - Equitable across generations
  - Actuarially sound
  - GASB compliant

# Introduction

- Significant employer contribution rate increases have been calculated for the two-year period starting July 2013
  - The system-wide average increase is approximately 5% of payroll
  - The rate collar is deferring an additional increase of 2% to a later period
- While significant, the increases are not a surprise
- System level financial projections since 2009 have, under a wide variety of economic scenarios, forecast significant July 2013 rate increases to help account for investment losses
- Employer level advisory reports were distributed in fall 2011 to estimate 2013-2015 contribution rates based on investment results through the end of 2010

# Introduction

- Employer contribution rates are calculated using a systematic methodology developed by the Board and actuary in 2005
- The “rate collar” methodology spreads very large rate changes across more than one biennium
- The first employer rate increase in response to the 2008 downturn was effective July 2011
  - July 2011 rates were based on investment performance through the end of 2009
- A second increase of similar magnitude was forecast for July 2013 barring investments outperforming assumption during 2010 and 2011

# Investment Experience in 2010 & 2011

- Investments modestly underperformed assumption during 2010 and 2011
  - \$1,000 of OPERF Regular Account assets as of year-end 2009 was assumed to grow to \$1,166 by year-end 2011
  - Actual year-end 2011 investment experience was \$1,149
- Investments earned an annualized average return of 7.2% during the two-year period



# Liability Experience in 2010 & 2011

- Liabilities grew about 3.4% per year during 2010 and 2011, which was very close to forecast
- Key experience observed over the period included:
  - Salary increases lower than assumed (liability decrease)
  - COLA crediting for some retirees lower than assumed (decrease)
  - More retirements than assumed (increase)
  - Interest crediting on variable accounts higher than assumed in 2010 (increase) and lower than assumed in 2011 (decrease)

# Guiding Policy in Calculating Rates

- Barring future investment performance well in excess of assumption, contribution rate increases are needed to adhere to the guiding principles of:
  - Protect funded status
  - Intergenerational equity
  - Actuarially sound

## ***Actuarially sound employer contribution rate policy:***

*If all assumptions are met, the system will return to 100% funded status over a selected time period*

# Effect of Earnings Assumption on Rates

- The rate-setting methodology in effect for 2013-2015 is actuarially sound under the assumption of 8% annual future investment returns
- An actuarially sound policy at a lower return assumption would have higher near-term contribution rates since a smaller portion of future benefits is assumed funded by future investment earnings, and a larger portion from contributions

$$BENEFITS + EXPENSES = EARNINGS + CONTRIBUTIONS$$

- Actual investment earnings and “full formula” pension benefits are not affected by the earnings assumption

# Likelihood of Future Rate Decreases

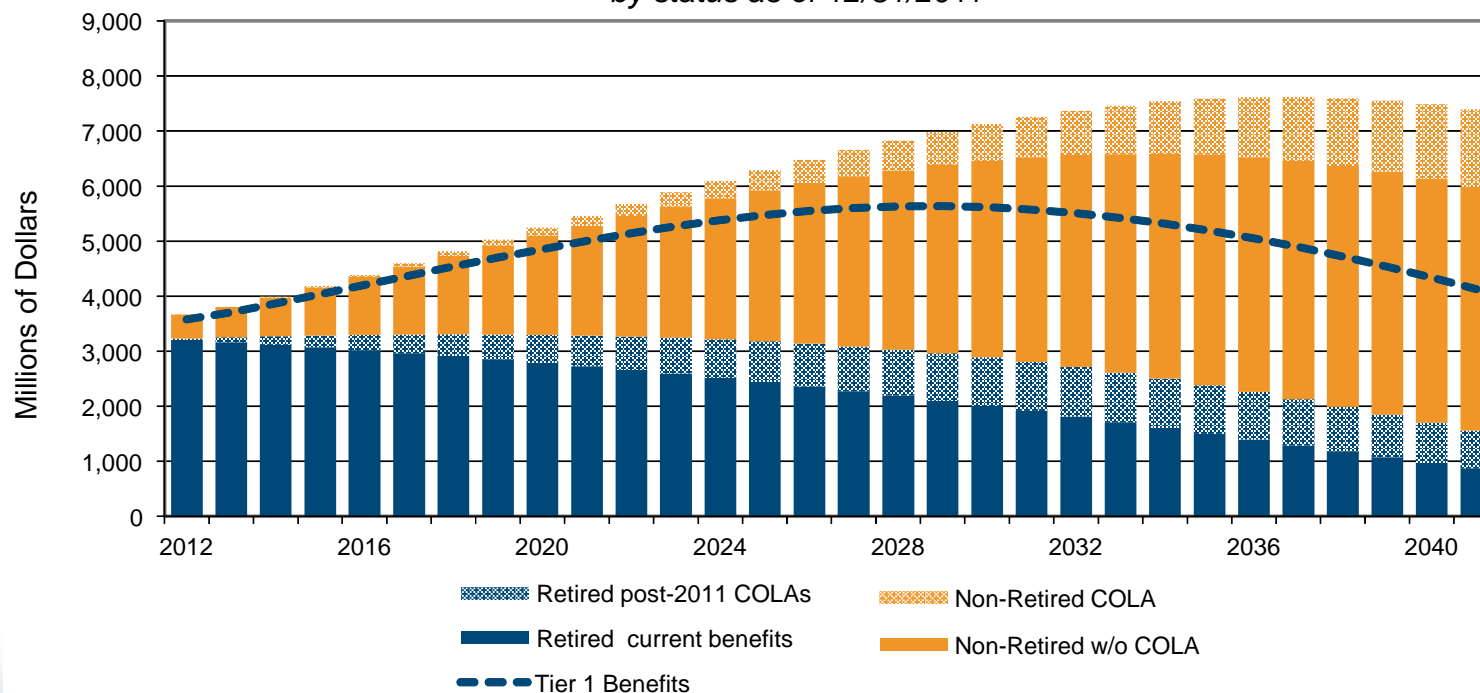
- Are 2013-2015 rates permanent or do they likely represent temporary increases?
- Are the 2013-2015 rates long-term budget items or are they likely to be short-term?

*Barring future investment performance above assumption, rates are more likely than not to be at 2013-2015 levels (or higher) for the foreseeable future*

# Development of Liabilities

- Liabilities are calculated from projected benefit payments
- Projected benefit payments are well defined in the near-term
- The effect of projected post-2011 COLAs are illustrated below

Tier 1/Tier 2 & OPSRP Expected Benefit Payments  
by status as of 12/31/2011



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# Shortfall Recovery Considerations

