

OREGON PERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM



Joint Committee on
Ways and Means

Subcommittee on
Capital Construction
February 22, 2019

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Director



PERS: System Liabilities and Assets

Items to be covered today

- Definitions of valuation elements
- Who has responsibility to determine
- How is it determined
- What is current state and what is the future trend
- How does it compare over time
- How does it compare nationally
- Influencing Factors
- Past Efforts
- Opportunities to Improve

PERS: Definitions of valuation elements

Accrued liability: The net present value of projected future benefits allocated to service already completed in accordance with the actuarial cost method.

Actuarial asset value: The value of assets used in calculating the required contributions.

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

Rate collar: A methodology that limits the maximum allowable period-to-period change in employer contribution rates. The width of the rate collar is determined by the current contribution rate and funded status.

Side accounts: Side accounts are established for employers who make a lump-sum payment in excess of the required employer contribution. For State and Local Government Rate Pool (SLGRP) employers, this supplemental payment is first applied toward the employer's transition liability, if any, with the remainder going into a side account. Side accounts are treated as pre-paid contributions. Employer contribution rates are first determined excluding side accounts (base employer contribution rate). Then, an amortized portion of the side account is used to offset the contribution otherwise required for each individual employer that has a side account (net employer contribution rate).

Unfunded actuarial liability (UAL): The excess of the actuarial accrued liability over the actuarial value of assets. The UAL is amortized over a fixed period of time to determine the UAL rate component of employer contribution rates.

PERS: Role of the PERS Board - Actuarial Methods and Valuations

Actuarial Methods and Valuations: Actuarial methods and valuation procedures are determined for each plan and are adopted by the PERS Board each biennium.

This work includes adoption of:

- The System Funding Policy
- Determination of contribution rates
- Determination of the unfunded actuarial liability amortization schedule for each plan (ranges from 10 to 20 years, layered, closed)
- Asset valuation methods
- Contribution stabilization methods “rate collar”
- Allocation methods for plan variables such as the allocation for the Benefits in Force Reserve

PERS: The PERS Funding Equation

At the end of each calendar year, the PERS actuaries calculate the system's funded status using the following basic equation:

$$B = C + E$$

BENEFIT DESIGN = **CONTRIBUTIONS** + **EARNINGS**

present value of
earned benefits

employer funds to pay
pension benefits

future returns on
invested funds

Set by:

Oregon Legislature

Set by:

PERS Board

Managed by:

Oregon State Treasury &
Oregon Investment Council

Every two years, the PERS Board adjusts contributions so that, over time, those contributions will be sufficient to fund the benefits earned, if earnings follow assumptions.

PERS: Actuarial Methods and Assumptions

The board regularly reviews and adopts actuarial methods and assumptions on a two-year cycle. Current assumptions are up for review and adoption in 2019.

Three primary inputs into determining the liabilities are:

- Actuarial Methodology
- Economic Assumptions
- Demographic Assumptions

PERS: Actuarial Methodology

The PERS board has adopted the use of the Entry Age Normal actuarial costing method.

The total pension to which each member is expected to become entitled at retirement is broken down into units, each associated with a year of past or projected future service from the member's entry age into the plan to assumed date of exit.

PERS: Economic Assumptions

The PERS Board reviews and adopts the following economic assumptions:

- Investment or Assumed Rate of Return
- Pre-2014 and Post-2013 Interest Crediting
- Inflation
- Administrative Expenses
- Payroll Growth
- Salary Increases

PERS: Demographic Assumptions

The PERS Board reviews and adopts the following main demographic assumptions:

- Mortality for Healthy Retired Members
(broken down by male and female school district, general service and police and fire members)
- Mortality for Disabled Retirees
- Retirement Assumptions
- Disability Assumptions
- Termination Assumptions

PERS: Investment Return Assumption

The Biggest Lever

The Investment Return Assumption or Assumed Rate of Return has the biggest impact on the overall determination of liabilities.

The current assumed rate is 7.20%

The median for state retirement systems in 2019 is 7.28% (NASRA 2019 – link in appendix)

PERS: Assumed Rate has decreased since 2009

Rates for 2009-2011 set prior to economic downturn

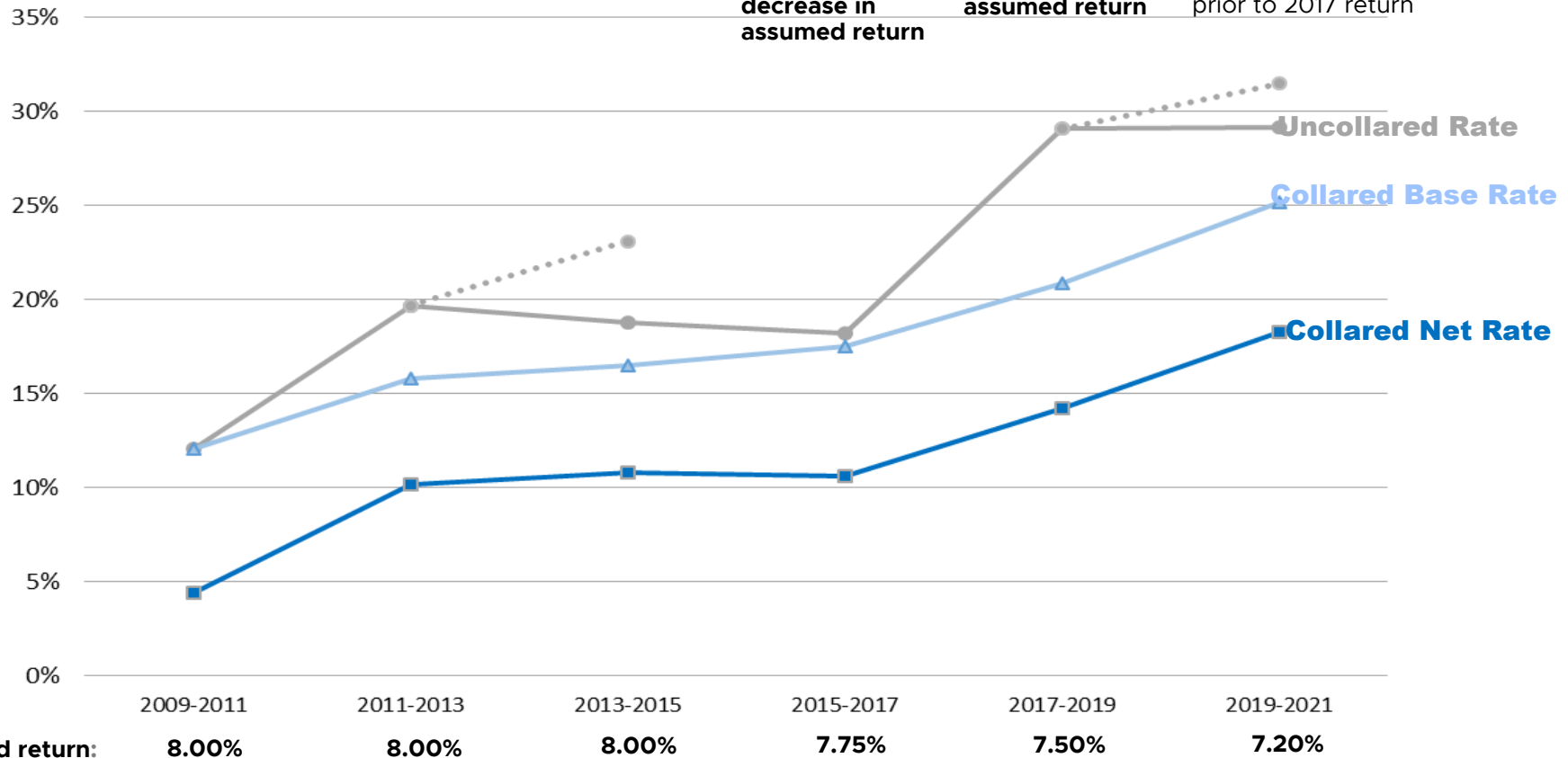
2011-2013 rates first to reflect -27% return in 2008

