

# OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM BOARD MEETING

Friday  
July 28, 2017  
1:00 P.M.

PERS  
11410 SW 68<sup>th</sup> Parkway  
Tigard, OR

ITEM	PRESENTER
<b>A. Administration</b>	
1. May 26, 2017 Board Meeting Minutes	RODEMAN
2. Director's Report	
a. Forward-Looking Calendar	
b. OPERF Investment Report	
c. Budget Execution Report	
<b>B. Administrative Rulemaking</b>	
1. Notice of Membership of Elected or Appointed Officers Rule	VAUGHN
2. Adoption of Electronic Funds Transfer Rule	
<b>C. Action and Discussion Items</b>	
1. <i>Moro</i> Implementation Project Close Out Report	ELLEGE-RHODES
2. Information Security Project Close Out Report	PERRY
3. 2017 Legislative Session Review and 2017-19 Budget	TAYLOR
4. Insolvent Employers	DUNN
5. Valuation Methods and Assumptions Including Assumed Rate of Return	MILLIMAN
6. Adoption of Assumed Rate Rule	VAUGHN

There will be an Audit Committee meeting immediately following the regular Board meeting.

<http://www.oregon.gov/PERS/>

2017 Meetings: · September 29 · December 1\* · \* Audit Committee

Stephen Buckley    Lawrence Furnstahl    Krystal Gema    John Thomas, Chair    Pat West, Vice Chair    Steve Rodeman, Executive Director  
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## OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM BOARD MEETING MINUTES

May 26, 2017

### **Board members present:**

Chair John Thomas, Stephen Buckley, Lawrence Furnstahl, Krystal Gema, and Vice-chair Pat West were present.

### **Staff present:**

Linda Barnett, Dean Carson, Melanie Chandler, David Crosley, Mary Dunn, Yvette Elledge-Rhodes, Brian Harrington, Denise Helms, Debra Hembree, Neil Jones, Kyle Knoll, Roseann Lurie-Canright, Amanda Marble, Jordan Masanga, Steve Rodeman, Jason Stanley, Marjorie Taylor, Stephanie Vaughn, Yong Yang

### **Others present:**

Rukaiyah Adams, Theresa Barney, Nancy Brewer, Molly Butler, Stacy Carmichael, Nate Carter, Lynnette Coffman, Jennifer Cooperman, Steve Demarest, Josh Eggleton, Dave Evans, Debra Grabler, Jeff Gudman, Greg Hartman, Gordon Hoberg, Judy Jansen, Matt Larrabee, Elizabeth McCann, Kevin McCartin, Troy Marese, Rhonda Miller, Jan Petrella, Scott Preppernau, Robin Richardson, Carol Samuels, Michelle Taylor, Deborah Tremblay, Trudy Vidal, Chandra Wahrgren, Brad Westphal, Patrick Wingarder, James Young

Chair John Thomas called the meeting to order at 1:00 P.M.

### **ADMINISTRATION**

#### **A.1. MEETING MINUTES OF APRIL 3, 2017**

Board member Buckley moved and Board member Furnstahl seconded approval of the minutes submitted from the April 3, 2017 Board meeting. The motion passed unanimously.

#### **A.2. DIRECTOR'S REPORT**

Executive Director Steve Rodeman announced that today was Communications Director David Crosley's last day at PERS as he is retiring. Chair Thomas added his appreciation for the work David has done for the agency.

Chair Thomas acknowledged Oregon Investment Council (OIC) Chair Rukaiyah Adams was in the audience today.

Rodeman reviewed the Forward Looking Calendar and highlighted the important items to be considered by the Board during the year. Rodeman noted a date change is in the works for the November meeting. It will be published once a new date is determined.

Rodeman presented the OIC's Investment Report of the Oregon Public Employees Retirement Fund (OPERF) for the period ending April 30, 2017. He noted the current pace and that he hopes to see the same trajectory moving forward.

Rodeman presented the Budget Execution Report. There is quite a large variance at the end of the budget cycle. There were several vacancies which resulted in unspent funds. Most of these vacancies have been filled before the hiring freeze which is now in place. The final hearings for the PERS budget have not yet been scheduled but are anticipated sometime within the next few weeks. At the July Board meeting there will be a report of the actual approved budget for the next biennium.

Board Member Krystal Gema joined the meeting.