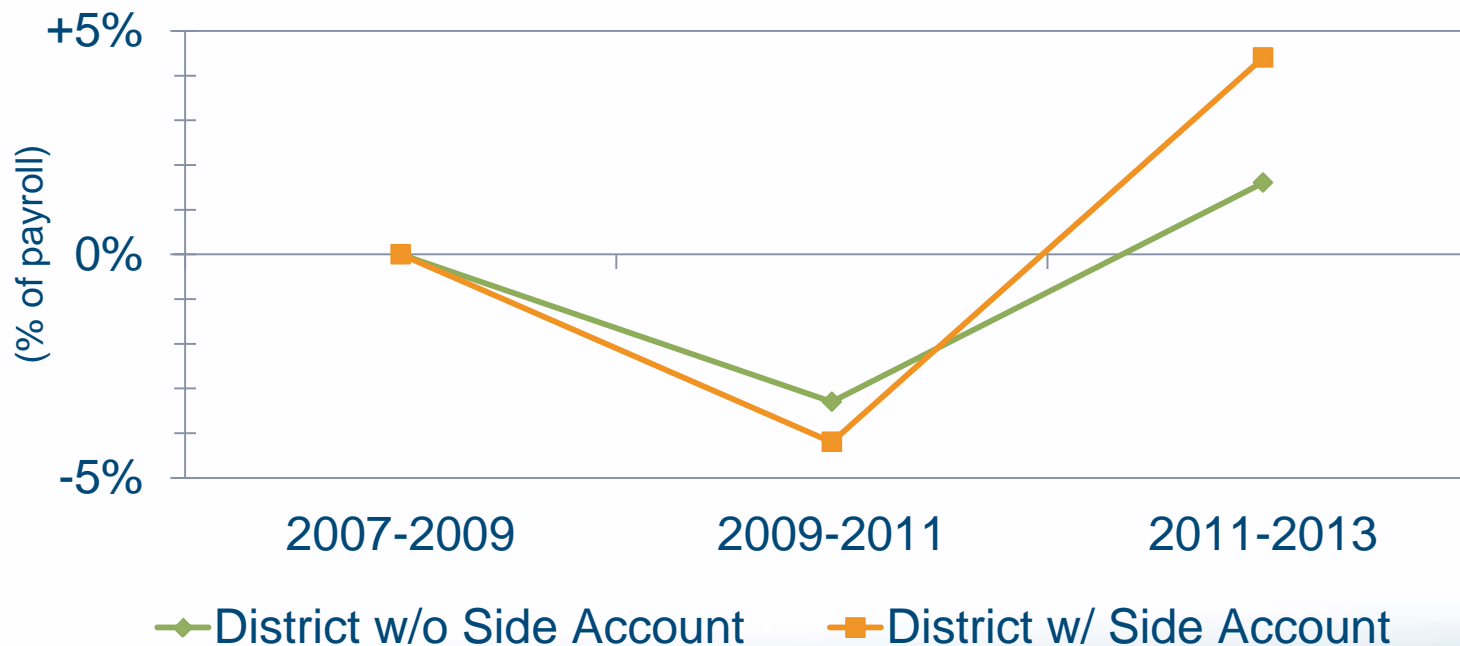
- Assets excluding side accounts are approximately \$16 billion below system liabilities at year-end 2011
  - The \$16 billion shortfall level is predicated on an assumed annual future investment return level of 8%
- We project that system payroll subject to contribution rates will be approximately \$8.6 billion in 2012
- The shortfall is approximately 1.9 times the system's payroll
  - Addressing a shortfall of that magnitude requires a long-term commitment of substantial resources
  - The current policy is designed to eliminate the 2008 shortfall systematically over a 20 year period as a level percentage of payroll

# Employer Rate Sensitivity Factors

- Rate increases vary by employer and by rate pool
- Factors that lead to higher rate volatility include:
  - Width of the rate collar for the employer or rate pool
    - Higher contribution rate in preceding biennium
      - Rate collar initially set to 20% of preceding rate (but at least 3.00% of payroll)
    - Lower funded status
      - The rate collar widens as funded status decreases below 80%
  - Side accounts
    - Pre-paying contributions leverages up the sensitivity of employer contribution rates to investment experience, be it good or bad

# Employer Rate Sensitivity Factors

- The chart shows the effect of cumulative rate changes since 2007-2009 for two very similar school districts
  - The only significant difference is that one district has a side account, which leverages the effects of investment results, be it good or bad





# 12/31/2011 Valuation Results

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

- 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

	2009-2011	2011-2013	Collared 2013-2015	Uncollared 2013-2015
Base rates (before effect of side account offsets)	12.4%	16.3%	21.4%	23.7%
Net rates (reflect side account rate offsets)	5.2%	10.8%	15.7%	18.0%

- 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.

# 12/31/2011 Valuation Results

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

- System-wide advisory base rates increased by 5.1% of payroll, but the increase varies by rate pool
  - The SLGRP, which is 75% funded excluding side accounts, has lower rates and a lower increase than the School District rate pool, which is 71% funded excluding side accounts

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 Base Rates</b>	<b>20.4%</b>	<b>26.7%</b>	<b>19.7%</b>	<b>21.4%</b>
Base Rate Increase	4.6%	7.2%	5.0%	5.1%

- Base rate changes can vary significantly by employer

# 12/31/2011 Valuation Results

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

- Net rate increases are similar to 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 Net Rates</b>	<b>15.4%</b>	<b>18.3%</b>	<b>14.0%</b>	<b>15.7%</b>
Net Rate Increase	4.6%	6.6%	4.8%	4.9%

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

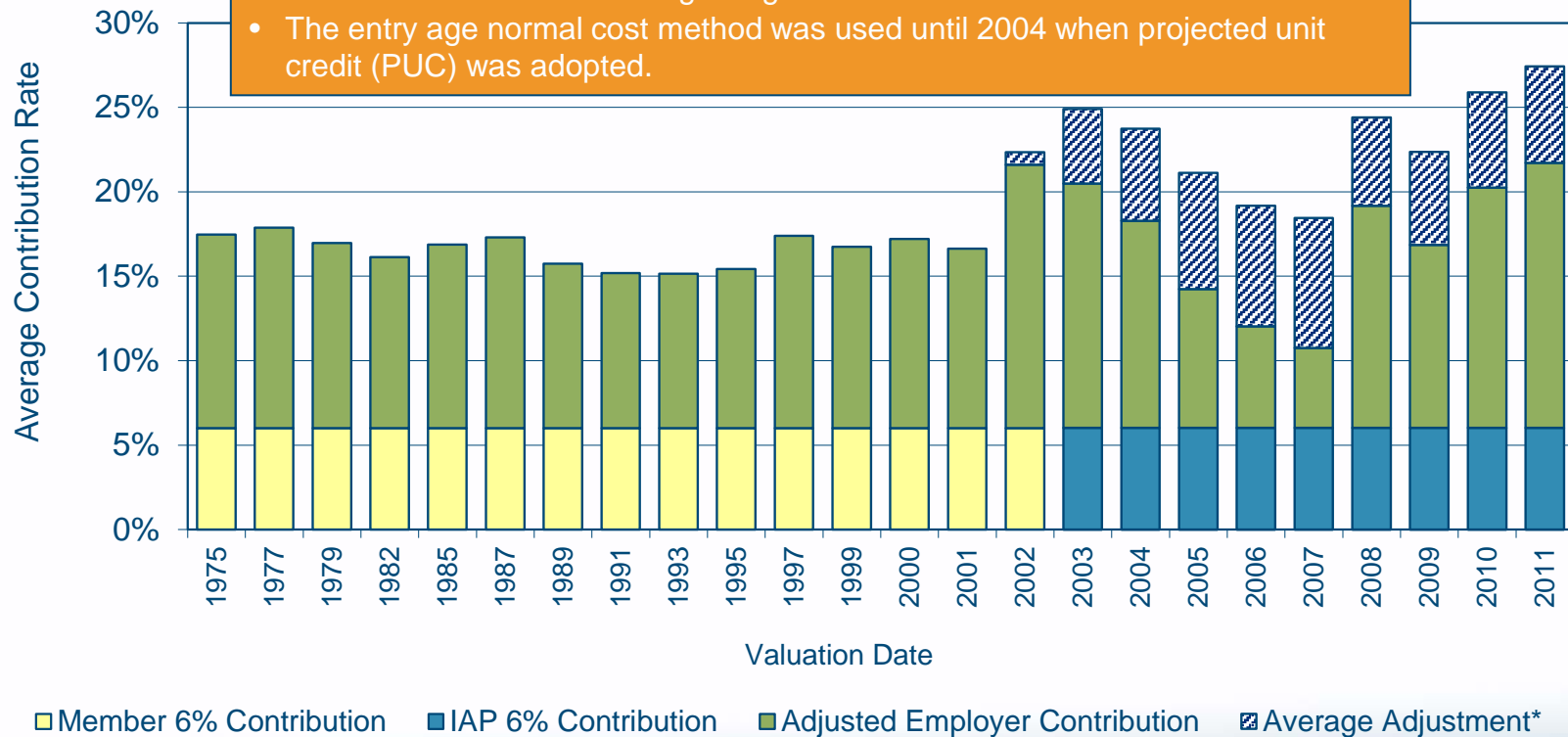
<sup>1</sup> In this exhibit, 2011-2013 and 2013-2015 base rates are adjusted by two factors to calculate estimated system-wide net rates. Adjustments are for side accounts and pre-SLGRP liabilities/(surpluses) and are assumed not to be limited when an individual employer reaches a 0% contribution rate.