2013-2015 shown before (dotted line) and after (solid line) legislated changes

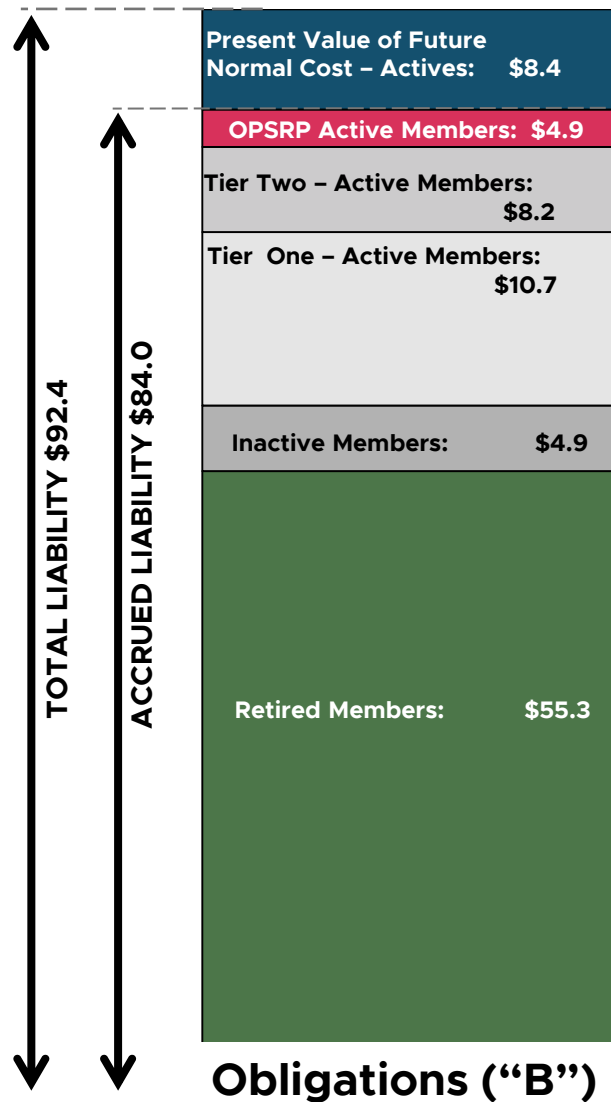
2015-2017 set pre-Moro reflecting 2012 (+14.3%) & 2013 (+15.6%) returns, first decrease in assumed return

2017-2019 set post-Moro, reflecting 2015 return (+2.1%) and second decrease in assumed return

2019-2021 reflects +15.4% return in 2017 and third decrease in assumed return; dotted line is advisory valuation's estimate prior to 2017 return



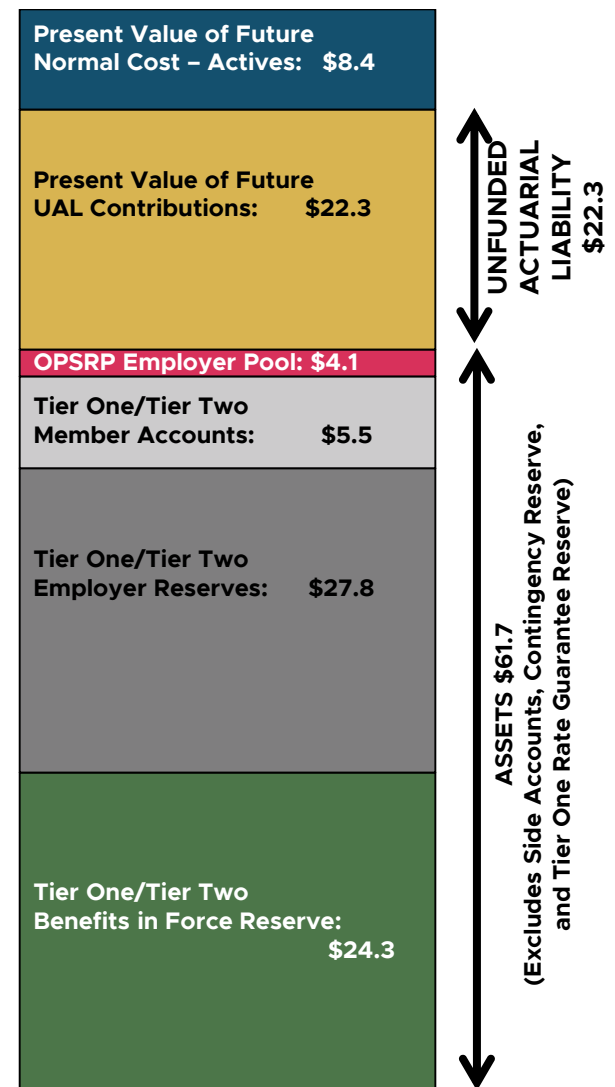
PERS: Aligning the “B” and “C+E”