#### A.3. BOARD SCORECARD REPORT ON AGENCY PERFORMANCE

Matt Rickard, Central Data Coordinator, and Brandon Armatas, Manager, Member Account Adjustment Team and POBMS Council Chair, presented. Armatas provided an update on current work of the council as they continue to develop their role. He noted the development and approval of their charter and work on action plans to help address measures which are slipping into the “red” category for two consecutive quarters. Rickard reviewed the agency performance measures. He highlighted the recent drop in “green” performance measures which are a direct result of staff shortages. He anticipates that these measures will improve corresponding with the large number of staff hired in the past month. The next scorecard report will be at the November Board meeting. Rodeman added that the on-boarding process for many positions is lengthy and it may take a few quarters to see the results of the additional staff. Furnstahl asked about the system uptime measure and what was the cause in the decreased performance. Rodeman noted that this was primarily based on long batch processing of legacy systems. The performance measure is set with extremely low tolerance for variances. Armatas added that in the first quarter it is typical to see longer times due to year-end tax processing jobs.

#### A.4. EMPLOYER SIDE ACCOUNTS

Debra Hembree, Actuarial Services Coordinator, presented a review of the current Employer Side Account process. She reviewed several potential changes which were discussed at the April 21 Employer Advisory Group meeting and the steps which would need to be taken to implement these changes. ORS 238.229 established the authority for the creation of side accounts. ORS 238.229 currently prohibits employers from making additional deposits into an existing side account. This impacts about 150 employers. An additional concern was administrative fee structure. When the fees were originally established managing the accounts was a much more manual process than it is today. Offering a shorter amortization period was also suggested. Hembree reviewed next steps to implement suggestions.

Furnstahl expressed his appreciation for addressing this issue and added that there are a number of one-time revenue saving opportunities for employers which could be realized with the suggested changes to the lump sum minimum restrictions. Thomas asked how many employers have side accounts. Hembree estimated it was about 25% of employers; approximately 150 have side accounts, some employers have more than one.

### ADMINISTRATIVE RULEMAKING

Stephanie Vaughn, Policy Analysis and Compliance Section Manager, presented.

#### B.1. NOTICE OF EMPLOYER SIDE ACCOUNTS RULES

Vaughn presented notice of rulemaking for the Employer Side Accounts rules, OAR 459-009-0084, -0085, -0090. As was presented by Debra Hembree, this rule is open to consider options for easing the requirements around the creation of employer side accounts and housekeeping edits relating to employer lump sum unfunded actuarial liability payments and side accounts. A rulemaking hearing will be held June 27, 2017, at PERS Headquarters. The public comment period ends on July 7, 2017. No Board action was required.

#### B.2. NOTICE OF ELECTRONIC FUNDS TRANSFER RULE

Vaughn presented the notice of rulemaking for the Electronic Funds Transfer (EFT) rule, OAR 459-005-0225. This rule is open to clarify that employers who do not participate in the PERS retirement system are exempt from EFT payment requirements (PERS also administers the state's program on Social Security, so non-PERS employers still remit payments to PERS for that program's functions). A rulemaking hearing will be held June 27, 2017, at PERS headquarters. The public comment period ends July 7, 2017. No Board action was required.

#### B.3. NOTICE OF ASSUMED RATE RULE

Vaughn presented the notice of rulemaking for the Assumed Rate rule, OAR 459-007-0007. The Board will review the assumed rate at the July 28, 2017 Board meeting and adopt any new changes with an effective date of January 1, 2018. This rule is open now to allow for subsequent adoption at the July meeting. A rulemaking hearing will be held June 27, 2017, at PERS headquarters. The public comment period ends July 7, 2017. No Board action was required.

#### B.4. ADOPTION OF INSOLVENT EMPLOYER RULE

Vaughn presented the modifications to the Insolvent Employer rule, OAR 459-009-0400. These revisions define "insolvent employer" and establish that the PERS Board has the authority to take action to satisfy some or all of the outstanding liability of an insolvent employer to the PERS Fund through the Contingency Reserve.

A rulemaking hearing was held April 25, 2017, at PERS Headquarters. No members of the public attended. The public comment period ended May 3, 2017. No public comment was received.

Gema moved to adopt the insolvent employer rule as presented. West seconded the motion. The motion passed unanimously.

#### B.5. ADOPTION OF RESTORATION OF FORFEITED SERVICE CREDIT RULE

Vaughn presented the modifications to the Restoration of Forfeited Credit rule, OAR 459-011-0050. These revisions clarify administration of membership termination and restoration of forfeited credit by reason of withdrawal; specify separation from service timelines; and clarify what types of membership forfeiture may be restored.

A rulemaking hearing was held April 25, 2017. One member of the public attended and provided testimony which was included in the Board meeting materials; other comments were also included in the materials. The public comment period ended May 3, 2017. The Board discussed the testimony which was provided. Based on the concerns expressed in the testimony and public comments, one of the options offered by staff allows for a delayed implementation of the modified rule to give ample time to notify those members who may be impacted by the proposed changes. Staff would send letters to affected members by the end of June to notify them of the impending changes.

Furnstahl moved to adopt modifications to the Restoration of Forfeited Service Credit rule, allowing purchases of LOM time through December 1, 2017, effective retirement dates, as presented. West seconded the motion. The motion passed unanimously.