# 12/31/2011 Valuation Results

## 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.



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

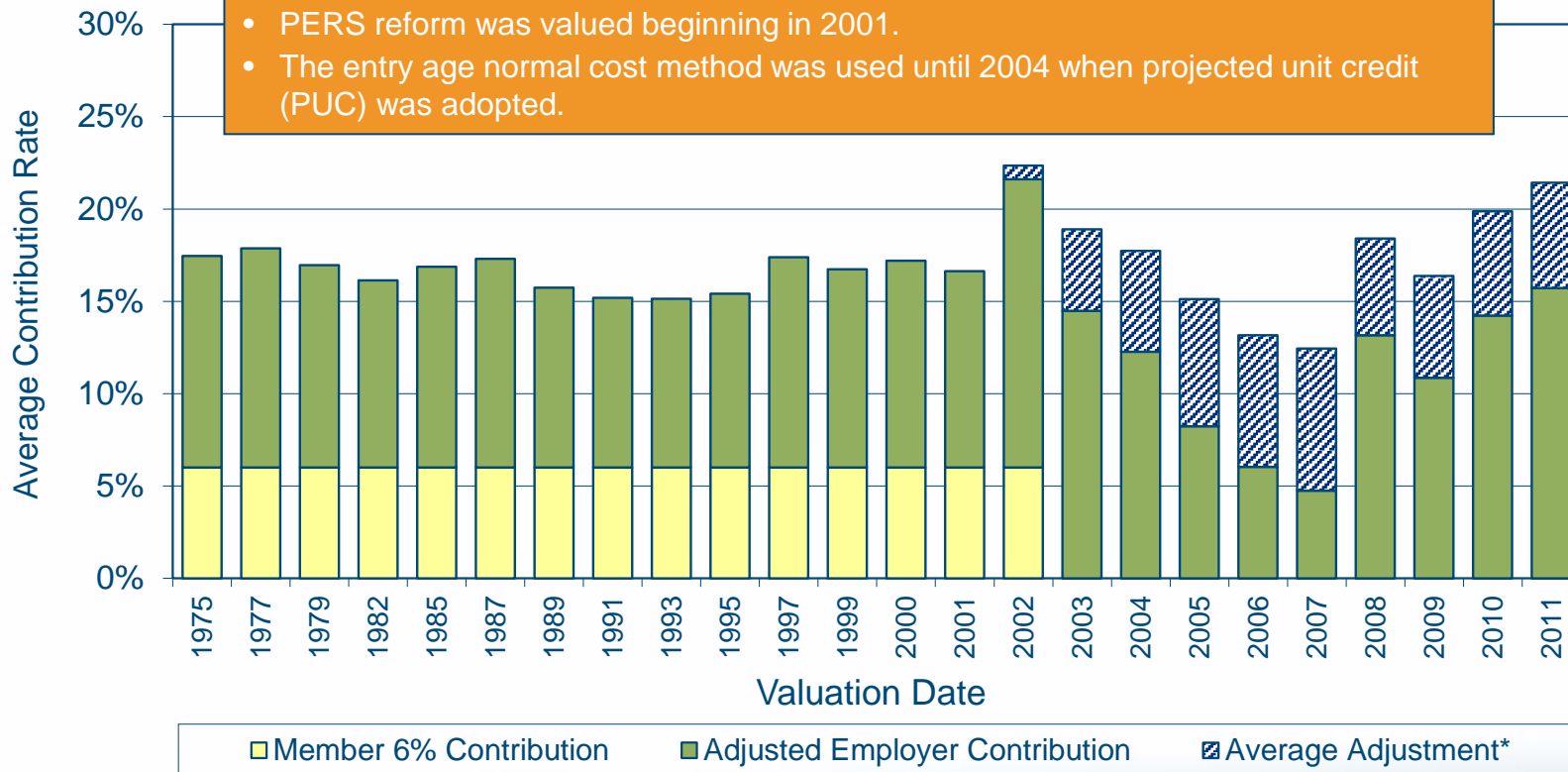
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# 12/31/2011 Valuation Results

## Overview of System-Wide December 31, 2011 Valuation Results

- Funded status declined during 2011 due to lower than assumed investment returns

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

	2007	2008	2009	2010	2011
Excluding side accounts	98%	71%	76%	78%	<b>73%</b>
Including side accounts	112%	80%	86%	87%	<b>82%</b>

- After the significant asset losses of 2008, investment return averaged 11.0% from 12/31/2008 to 12/31/2011
  - This prevented funded status erosion that otherwise could have occurred before contribution rates adjusted to reflect 2008 losses
- Year-to-date 2012 investment return through July 31 was +7.8% for regular accounts

# 12/31/2011 Valuation Results

## Tier 1/Tier 2/OPSRP UAL (Excluding Retiree Health Care)

(amounts in millions)	12/31/2010 Valuation	12/31/2011 Valuation
	System-Wide <sup>1</sup>	System-Wide <sup>1</sup>
Accrued Liability	\$59,330	\$61,198
Assets	\$46,004	\$44,943
<b>UAL Excluding Side Accounts</b>	<b>\$13,325</b>	<b>\$16,255</b>
Side Accounts	\$5,579	\$5,225
<b>UAL Including Side Accounts</b>	<b>\$7,746</b>	<b>\$11,030</b>
Pension Obligation Bonds	\$6,000	\$5,896
<b>Employer Net Obligations</b>	<b>\$13,746</b>	<b>\$16,926</b>

**68% of liability is attributable to members no longer in PERS-covered employment**

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

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# 12/31/2011 Valuation Results