Obligations (“B”)

Dollars shown in billions

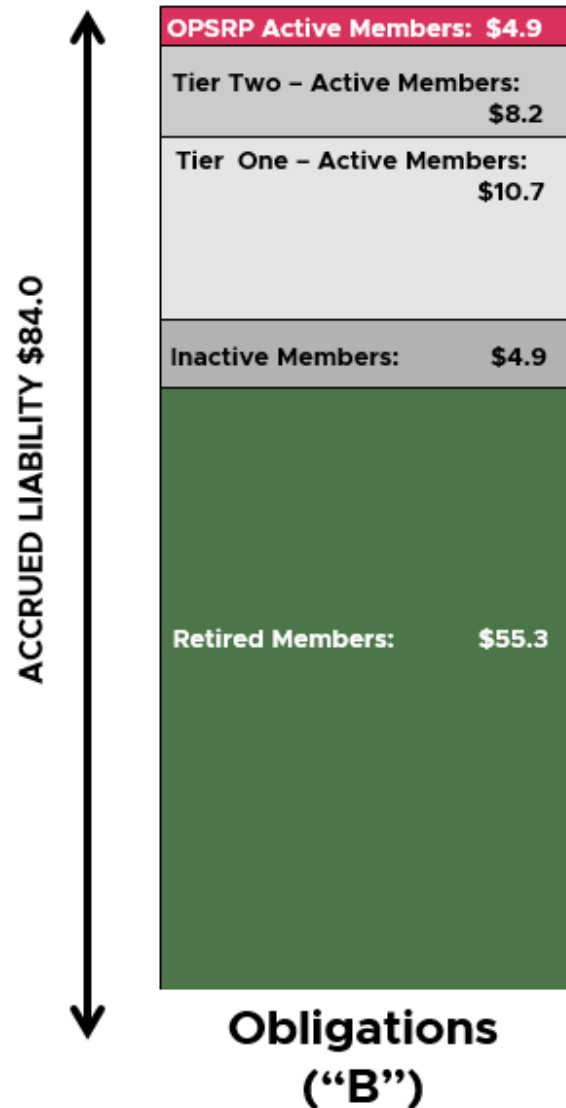
As of 12/31/17



Resources (“C+E”)

(Excludes Side Accounts, Contingency Reserve, and Tier One Rate Guarantee Reserve)

A Focus on the Liability Side



Dollars shown
in billions

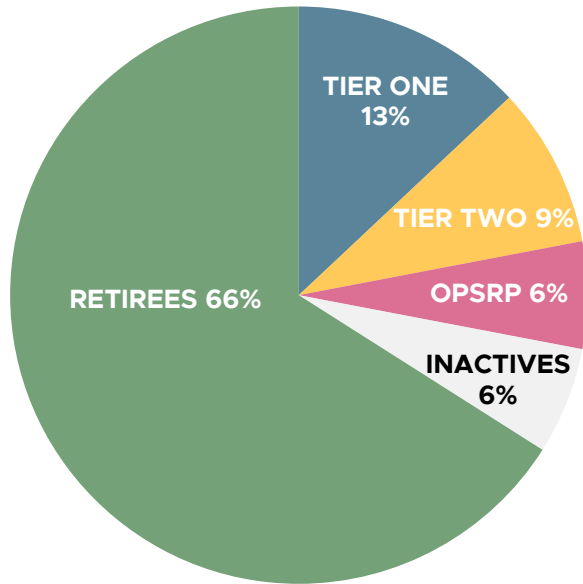
As of 12/31/17

PERS: Liabilities Defined

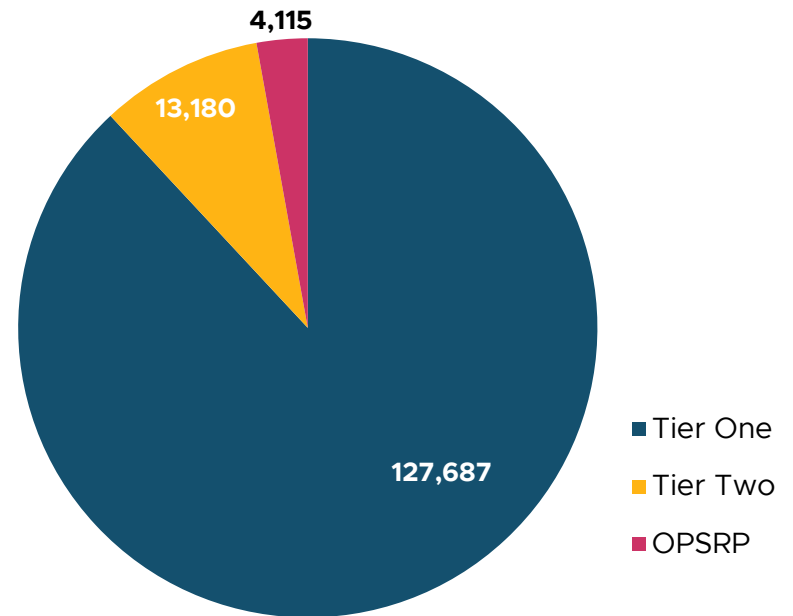
The dollar amount calculated based on actuarial assumptions that represents the net present value of the pension benefits accrued in a pension plan.

PERS: Actuarial Accrued Liabilities (as of December 31, 2017)

Approximately 72% of PERS' total accrued liability is for members who are no longer working in PERS-covered employment (retired and inactive members).