#### B.6. DISABILITY RULES UPDATE

Vaughn provided an update for the Board on the status of the Disability Rules package. Although staff anticipated returning to the Board for adoption of these rules at this meeting, they have been postponed for consideration until they are fully vetted. No Board action was required.

## **ACTION AND DISCUSSION ITEMS**

### **C.1. MORO IMPLEMENTATION PROJECT UPDATE**

Chief Operations Officer Yvette Elledge-Rhodes presented an update on the status of the *Moro* Implementation Project. No Board action was required.

Furnstahl asked if a couple of lessons learned from this project could be documented in the closeout report which would be helpful for the Board.

### **C.2. LEGISLATIVE UPDATE**

Senior Policy Director Marjorie Taylor presented a brief update on proposed legislation impacting PERS members and other legislative meetings which have occurred since the last Board meeting. No Board action was required.

### **C.3. 2018 RETIREE HEALTH INSURANCE PLAN RENEWALS AND RATES**

Furnstahl recused himself from participating in this conversation given his association with OHSU.

Mini Kobbervig, PERS Health Insurance Program (PHIP) Manager, presented the 2018 PHIP Plan Renewal Overview. PHIP consultants Molly Butler and Kevin McCartin also appeared before the Board. Buckley moved to approve the proposed PHIP contract renewals, benefits, and rates for 2018 as presented. Gema seconded the motion. The motion passed unanimously.

### **C.4. ECONOMIC ASSUMPTIONS AND ACTUARIAL METHODS**

Larrabee and Preppernau presented. This is the first item in the two-year rate setting cycle. The presentation reviewed the non-investment and economic assumptions as well as the long-term investment return assumptions which will be considered in preparation for the July 2017 presentation, where demographic assumptions will be discussed before asking for adoption of the assumptions and methods for the current and next year's advisory valuation. They will come back with those results in September 2017. The actual system-wide rate setting valuation results will be presented in July 2018, with employer rate setting to follow in fall 2018, seeking to adopt rates that will be effective beginning July 1, 2019.

No Board action was required

Thomas adjourned the Board meeting at 3:15 PM.

Respectfully submitted,



Steven Patrick Rodeman  
Executive Director

## **PERS Board Meeting Forward-Looking Calendar**

### **Friday, September 29, 2017**

Adoption of Employer Side Accounts Rules  
Adoption of Membership of Elected or Appointed Officers Rule  
Notice of Public Records Rule  
Notice of Annual Benefit Limitation Rule  
2016 Valuation Results

### **Friday, December 1, 2017**

Adoption of Public Records Rule  
Adoption of Annual Benefit Limitation Rule  
2016 Valuation Update and Financial Modeling Results  
Board Scorecard Report on Agency Performance Measures  
Audit Committee Meeting

### **Proposed dates for 2018 meetings:**

*\*10:00 a.m. New Proposed Start Time for 2018 Meetings\**

### **Friday, February 2, 2018**

### **Friday, April 6, 2018**

### **Friday, June 1, 2018**

### **Friday, August 3, 2018**

### **Friday, October 5, 2018**

### **Friday, December 7, 2018**

Returns for periods ending JUN-2017

Oregon Public Employees Retirement Fund

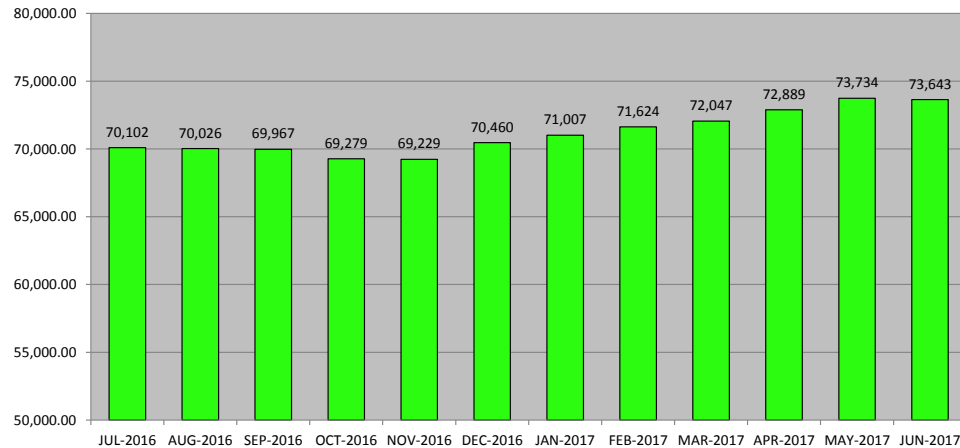
Item A.2.b.