## Tier 1/Tier 2/OPSRP UAL (Excluding Retiree Health Care)

<i>(amounts in millions)</i>	12/31/2010 Valuation	12/31/2011 Valuation
	System-Wide <sup>1</sup>	System-Wide <sup>1</sup>
Projected Next Year Payroll (T1/T2 + OPSRP)	\$8,750	\$8,551
UAL Excluding Side Accounts	\$13,325	\$16,255
<b>UAL Excluding Side Accounts as % of Payroll</b>	<b>152%</b>	<b>190%</b>
UAL Including Side Accounts	\$7,746	\$11,030
<b>UAL Including Side Accounts as % of Payroll</b>	<b>89%</b>	<b>129%</b>
UAL Including Side Accounts Adjusted for POBs	\$13,746	\$16,926
<b>Employer Net Obligations as % of Payroll</b>	<b>157%</b>	<b>198%</b>

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

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# 12/31/2011 Valuation Results

## 2013-2015 Pension Contribution Rates (Excluding Retiree Health Care and IAP)

	Rate Pools			
	SLGRP	School Districts	OPSRP	System-Wide
<b>Base Rates</b>				
Normal Cost	9.15%	8.17%	6.56%	8.16%
Tier 1/Tier 2 UAL	10.42%	17.78%	12.47%	12.47%
OPSRP UAL	0.15%	0.15%	0.15%	0.15%
<b>Base Rate, Excluding Retiree Health Care &amp; IAP</b>	<b>19.72%</b>	<b>26.10%</b>	<b>19.18%</b>	<b>20.78%</b>
<b>Adjustments<sup>1</sup></b>				
Side Accounts	(4.25%)	(8.35%)	(5.26%)	(5.26%)
Pre-SLGRP Liabilities	(0.77%)	N/A	(0.44%)	(0.44%)
Average Adjustment	(5.02%)	(8.35%)	(5.70%)	(5.70%)
<b>Net Rate, Excluding Retiree Health Care &amp; IAP<sup>1</sup></b>	<b>14.70%</b>	<b>17.75%</b>	<b>13.48%</b>	<b>15.08%</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.

# 12/31/2011 Retiree Health Care Valuation

- Two separate health care benefit subsidies are valued:
  - RHIA provides \$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 are not as well-funded as the pension program
  - To help address that, in July 2009 the Board shortened the shortfall amortization period to 10 years to more rapidly improve funded status of those programs
  - Contribution rates effective July 2011 first reflected this accelerated amortization
- RHIPA funded status declined in the past year from 17% to 13%
  - Partially due to recent increased participation and ensuing higher subsidy payments
  - The higher contributions effective July 2011 began to mitigate the program's negative cash flow, and will help further in 2012 when higher rates are in effect for the entire year
  - Program warrants continued monitoring, as experience is very sensitive to participation

# 12/31/2011 Retiree Health Care Valuation

## Unfunded Accrued Liability (UAL) and Employer Contribution Rates

<i>(amounts in millions)</i>	RHIA		RHIPA*	
	12/31/2010	12/31/2011	12/31/2010	12/31/2011
Accrued Liability	\$547	\$461	\$34	\$35
Assets	\$232	\$240	\$ 6	\$ 5
UAL	\$315	\$222	\$28	\$30
<b>Funded Percentage</b>	<b>42%</b>	<b>52%</b>	<b>17%</b>	<b>13%</b>
<b>Normal Cost Rate</b>	<b>0.10%</b>	<b>0.10%</b>	<b>0.07%</b>	<b>0.07%</b>
<b>UAL Rate</b>	<b>0.56%</b>	<b>0.49%</b>	<b>0.17%</b>	<b>0.20%</b>
<b>Total Rate</b>	<b>0.66%</b>	<b>0.59%</b>	<b>0.24%</b>	<b>0.27%</b>

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

**RHIPA assets at the end of 2011 were only between one and two times the size of 2011 RHIPA benefit payments**

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# Next Steps

- A listing of rates for each employer will be included in the Board materials for the September 28<sup>th</sup> meeting
- Shortly after that meeting we will provide PERS staff with detailed reports for each employer
- PERS will deliver those reports to employers

# Certification

This presentation summarizes key results of an actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2011, for the Plan Year ending 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, 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 and adopted them as indicated in July 2011.

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 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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# Certification

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- (a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.
- (b) The System may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. 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.

# Circular 230 Notice

The following disclosure is provided in accordance with the Internal Revenue Service's Circular 230 (21 CFR Part 10). This communication is not intended to constitute tax advice to any specific taxpayer or for any specific situation. Any tax advice contained in this communication is intended to be preliminary, for discussion purposes only, and not final. Any such advice is not intended to be used for marketing, promoting or recommending any transaction or for the use of any person in connection with the preparation of any tax return. Accordingly, this advice is not intended or written to be used, and it cannot be used, by any person for the purpose of avoiding tax penalties that may be imposed on such person.

# Appendix

## Data Exhibits

	December 31				2010 Totals
	2011				
	Tier 1	Tier 2	OPSRP	Total	
Active Members					
Count	46,882	49,130	74,960	170,972	193,569
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 salary <sup>1</sup>	\$64,398	\$54,144	\$36,883	\$49,388	\$45,204
Inactive Members <sup>2</sup>					
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
Retired Members and Beneficiaries <sup>2</sup>					
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
Total members	179,387	71,171	79,329	329,887	346,386

1. 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.