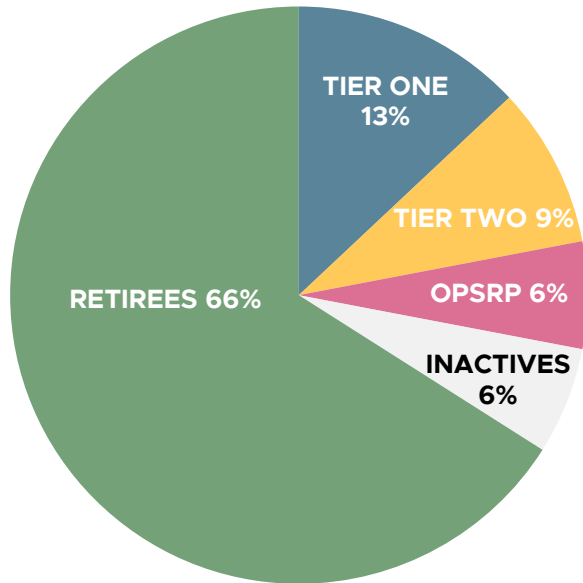
Actuarial Liability by Member Category



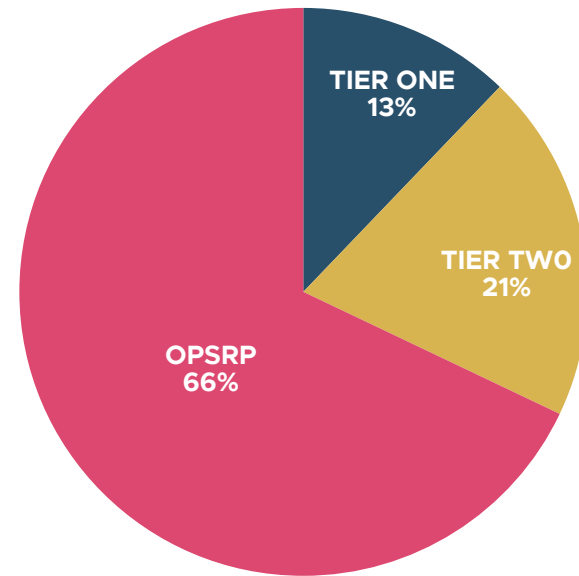
Current Retirees by membership group (as of December 31, 2017)

PERS: Actuarial Accrued Liabilities (as of December 31, 2017)

Although OPSRP members make up 68% of the active working population they are 6% of the accrued liability.



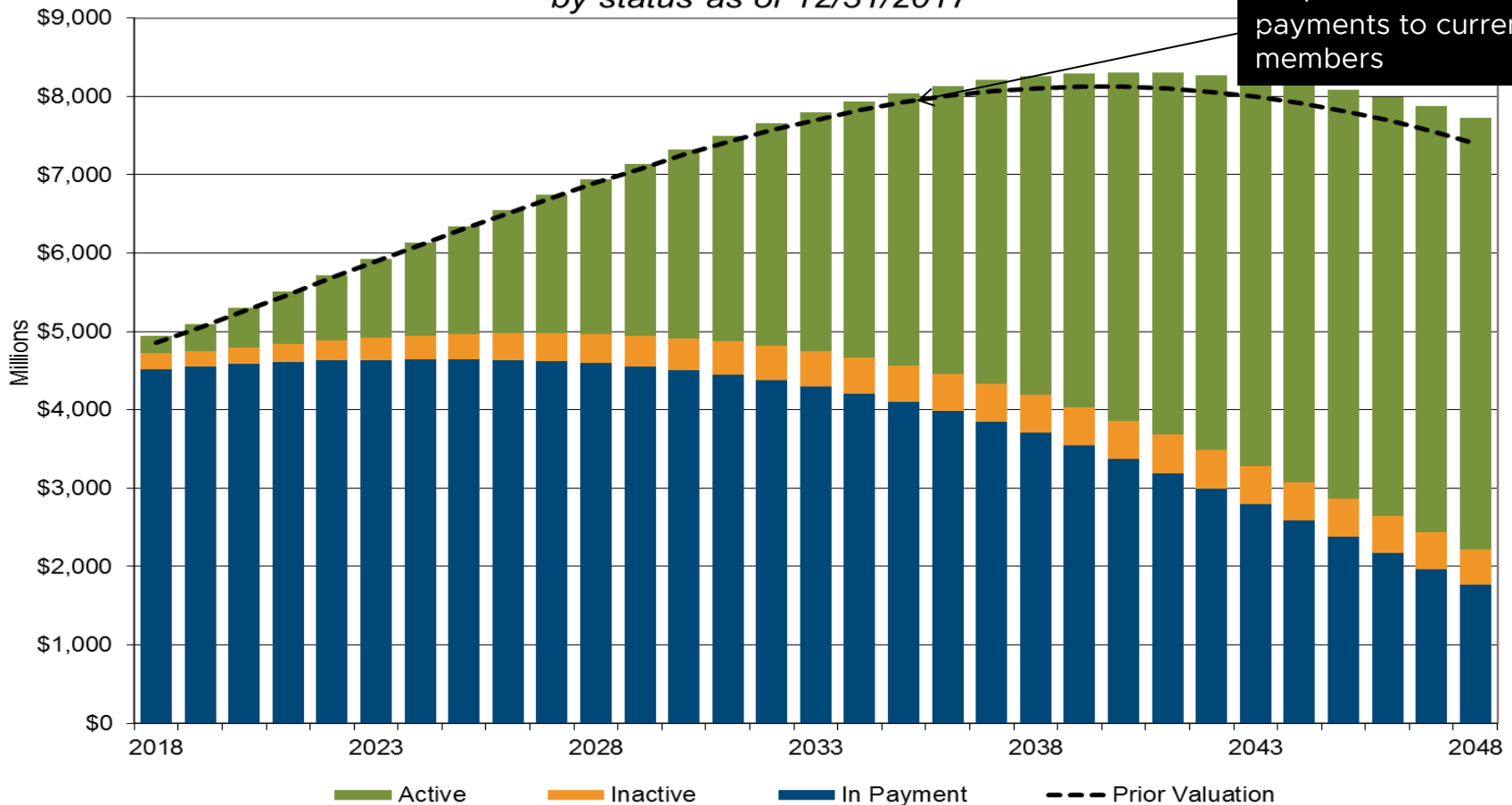
Actuarial Liability by Member Category



Active Members by Tier (as of December 31, 2017)