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy <sup>1</sup>	Target <sup>1</sup>	\$ Thousands <sup>2</sup>	Actual	Year-To-Date <sup>3</sup>	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 28,858,025	39.5%	11.06	20.32	7.25	5.39	9.80	11.63	11.39	4.36
Private Equity	13.5-21.5%	17.5%	\$ 14,305,685	19.6%	7.06	12.61	8.49	8.84	11.24	11.54	12.18	8.64
<b>Total Equity</b>	<b>50.0-60.0%</b>	<b>55.0%</b>	<b>\$ 43,163,710</b>	<b>59.1%</b>								
Opportunity Portfolio	0-3%	0%	\$ 1,529,310	2.1%	4.25	6.18	3.23	1.89	5.94	8.18	8.85	6.20
<b>Total Fixed</b>	<b>15-25%</b>	<b>20.0%</b>	<b>\$ 15,904,556</b>	<b>21.8%</b>	2.59	1.48	2.55	2.19	3.01	3.13	4.53	5.42
Real Estate	9.5-15.5%	12.5%	\$ 8,133,801	11.1%	6.34	6.94	8.88	9.93	10.61	11.36	12.27	4.95
Alternative Investments	0-12.5%	12.5%	\$ 4,288,645	5.9%	3.38	11.03	4.95	2.58	3.16	2.50		
Cash w/Overlay	0-3%	0%	\$ 29,231	0.0%	0.69	1.13	1.03	0.85	0.83	0.84	0.83	1.25
<b>TOTAL OPERF Regular Account</b>		<b>100.0%</b>	<b>\$ 73,049,253</b>	<b>100.0%</b>	7.25	11.92	6.43	5.72	8.34	9.19	9.83	5.42
<b>OPERF Policy Benchmark</b>					7.97	13.02	7.15	6.59	9.22	9.85	10.21	6.04
Value Added					(0.71)	(1.10)	(0.72)	(0.87)	(0.88)	(0.66)	(0.38)	(0.62)
<b>TOTAL OPERF Variable Account</b>			<b>\$ 593,482</b>		11.60	19.52	7.44	5.30	9.59	11.11	11.02	3.70

Asset Class Benchmarks:

Russell 3000	8.93	18.51	10.02	9.10	12.93	14.58	15.34	7.26
OREGON MSCI ACWI EX US IMI NET	14.30	20.43	4.33	1.14	6.05	7.58	6.94	1.51
MSCI ACWI IMI NET	11.32	19.01	6.96	4.87	9.21	10.74	10.65	3.95
RUSSELL 3000+300 BPS QTR LAG	11.81	21.56	11.71	13.02	16.19	16.54	16.25	11.18
OREGON CUSTOM FI BENCHMARK	2.18	0.41	2.03	1.81	2.46	2.50	3.36	4.47
OREGON CUSTOM REAL ESTATE BENCHMARK	3.45	7.36	9.44	10.52	10.68	10.65	11.80	6.70
CPI +4%	3.46	5.69	5.36	4.95	5.25	5.36	5.74	5.66
91 Day Treasury Bill	0.31	0.49	0.34	0.23	0.19	0.17	0.15	0.58

**Total OPERF NAV**  
(includes Variable Fund asset)  
One year ending JUN-2017  
(\$ in Millions)



<sup>1</sup>OIC Policy revised June 2015.

<sup>2</sup>Includes impact of cash overlay management.

<sup>3</sup>For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.



# Oregon

Kate Brown, Governor

## Public Employees Retirement System

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July 28, 2017

TO: Members of the PERS Board  
FROM: Linda M. Barnett, Budget Officer  
SUBJECT: July 28, 2017 Budget Execution Report

### 2015-17 OPERATIONS BUDGET

Operating expenditures for May 2017 and preliminary expenditures for June 2017 were \$3,912,757 and \$4,062,813, respectively. Final expenditures for June closed on July 14, 2017, in the Statewide Financial Management System (SFMS), and will be included in the September 29, 2017 report to the Board. To date, the agency has expended a total of \$95,050,867 or 88.87% of PERS' legislatively approved operations budget of \$106,949,449. State policy allows agencies to continue paying for June services and supplies against the 2015-17 budget until December 2017. The current projected positive variance is \$5,898,661 or approximately 5.52% of the operations budget. The agency's goal is to maintain a positive variance of at least \$2.1 million (2%).

As of June 2017, PERS' budget contains \$2,491,176 unscheduled budget which was approved during the 2015 Legislative Session. Of this amount that PERS was unable to spend, \$1,897,634 which was approved in the 2017-19 Legislatively Adopted Budget to do the following:

- \$250,000 in Pkg. 803 - to further develop and implement a Business Continuity Program;
- \$500,000 in Pkg. 804 - to further develop and implement a Disaster Recovery Program; and
- \$1,147,634 in Pkg. 805 - to further develop and implement a Disaster Recovery Warm Site.