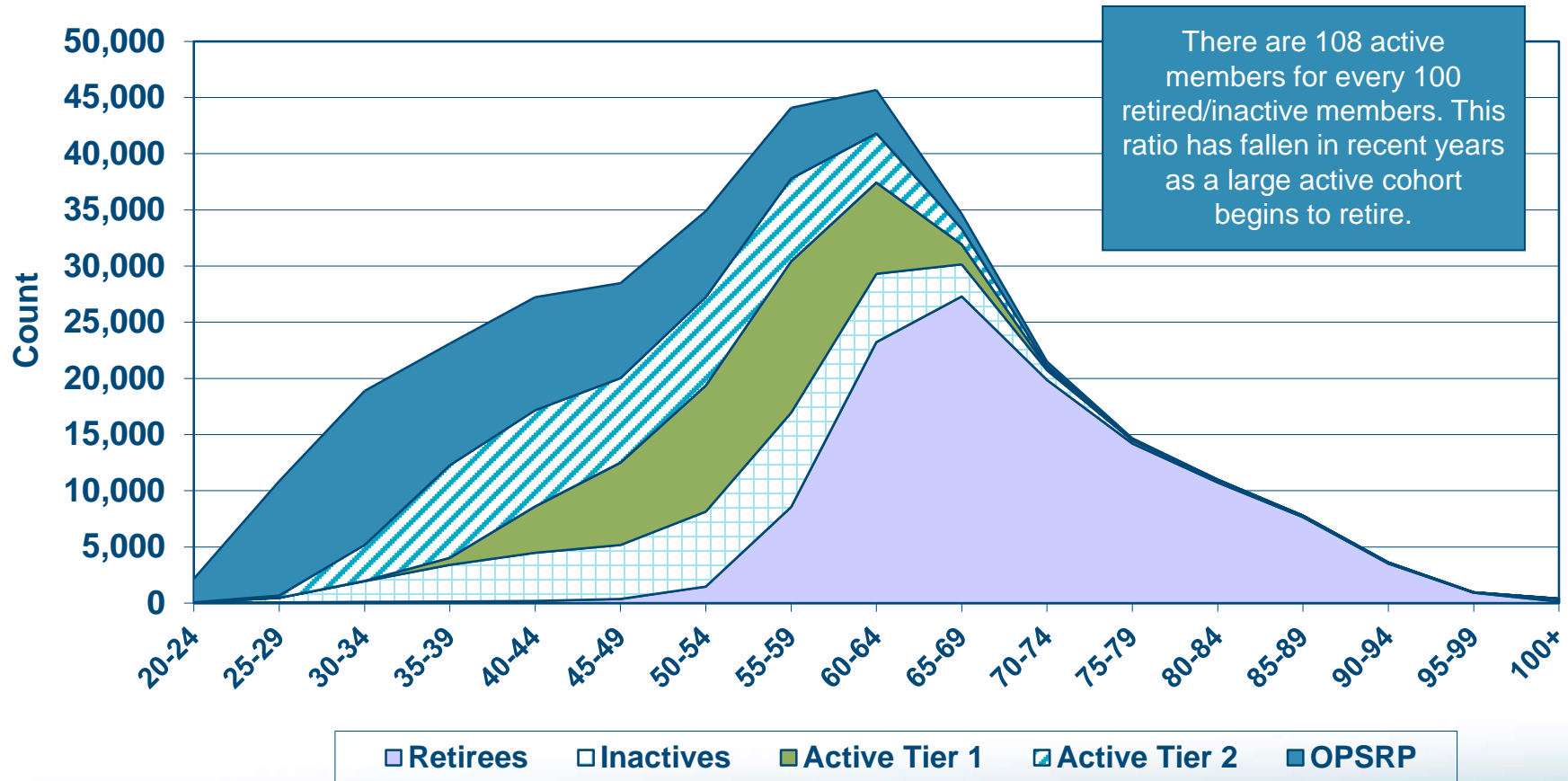
2. Inactive and Retiree counts are shown by lives within the system. In other words, a member is counted once for purposes of this exhibit, regardless of their service history for different rate pools. This contrasts with the method used to count inactive participants in some of the later exhibits of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



# Appendix

## Data Exhibits

### Age Distribution

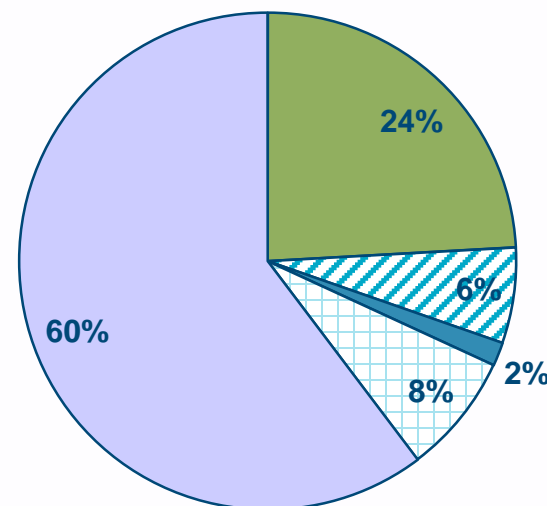


# Appendix

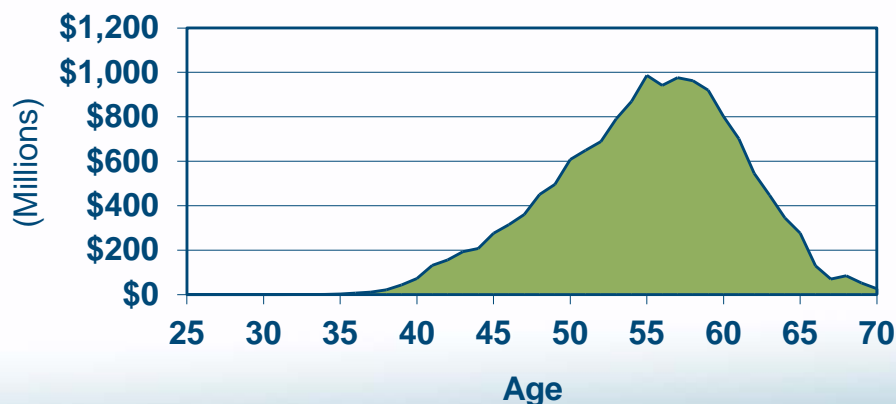
## 12/31/2011 Tier 1/Tier 2 and OPSRP Actuarial Accrued Liabilities

- While Tier 1 members represent the predominant portion of the active member liability, 68% of the system's total accrued liability is for members who are no longer working in covered employment
- Over 56% of the Tier 1 active member liability is for members over age 55, and over 80% of the Tier 1 active member liability is for members over age 50

Actuarial Accrued Liability by Member Category



Distribution of Tier 1 Active Liability

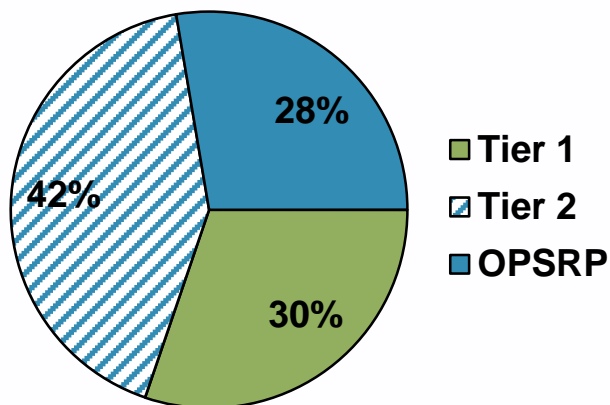


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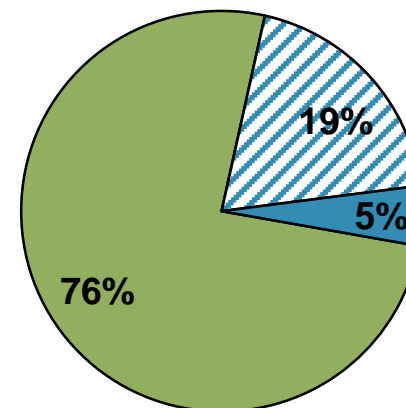
# Appendix