PERS: Projected Benefit Payments

Tier 1/Tier 2 & OPSRP Expected Benefit Payments
by status as of 12/31/2017



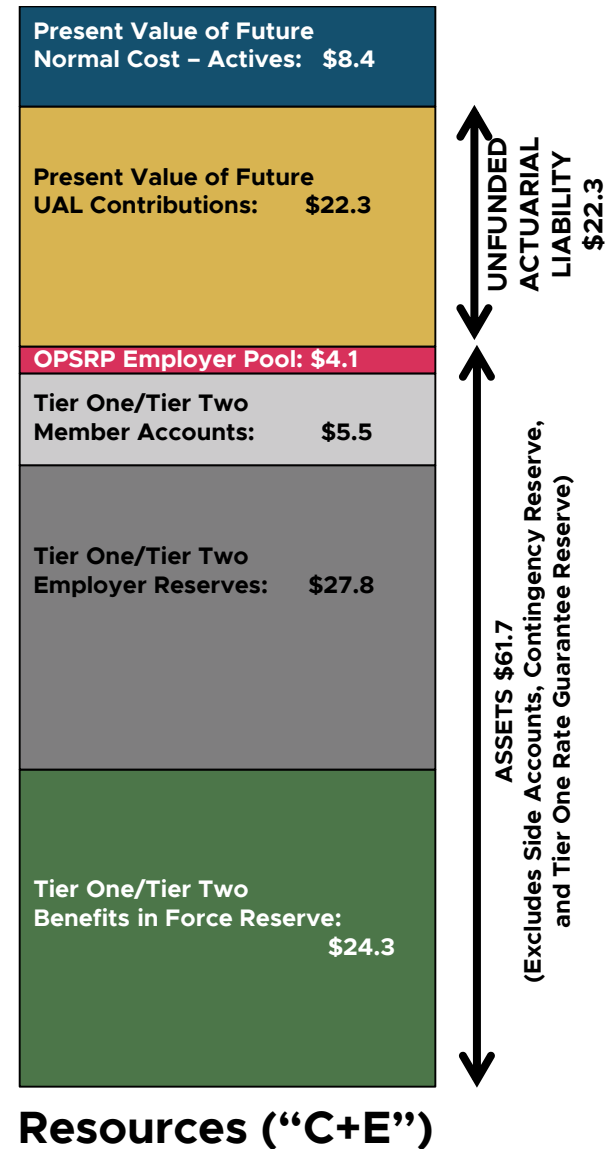
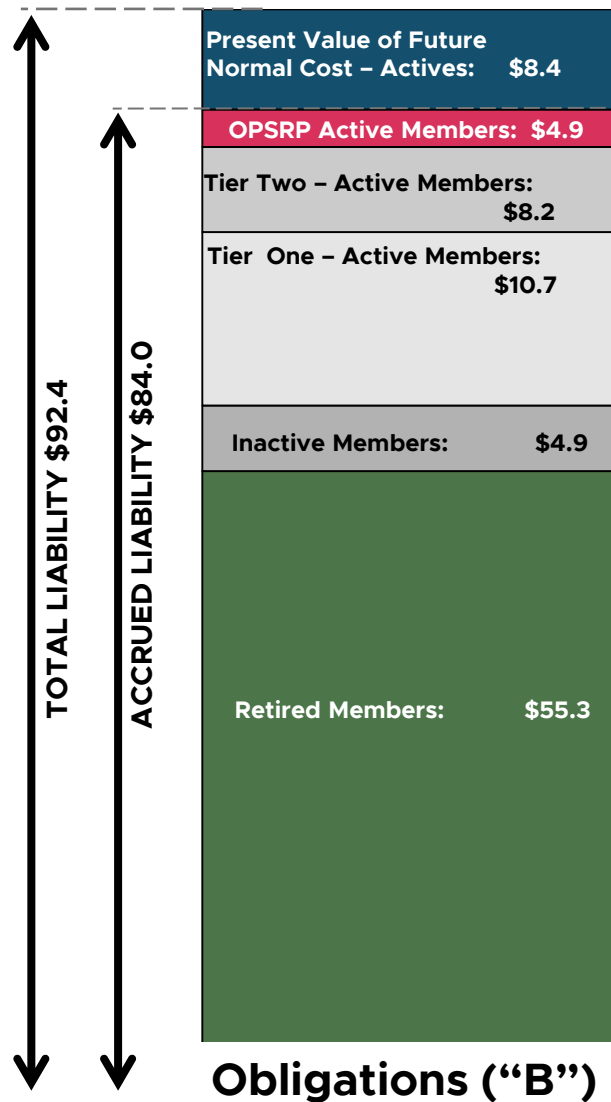
As illustrated by the dotted line, projected benefit payments did not change significantly between the prior and current actuarial valuation.

PERS: A System Comprised of Trusts (Assets)

Statutory References for the Agency	
Statute & Chapter	Program
ORS 237 & 238	Tier 1/Tier 2
ORS 238A	Oregon Public Service Retirement Program (OPSRP)
ORS 238A.300 to ORS 238A.457	Individual Account Program (IAP)
ORS 238.500 to 238.585	Judge Member Retirement Program
ORS 238.485 to 238.492	Public Employees Benefit Equalization Fund

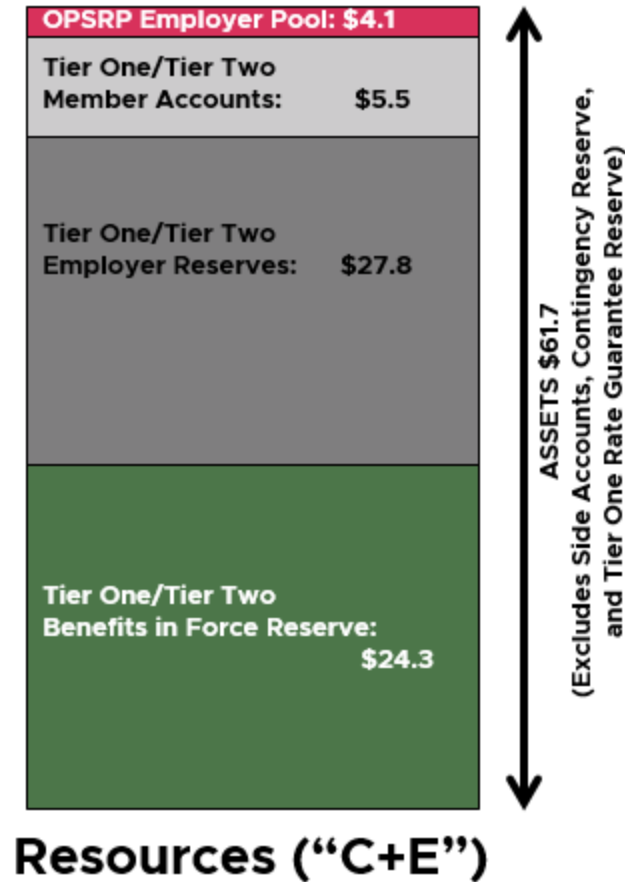
Oregon Administrative Rules (Ch. 459) govern the implementation of PERS' statutory responsibilities.