### 2017-19 LEGISLATIVELY ADOPTED BUDGET

The agency's Legislatively Adopted Budget for 2017-19 (SB 5534) is awaiting Governor Brown's signature. The PERS' limitation totaling \$100,956,620 was approved; in the bill, this limitation was specifically allocated among the agency's Divisions in line with our organizational structure:

- \$3,653,375 for Central Administration;
- \$23,358,866 for Financial and Administrative Services Division;
- \$27,637,911 for Information Services Division;
- \$39,391,211 for Operations Division; and
- \$6,915,257 for Compliance, Audit and Risk Division.

The adopted budget also consists of \$10,994,171,000 in non-limited budget which represents benefit payments, health insurance premiums, and third-party administration payments for both the PERS Health Insurance Program and the Individual Account Program.

Further budget adjustments impacting PERS were made in House Bill 5006, which is also awaiting Governor Brown's signature. This bill contains omnibus adjustments in multiple agencies based on



## Budget Execution Report

07/28/17

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reductions in the Department of Administrative Services' assessments and charges for services; reduction of Attorney General Fee rates; a "hiring slowdown;" and a 10% reduction in business travel. These reductions total \$2,718,059. This bill also contains an increase of \$209,443 in limitation and the establishment of a permanent position for a Certified Public Accountant to serve as the agency's Chief Financial Officer, a direction to the agency that was included in the Legislative Fiscal Office's recommendations on the agency's budget. Director Rodeman is in the process of designing that position in advance of opening a recruitment.

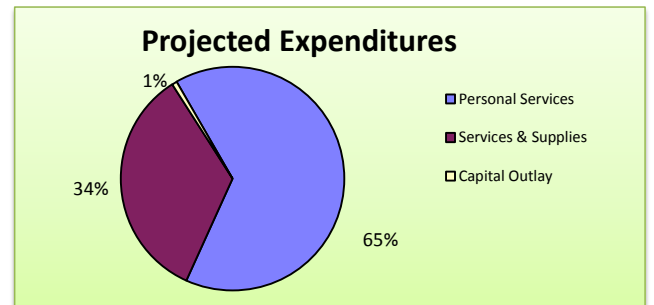
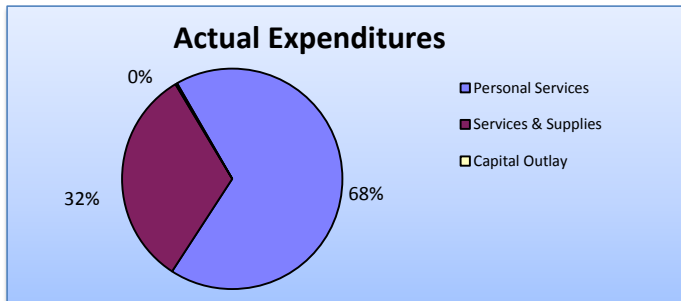
A.2.c. Attachment 1 – 2015-17 Agency-wide Budget Execution Summary Analysis

**2015-17 Agency-wide Budget Execution  
Summary Budget Analysis  
Preliminary For the Month of: June 2017**

**Limited - Operating Budget**

**2015-17 Biennial Summary**

Category	Actual Exp. To Date	Projected Expenditures	Total Est. Expenditures	2015-17 LAB	Variance
Personal Services	64,165,018	0	64,165,018	69,268,743	5,103,725
Services & Supplies	30,623,663	3,050,425	33,674,088	33,783,723	109,635
Capital Outlay	262,186	458,320	720,506	1,405,807	685,301
Unscheduled	0	2,491,176	2,491,176	2,491,176	0
<b>Total</b>	<b>95,050,867</b>	<b>5,999,921</b>	<b>101,050,788</b>	<b>106,949,449</b>	<b>5,898,661</b>



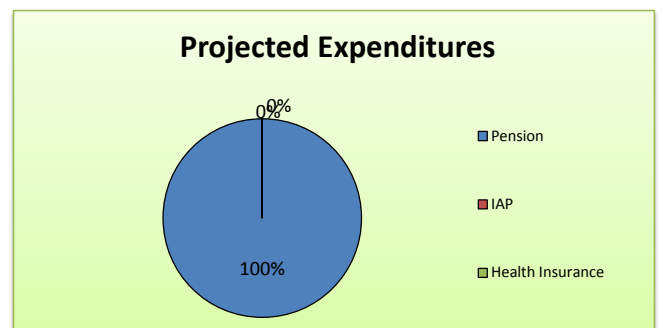
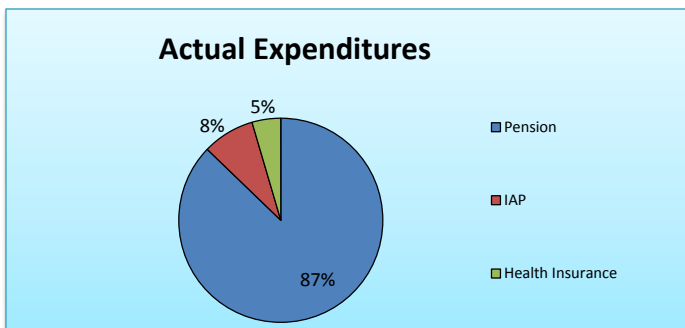
**Monthly Summary**