## 12/31/2011 Tier 1/Tier 2 and OPSRP Active Liabilities

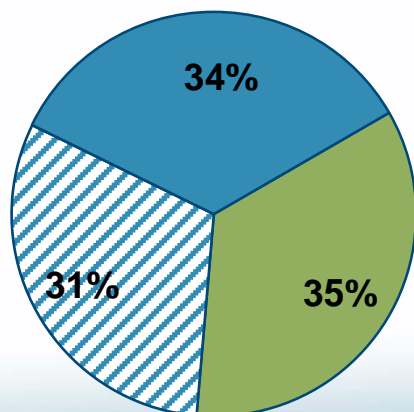
### Normal Cost



### Actuarial Accrued Liability



### Valuation Payroll

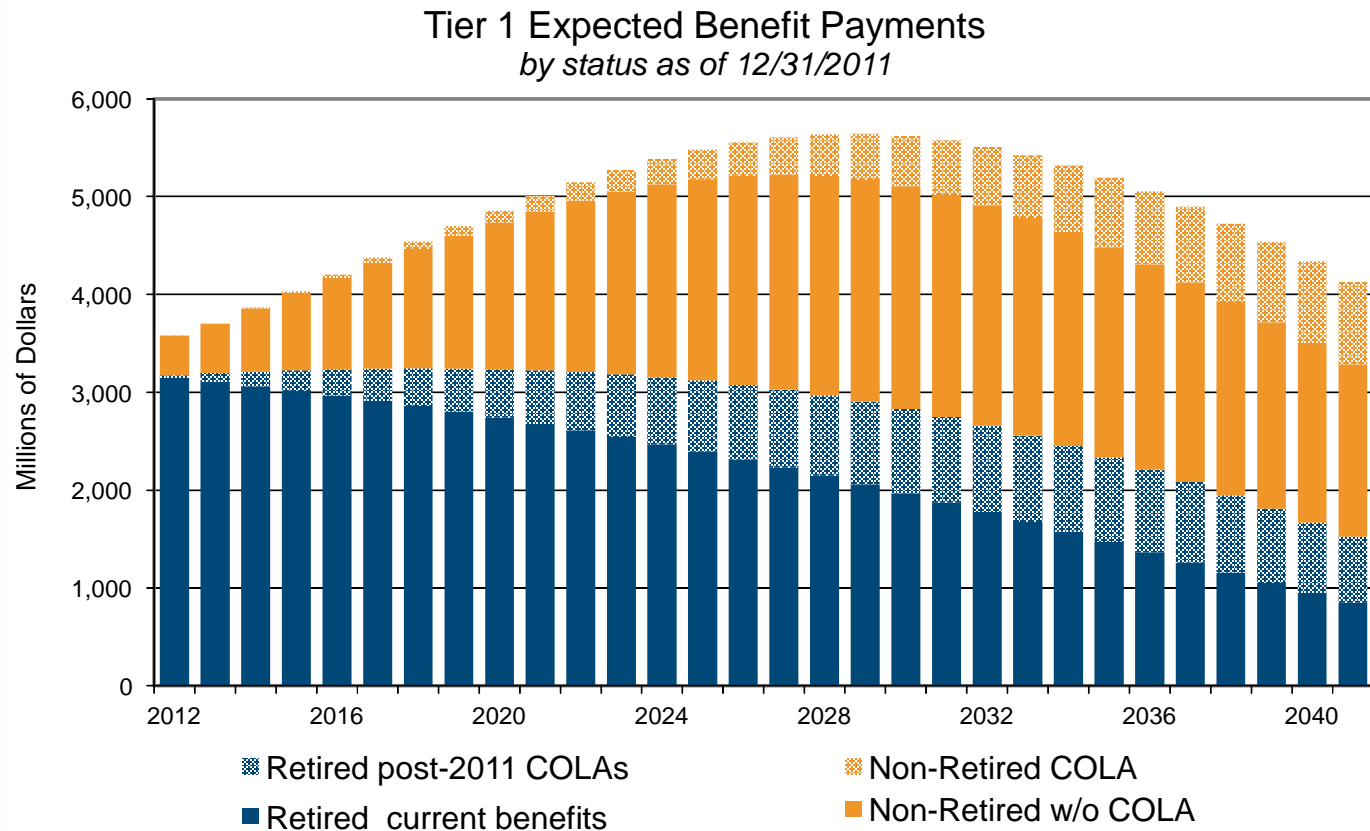


- While Tier 1 represents 76% of the accrued liability for active members, it is only 35% of the payroll and 30% of the normal cost
- Tier 2 represents 19% of the accrued liability, 31% of the payroll and 42% of the normal cost
- OPSRP represents 35% of the payroll and 28% of the normal cost, but only 5% of the active member liability

# Appendix

## Projected benefit payments by Tier

- Projected benefit payments for Tier 1 are illustrated below

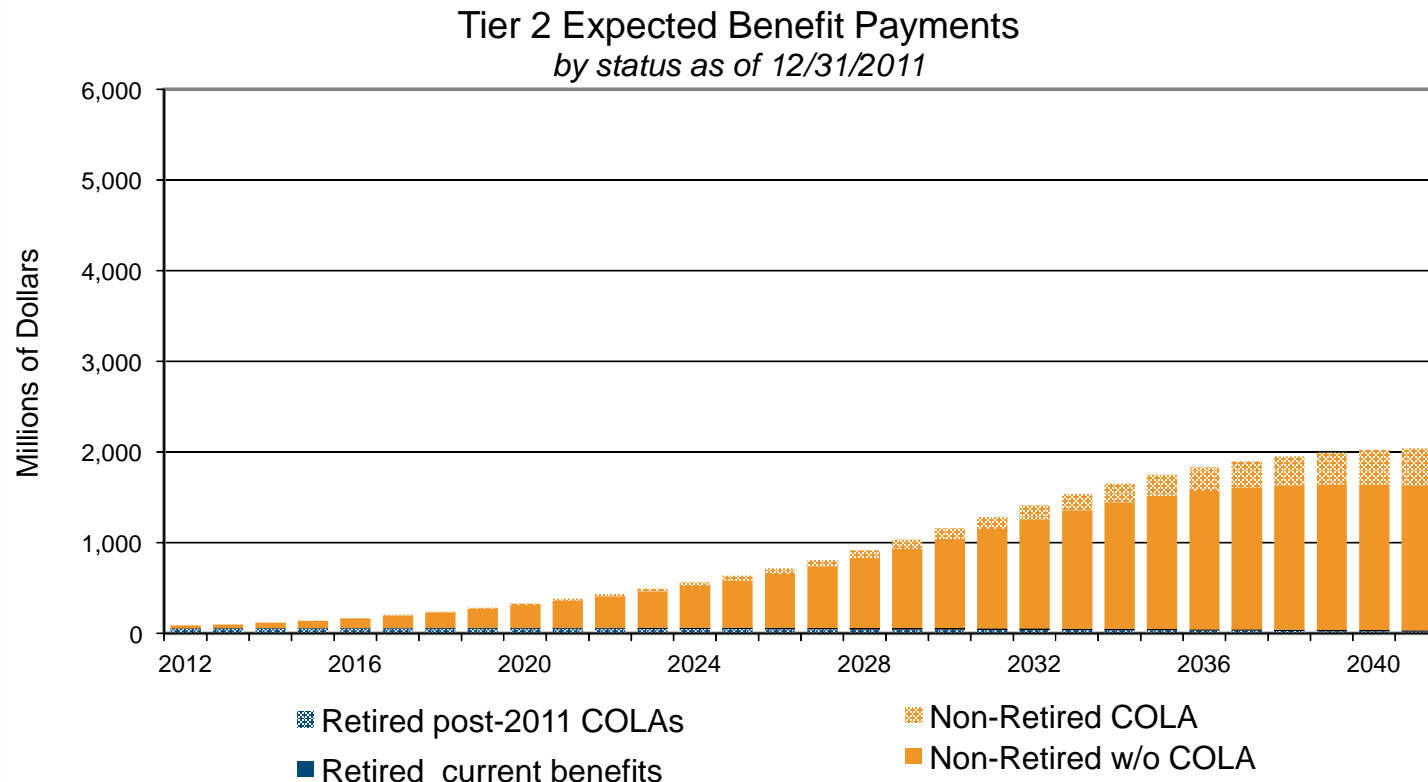


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## Projected benefit payments by Tier