PERS: Aligning the “B” and “C+E”



Dollars shown
in billions
As of 12/31/17

A Focus on the Asset Side



Dollars shown
in billions

As of 12/31/17

PERS: Assets - Defined

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

PERS values their assets using fair market value and does not smooth gains or losses.

PERS: Assets Included in Valuation Results

Tier One/Tier Two Benefits in Force Reserve (\$24.3B as of 12/31/17)

Equals the amount set aside to pay future benefits. It includes funds transferred from the individual member and employer accounts and earnings allocations less amounts paid for retirements and disabilities.

Tier One/Tier Two Employer Reserves (\$27.8B as of 12/31/17)

Equals the amount of contributions made by employers for Tier One and Tier Two active and inactive members. It includes account earnings on the contributions.

Tier One/Tier Two Member Accounts (\$5.5B as of 12/31/17)

Equals the amount of Tier One and Tier Two member contributions made prior to January 1, 2004 for active and inactive Tier One and Tier Two members. It includes account earnings on the contributions.

OPSRP Employer Pool (\$4.1B as of 12/31/17)

Equals the amount of contributions made by employers for OPSRP active and inactive members. It includes account earnings on the contributions.

PERS: Assets Not Included in Valuation Results

Contingency and Capital Preservation Reserves (\$50M as of 12/31/17)

The reserve is to be maintained and used by the Board to prevent any deficit of moneys available for the payment of retirement allowances due to interest fluctuations, changes in mortality rates or other unforeseen contingency.

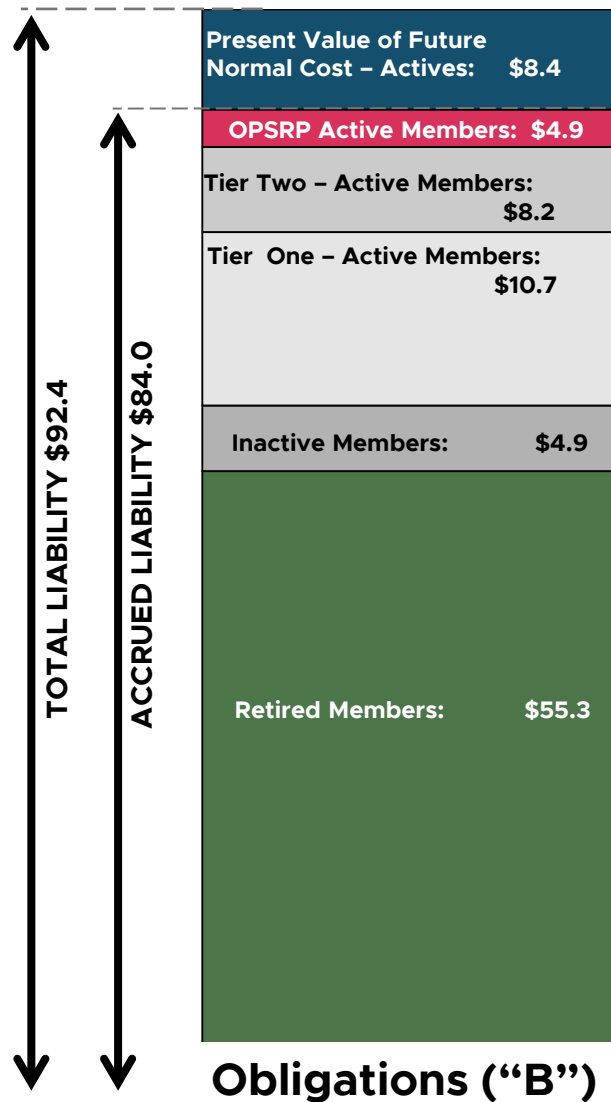
Tier One Rate Guarantee Reserve (\$0.5B as of 12/31/17)

The reserve may be credited with investment earnings in excess of the required Tier One assumed earnings rate guarantee. ORS 234.255(1) requires regular accounts for Tier One members to be credited at the assumed rate of return on investments adopted by the Board for use in actuarial valuations.

Side Accounts ((\$5.5B as of 12/31/17)

Side accounts are established for employers who make a lump-sum payment in excess of the required employer contribution. While side accounts are excluded from valuation assets in determining contribution rates for pools and non pooled employers, side accounts are included in valuation assets for financial reporting purposes

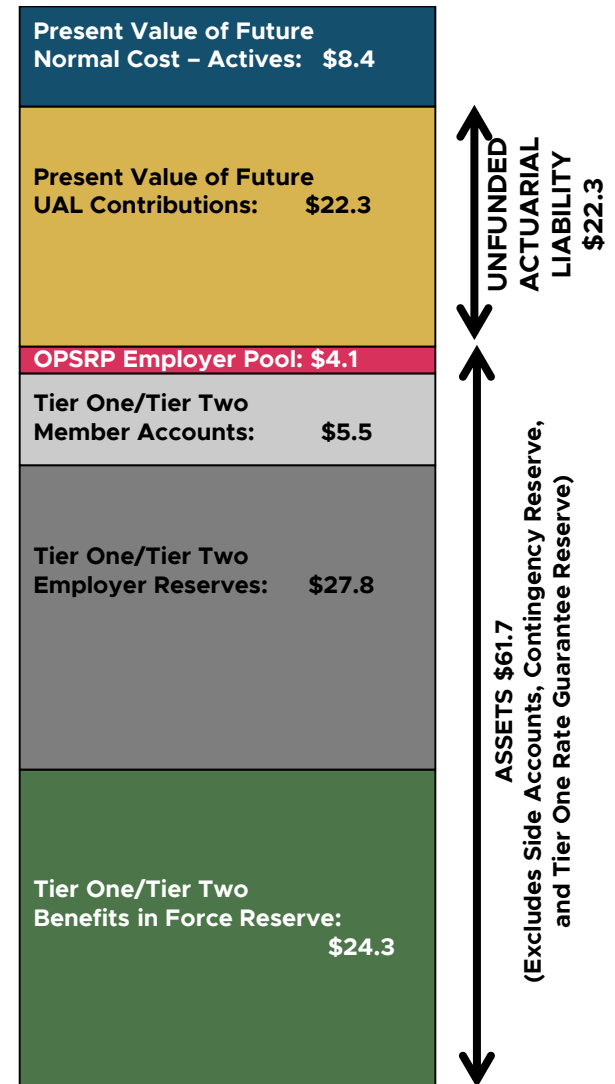
PERS: Aligning the “B” and “C+E”