Category	Actual Exp.	Projections	Variance	Avg. Monthly Actual Exp.	Avg. Monthly Projected Exp.
Personal Services	2,973,029	3,011,458	38,429	2,673,542	0
Services & Supplies	1,089,784	902,267	(187,517)	1,275,986	127,101
Capital Outlay	0	13,918	13,918	10,924	19,097
<b>Total</b>	<b>4,062,813</b>	<b>3,927,643</b>	<b>(135,170)</b>	<b>3,960,452</b>	<b>146,198</b>

**Non-Limited Budget**

**2015-17 Biennial Summary**

Programs	Actual Exp To Date	Projected Expenditures	Total Est. Expenditures	Non-Limited LAB	Variance
Pension	8,282,213,372	365,000,000	8,647,213,372	8,431,874,726	(215,338,646)
IAP	783,479,686	0	783,479,686	873,488,891	90,009,205
Health Insurance	432,038,430	0	432,038,430	558,094,445	126,056,015
<b>Total</b>	<b>9,497,731,488</b>	<b>365,000,000</b>	<b>9,862,731,488</b>	<b>9,863,458,062</b>	<b>726,574</b>





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July 28, 2017

TO: Members of the PERS Board  
FROM: Stephanie Vaughn, Manager, Policy Analysis & Compliance Section  
SUBJECT: Notice of Rulemaking for Membership of Elected or Appointed Officers Rule:  
OAR 459-010-0180, *Membership of Elected or Appointed Officers*

### OVERVIEW

- Action: None. This is notice that staff has begun rulemaking.
- Reason: Clarify that a Tier One or Tier Two member who is appointed or elected to a fixed term of office can maintain membership during that term in the absence of an election form if contributions are made on the member's behalf for more than one pay period.
- Policy Issue: Whether submitting contributions should constitute adequate notice of a member's intent to continue their PERS membership upon appointment or election to a fixed term of office.

### BACKGROUND

Under ORS 238.015(5), a person holding an elective or appointive office with a fixed term, or an office as head of a department to which the person is appointed by the Governor, may become a PERS member by giving written notice within 30 days after taking office if the person had already established PERS membership, or within 30 days after completing the six month waiting period required to become a member under ORS 238.015(1). OAR 459-010-0180, which has not been updated since 1998, is written as an "opt-out" of PERS, specifying how such a person would cancel their membership at the end of the term by giving written notice to PERS. Rather, the statute above is structured as an "opt-in" to PERS, and so modifications are proposed to the OAR to better align with this structure.

### POLICY QUESTION

*Whether submitting contributions should constitute adequate notice of a member's intent to continue their PERS membership upon appointment or election to a fixed term of office.*

The statute does not describe what constitutes "written notice" for these elected or appointed officers. The agency has often received written election forms that officers have submitted at the beginning of their term. Sometimes, however, officers who are already PERS members, either through a prior elected or appointed official or otherwise, have not submitted an election form to PERS at the start of new terms. Rather, their employers have continued to report them as active members and submitted member and employer contributions on their behalf; in practice, PERS has accepted these contributions as satisfying the written notice requirements. The proposed modifications to this rule clarify this presumption.

### PUBLIC COMMENT AND HEARING TESTIMONY

A rulemaking hearing will be held August 22, 2017, at 2:00 p.m. at PERS headquarters in Tigard. The public comment period ends September 1, 2017, at 5:00 p.m.

### LEGAL REVIEW

The attached draft rule was submitted to the Department of Justice for legal review and any comments or changes will be incorporated before the rule is presented for adoption.

### IMPACT

Mandatory: No.

Impact: Reduces incidents of unintended failed election to participate in PERS for established members who hold office as an elected or appointed officer when they neglect to submit an election form during a new term. Promotes administrative efficiency.

Cost: There are no discrete costs attributable to the rule.

### RULEMAKING TIMELINE

July 15, 2017	Staff began the rulemaking process by filing Notice of Rulemaking with the Secretary of State.
July 28, 2017	PERS Board notified that staff began the rulemaking process.
August 1, 2017	<i>Oregon Bulletin</i> publishes the Notice. Notice is sent to employers, legislators, and interested parties. Public comment period begins.
August 22, 2017	Rulemaking hearing to be held at 2:00 p.m. at PERS in Tigard.
September 1, 2017	Public comment period ends at 5:00 p.m.
September 29, 2017	Staff will propose adopting the rule modifications, including any changes resulting from public comment or reviews by staff or legal counsel.