- Projected benefit payments for Tier 2 are illustrated below

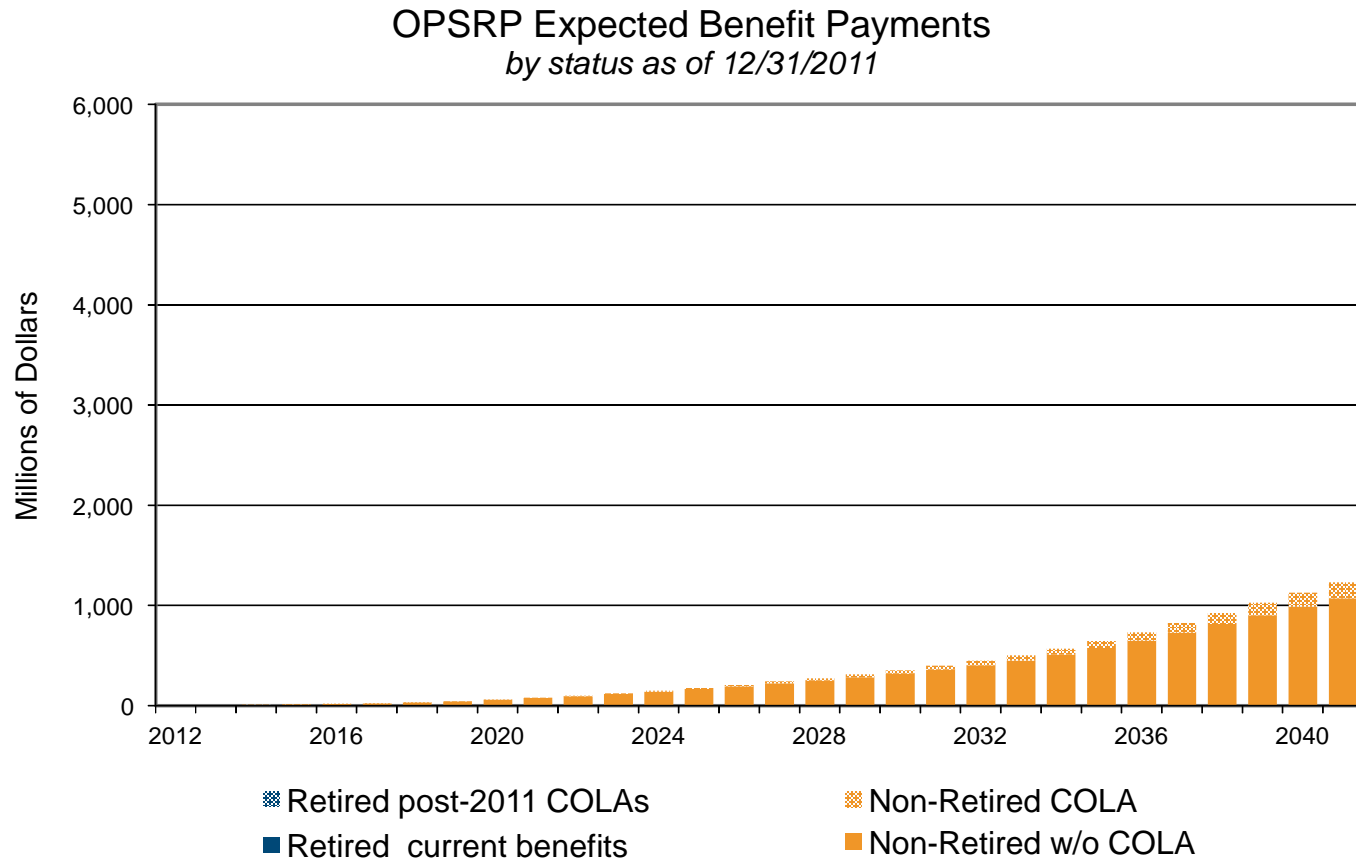


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# Appendix

## Projected benefit payments by Tier

- Projected benefit payments for OPSRP are illustrated below

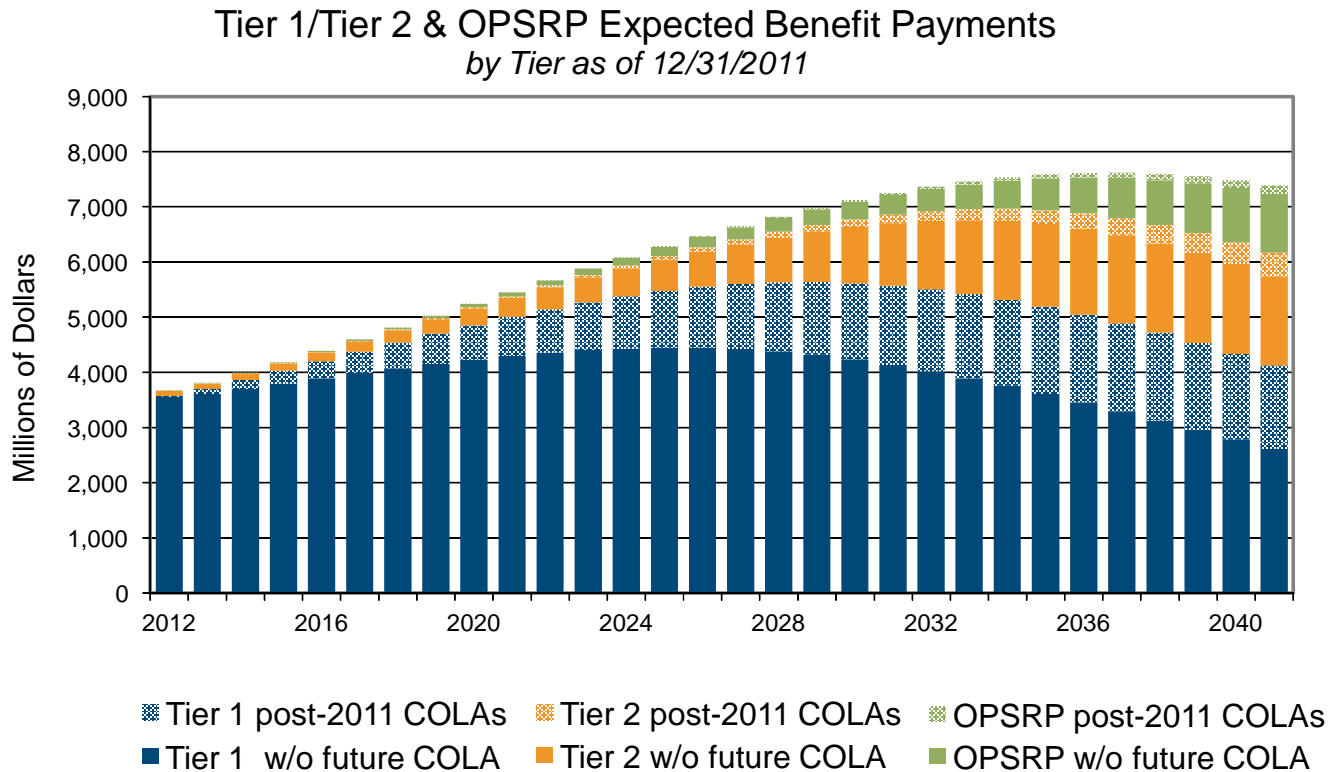


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# Appendix

## Projected benefit payments by Tier

- Projected benefit payments by Tier are illustrated below



# Appendix

## When will current and future contributions fund benefit payments?

- Intergenerational equity is a guiding principle of the Board
- One assessment of intergenerational equity is to project when current employer contributions, which are assessed on payroll, return to members in the form of benefit payments
- This can be analyzed theoretically using a “first in, first out” approach to paying member benefits
  - Assets as of 12/31/2011 and earnings on those assets are first used to pay member benefits
  - Post-2011 contributions and side account transfers and earnings on those amounts are subsequently used to pay member benefits
- 12/31/2011 Tier 1/Tier 2 & OPSRP assets excluding side accounts (\$5B), net reserves (\$0.2B) and IAP funds (\$4B) are approximately \$45 billion



# Appendix

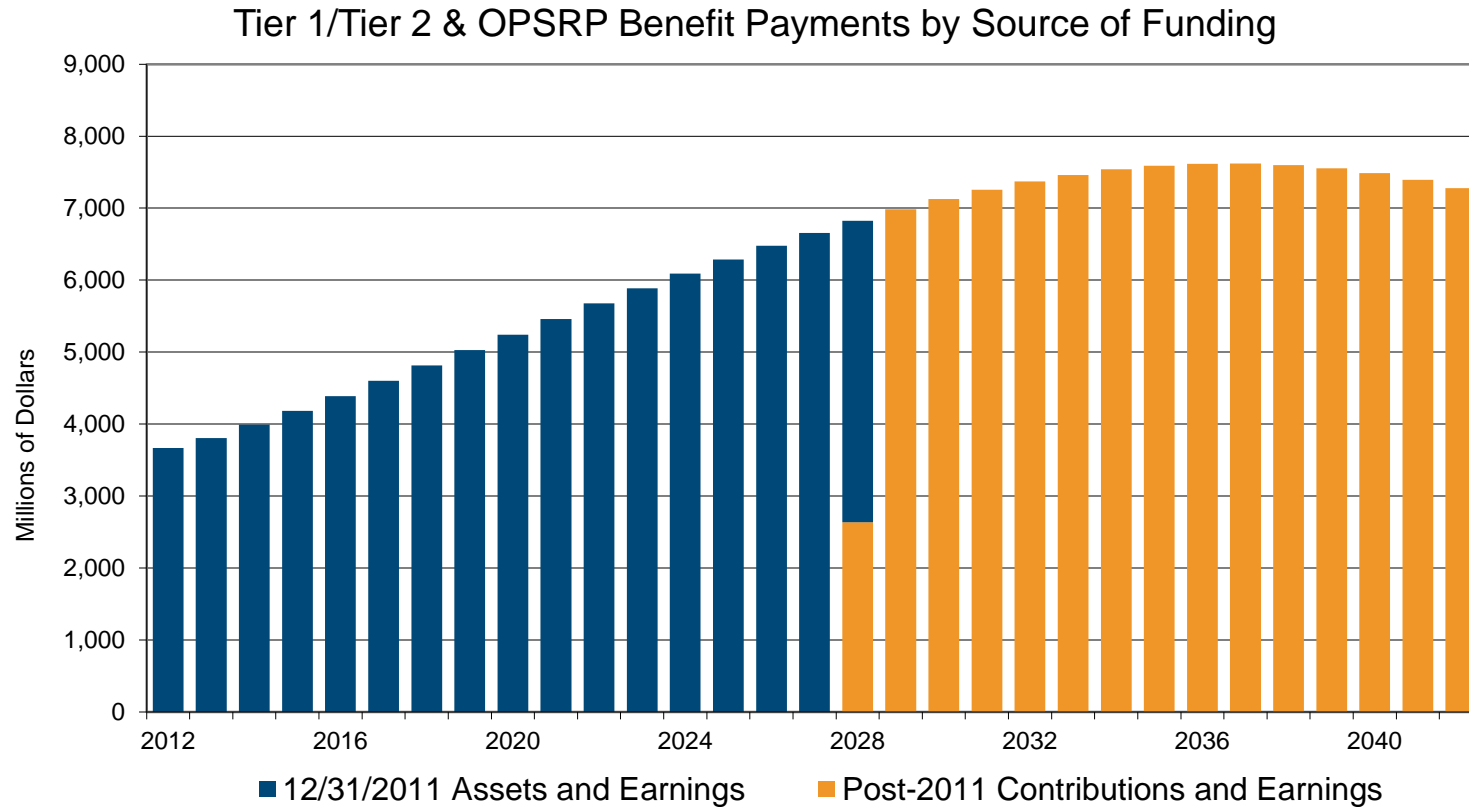
## When will current and future contributions fund benefit payments?

- There is a “crossover year” where benefits begin to be paid from post-2011 contributions and side account transfers
- The next slide illustrates the crossover year for a simplified contribution policy of:
  - Increasing contribution rates by 5% of payroll on July 2013
  - Increasing contribution rates an additional 2% of payroll on July 2015

# Appendix

## When will current and future contributions fund benefit payments?

- At 8% investment return and the simplified rate policy, the projected “crossover year” is 2028



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# Appendix