Obligations (“B”)

Dollars shown in billions

As of 12/31/17

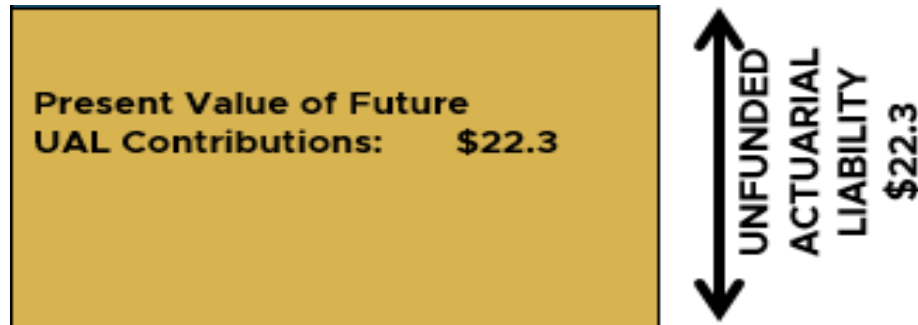


Resources (“C+E”)

(Excludes Side Accounts, Contingency Reserve, and Tier One Rate Guarantee Reserve)

Focus on the Unfunded Actuarial Liability

The Difference between Assets & Liabilities



**Dollars shown
in billions**

As of 12/31/17

PERS: Unfunded Actuarial Liability - Defined

Unfunded Accrued Liability (UAL) is the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

The UAL is divided by combined valuation payroll and an amortization factor to determine an initial, pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

PERS: Amortization of the UAL

The Tier One/Tier Two UAL amortization period was reset to 20 years as of December 31, 2013.

Gains and losses are amortized as a level percentage of combined payroll (Tier One/Tier Two plus OPSRP) over a closed 20 year period from the valuation in which they are first recognized.

Subsequent changes to UAL at each valuation are then amortized on its own 20 year amortization period, less the remaining unamortized balance of previous amounts.

PERS: Funded Status and Unfunded Actuarial Liability (UAL)

System-total Pension Funded Status (\$ billions)			
<i>Valuation date:</i>	12/31/2015	12/31/2016	12/31/2017
<i>Assumed return:</i>	7.50%	7.20%	7.20%
Actuarial liability	\$ 76.2	\$ 81.0	\$ 84.1
Assets (excluding side accounts)	<u>54.4</u>	<u>55.7</u>	<u>61.8</u>
UAL (excluding side accounts)	\$ 21.8	\$ 25.3	\$ 22.3
Funded status (excluding side accounts)	71%	69%	73%
Side account assets	\$ <u>5.6</u>	\$ <u>5.4</u>	\$ <u>5.6</u>
UAL (including side accounts)	\$ 16.2	\$ 19.9	\$ 16.7
Funded status (including side accounts)	79%	75%	80%

PERS: Sources of the 2017 UAL Change (Excluding Side Accounts)

(\$ billions)	UAL Increase
Expected UAL increase/(decrease) during 2017	\$ 1.1
2017 actual investment performance	(4.3)
Contingency Reserve transfer	(0.5)
Actual demographic experience different than assumed	<u>0.7</u>
Total	\$ (3.0)

- The expected UAL increase/(decrease) is the change, based on 12/31/2016 valuation results, that was projected to occur during 2017 due to the effects of the rate collar and other constraints on employer rate increases if all actual 2017 experience followed that valuation's assumptions
- The 2017 investment gain reflects actual OPERF returns of over 15% compared to the assumed 7.20% return
- The above changes are in addition to the \$3.5 billion increase during 2016, which was driven by assumption changes and the expected UAL increase