### NEXT STEPS

A rulemaking hearing will be held August 22, 2017, at 2:00 p.m. at PERS headquarters in Tigard. The rule is scheduled to be brought before the PERS Board for adoption at the September 29, 2017 Board meeting.

B.1. Attachment 1 – 459-010-0180, *Membership of Elected or Appointed Officers*

OREGON ADMINISTRATIVE RULE  
PUBLIC EMPLOYEES RETIREMENT BOARD  
CHAPTER 459  
DIVISION 010 – MEMBERSHIP

1   **459-010-0180**

2   **Membership of Elected *[Officer or Fixed Term Officer]* or Appointed Officers**

3       **(1) An *[elected]* officer *[or an officer]* elected or appointed for a fixed term, or**  
4   **appointed as director of a department by the Governor, *[who]* may establish<sup>*[es]*</sup>**  
5   **membership in PERS as an elected official by giving the PERS Board written notice**  
6   **of election to participate in PERS within 30 days of taking office, or within 30 days**  
7   **after completing the probationary period, pursuant to ORS 238.015(5). Upon**  
8   **election, such membership may not be discontinued for the duration of the term of**  
9   **office except upon separation from employment.**

10       **(2) A member who is elected or appointed for a fixed term, or appointed as**  
11   **director of a department by the Governor, shall be deemed to have elected to**  
12   **participate in PERS for the term of office if the member and employer contributions**  
13   **are paid to PERS for more than one pay period after the member's term in office or**  
14   **appointment commences.** *[may cancel that membership at the end of a term of office by*  
15   *giving written notice to PERS. Such notice shall be filed with PERS within 30 days of the*  
16   *end of the term of office. In the absence of such notice, an officer contributes to PERS for*  
17   *more than one pay period in a subsequent term of office, the officer shall be deemed to*  
18   *have elected to continue participation for the duration of such term of office.]*

19       Stat. Auth.: ORS 238.650

20       Stats. Implemented: ORS 238.015



# Oregon

Kate Brown, Governor

## Public Employees Retirement System

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July 28, 2017

TO: Members of the PERS Board  
FROM: Stephanie Vaughn, Manager, Policy Analysis & Compliance Section  
SUBJECT: Adoption of Electronic Funds Transfer (EFT) Rule:  
OAR 459-005-0225, *Requirement to Make Payments by Electronic Funds Transfer*

### OVERVIEW

- Action: Adopt modifications to the Electronic Funds Transfer (EFT) rule.
- Reason: To exempt non-PERS participating employers from EFT payment requirements.
- Policy Issue: None identified.

### BACKGROUND

ORS 293.525 allows state agencies to require payments via Electronic Funds Transfer (EFT). In 2005, PERS began requiring public employers to make payments via EFT, which provides for safer, more efficient processing of payments. However, the definition of “public employer” in OAR 459-005-0225 included non-PERS participating employers that pay only an annual fee to PERS for their share of the expenses incurred in administering the state Social Security Program, as required by ORS 237.500.

Currently, 889 PERS-participating employers pay this annual fee via EFT, and 189 non-PERS participating employers pay the annual fee via check. The non-PERS participating employers make no other payments to PERS, and to require the Social Security annual fee be paid by EFT would put an undue burden on these small employers that typically only have a few employees.

To continue allowing non-PERS participating employers to pay the Social Security annual fee via check, staff proposes adopting the amendments to OAR 459-005-0225 to clarify that the EFT requirements apply only to PERS-participating employers.

### PUBLIC COMMENT AND HEARING TESTIMONY

A rulemaking hearing was held June 27, 2017, at 2:00 p.m. at PERS headquarters in Tigard. No members of the public provided comment on the rule. The public comment period ended July 7, 2017, at 5:00 p.m. No public comment was received.

### LEGAL REVIEW

The attached draft rule was submitted to the Department of Justice for legal review and any comments or changes are incorporated in the rule as presented for adoption.

### IMPACT

Mandatory: No.

Impact: The proposed rule benefits non-PERS participating employers and PERS staff by clarifying the EFT requirements for payments made to PERS.

Cost: There are no discrete costs attributable to the rule.

### RULEMAKING TIMELINE

May 15, 2017	Staff began the rulemaking process by filing Notice of Rulemaking with the Secretary of State.
May 26, 2017	PERS Board notified that staff began the rulemaking process.
June 1, 2017	<i>Oregon Bulletin</i> published the Notice. Notice sent to employers, legislators, and interested parties. Public comment period began.
June 27, 2017	Rulemaking hearing held at 2:00 p.m. at PERS in Tigard.
July 7, 2017	Public comment period ended at 5:00 p.m.
July 28, 2017	Board may adopt the permanent rule modifications.