## When will current and future contributions fund benefit payments?

- The projected crossover year will vary significantly depending on the actual investment return realized
- Crossover years under the simplified rate methodology are shown below

Actual Annual Return	Crossover Year
10%	2033
8%	2028
6%	2026
4%	2024

# Appendix

## When will current and future contributions fund benefit payments?

- The lower the actual realized return, the lower the funds that will be available at crossover for two reasons
  - Shorter accumulation period
  - Lower annual investment earnings
- This table shows the ratio of projected assets to projected benefit payments at the crossover year

Actual Annual Return	Crossover Year	Projected Assets / Crossover Year Benefit Payments
10%	2033	24.7
8%	2028	11.9
6%	2026	7.8
4%	2024	5.7

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# Appendix

## When will current and future contributions fund benefit payments?

- If the rates instead were held at 2011-2013 levels, the funds available at the crossover will be lower
- The risk to member benefit security would be most acute in the 4% investment return scenario
  - In these scenarios, the assets available would be reduced by one quarter to one third

Actual Annual Return	Crossover Year	Projected Assets / Crossover Year Benefits
10%	2033	<del>24.7</del> -> 17.7
8%	2028	<del>11.9</del> -> 8.6
6%	2026	<del>7.8</del> -> 5.3
4%	2024	<del>5.7</del> -> 4.0

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# 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, 2011, were based on values provided by Oregon PERS reflecting the Board's earnings crediting decisions for 2011.

### Methods / Policies

*Actuarial Cost Method:* Projected Unit Credit, as described in the December 31, 2010, Actuarial Valuation ("2010 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 for Oregon PERS and adopted by the PERS Board in July 2011.

### Provisions

Provisions valued are as detailed in the 2010 Valuation Report.

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