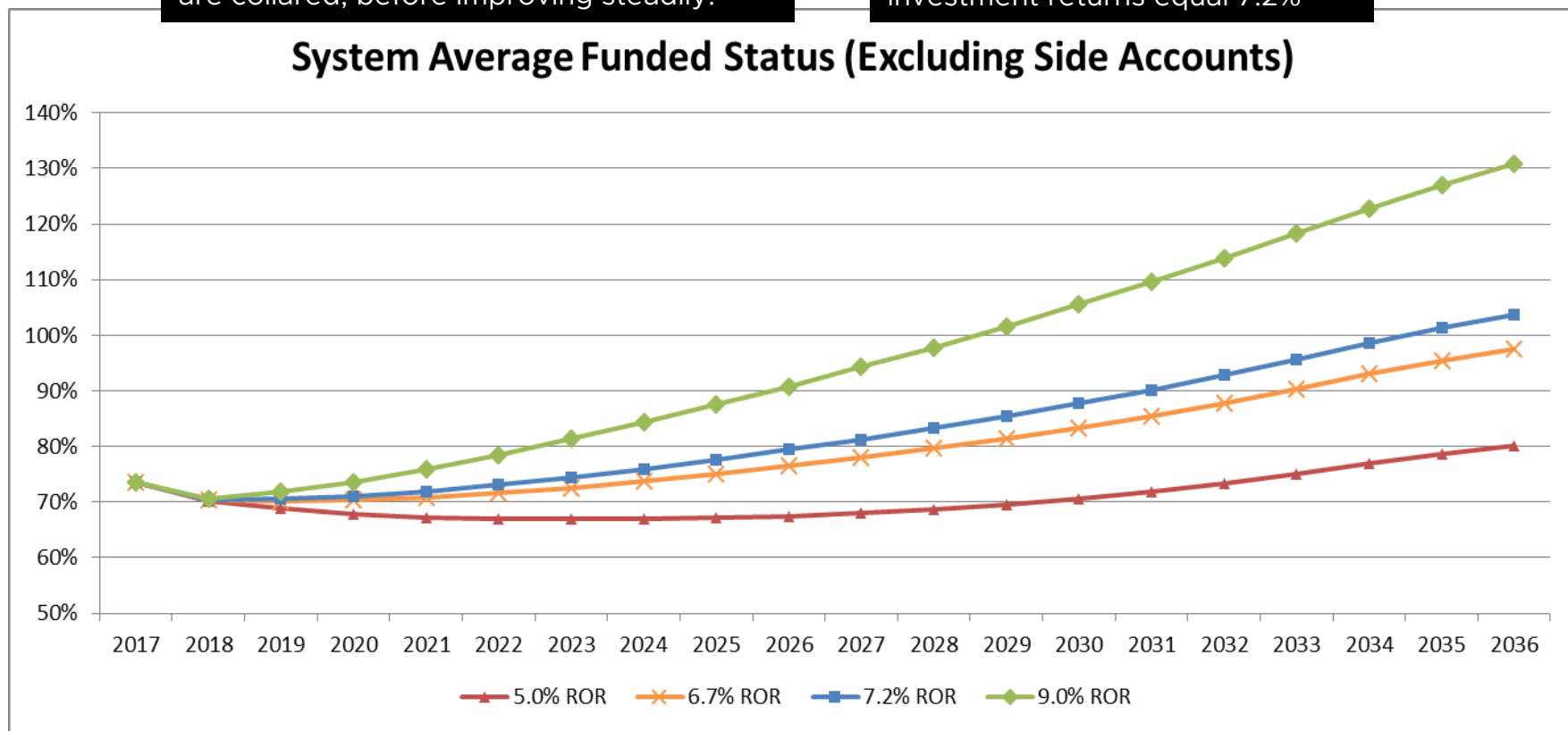
PERS: System Funded Status

Current Rate Setting Structure

Funded status declines at 12/31/2018 to reflect estimated 2018 underperformance. At 7.2% actual return, funded status then remains stable in initial years while rates are collared, before improving steadily.

Funded status reaches 100% in 2035 in the model when actual investment returns equal 7.2%

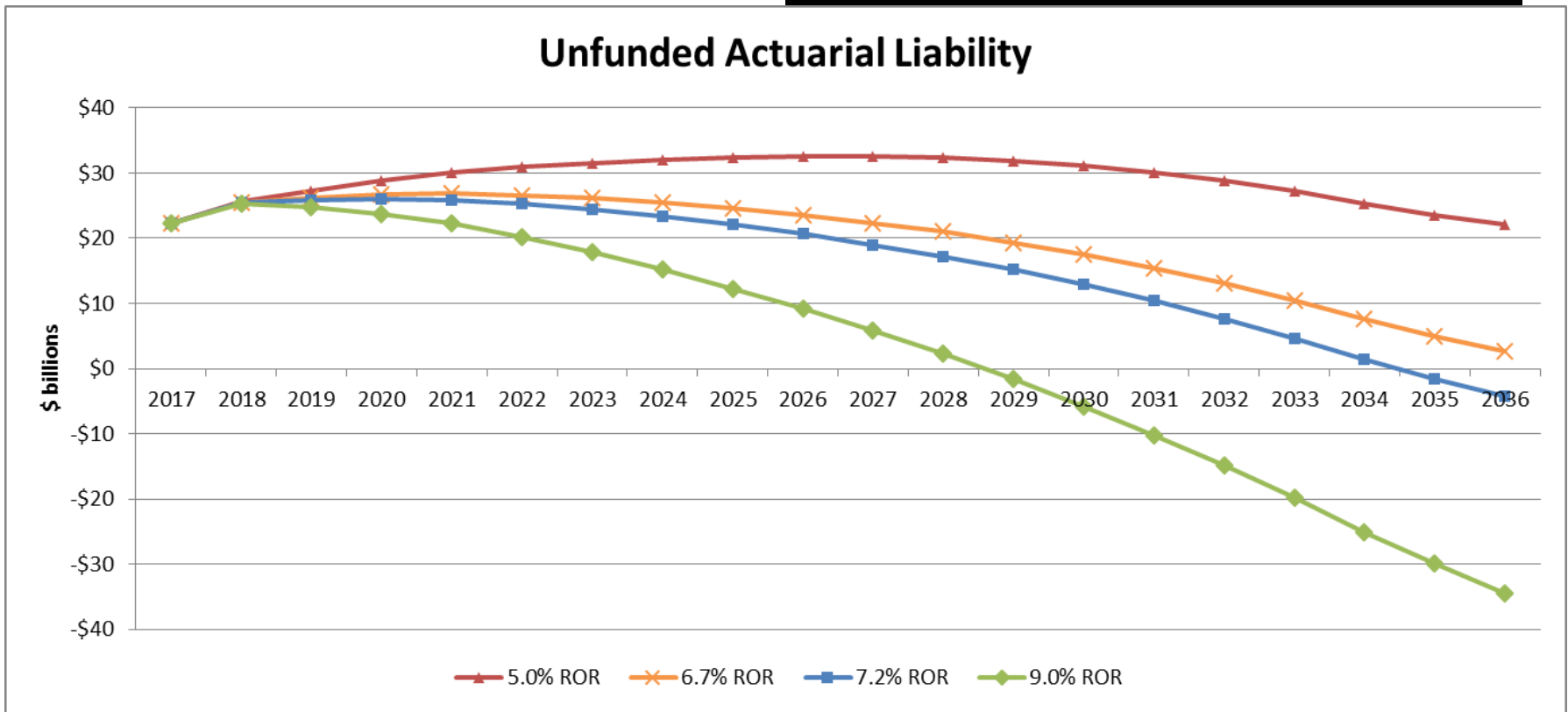
System Average Funded Status (Excluding Side Accounts)



PERS: UAL (Unfunded Actuarial Liability)

Current Rate Setting Structure

UAL in dollar terms increases at 12/31/2018 to reflect estimated 2018 underperformance. At a 7.2% actual return, UAL then grows slightly, before declining and being fully amortized by 2035.



PERS: Additional Resources

Milliman December 31, 2017 System Valuation

- Annual actuarial report of the system assets and liabilities

<https://www.oregon.gov/pers/Documents/Financials/Actuarial/2018/Actuarial-Valuation.pdf>

Comprehensive Annual Financial Report (CAFR) – Fiscal Year End June 30, 2018

- Report of all funds over which the PERS Board exercises authority

<https://www.oregon.gov/pers/Documents/Financials/CAFR/2018-CAFR.pdf>

PERS by the Numbers – Updated October 2018

- Summary of information about system demographics, benefits, funding, revenue, and history

<https://www.oregon.gov/pers/Documents/General-Information/PERS-by-the-Numbers.pdf>

NASRA Issue Brief: Public Pension Plan Investment Return Assumptions

- Summary of Return Assumptions for Public Sector Plans

<https://www.nasra.org/returnassumptionsbrief>

PERS Agency Website

- PERS website

<https://www.oregon.gov/pers/Pages/index.aspx>

OREGON PERS

PUBLIC EMPLOYEES RETIREMENT SYSTEM



Thank You

Kevin Olineck
PERS Director
2019

www.oregon.gov/pers