### BOARD OPTIONS

The Board may:

1. Pass a motion to “adopt modifications to the Electronic Funds Transfer (EFT) rule, as presented.”
2. Direct staff to make other changes to the rule or explore other options.

### STAFF RECOMMENDATION

Staff recommends the Board choose Option #1.

- Reason: To exempt non-PERS participating employers from EFT payment requirements.

If the Board does not adopt: Staff would return with rule modifications that more closely fit the Board’s policy direction if the Board determines that a change is warranted.

B.2. Attachment 1 – 459-005-0225, *Requirement to Make Payments by Electronic Funds Transfer*

**OREGON ADMINISTRATIVE RULE  
PUBLIC EMPLOYEES RETIREMENT BOARD  
CHAPTER 459  
DIVISION 005 – ADMINISTRATION**

1 **459-005-0225**

2 **Requirement to Make Payments by Electronic Funds Transfer**

3 (1) As used in this rule, the following words and phrases have the following  
4 meanings:

5 *[(a) “Public employer” has the same meaning given the term in ORS 238.005 and  
6 includes all public school districts and educational service districts.]*

7 *[(b)](a)* “Electronic funds transfer” has the same meaning given the term in ORS  
8 293.525.

9 *[(c)](b)* “ACH credit” means the electronic funds transfer from the *[public]*  
10 participating employer’s account, initiated by the *[public]* participating employer and  
11 cleared through the Automated Clearing House (ACH) network for deposit to PERS.

12 *[(d)](c)* “ACH debit” means the electronic funds transfer from the *[public]*  
13 participating employer’s account, initiated by PERS and cleared through the ACH  
14 network to debit the *[public]* participating employer’s account and credit the PERS  
15 account.

16 (2) Participating *[public]* employers are required to make all payments to PERS by  
17 means of electronic funds transfer (EFT).

18 (3) On a form provided by PERS, *[public]* participating employers shall authorize  
19 EFT payments to PERS, and submit the form to PERS by December 1, 2005.

20 (a) The *[public]* participating employer shall provide PERS with all information  
21 necessary to allow for EFT payments, including the method of EFT payment (ACH debit  
22 or ACH credit).



1 (b) A *[public]* participating employer must complete a new EFT authorization form  
2 to change the method of transfer or to update the employer’s account information.

3 (4) ACH debits from a *[public]* participating employer’s account will be processed  
4 on the third business day after the statement date and be effective on the fifth business day  
5 after the statement date.

6 (5) Effective on and after January 1, 2006, a penalty shall be assessed equal to one  
7 percent of payments by participating employers made by means other than EFT. This  
8 penalty is in addition to any penalties incurred under ORS 238.705 and 238.710 *[and OAR*  
9 *459-020-0025]*.

10 (6) The PERS Executive Director will have the discretion to waive the penalty  
11 described in section (5) of this rule. The employer must submit any such requests in  
12 writing.

13 Stat. Auth.: ORS 238.650

14 Stats. Implemented: ORS 293.525



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July 28, 2017

TO: Members of the PERS Board  
FROM: Yvette Elledge-Rhodes, Chief Operations Officer  
SUBJECT: *Moro* Implementation Project Closure Report

### PROJECT ACTIVITIES

Attached to this memo is a closure report for the *Moro* project. Work will continue in a couple of areas that could not be resolved before the project closed at the end of the 2015-17 biennium:

- Processing claims made by the successors to benefit recipients who passed away before their cost-of-living adjustment (COLA) was restored will transition to normal business. There are 5,025 such potential claims remaining; notices were distributed on all of these accounts, but we have not yet received responding claims which may come in over time. We are also coordinating with Oregon Department of State Lands to add these amounts owed to their unclaimed property program so potential recipients can still claim the payment through that process if they do not respond directly to PERS.
- The project expenditures for are reported as of May 31, 2017. PERS will reconcile the budget through the end of June. As project spending has been declining, we still expect the total project expense to remain under budget.

### LESSONS LEARNED

Through the course of the project, we gathered several lessons that we will carry forward to the execution of any similar efforts in the future; I thought you'd appreciate seeing some of those:

#### **Project planning**

- Project planning and initiation did not begin until the Oregon Supreme Court decision was released, leaving a limited amount of time for the agency to evaluate impact of the decision and develop an implementation plan to comply with the judicial directive. Pre-planning for various decisions, while the case was still pending, may have better prepared PERS to hit the ground running when the decision was ultimately released.
- There were several errors that resulted in incorrect tax withholding in the first data modification which corrected COLA on the majority of impacted accounts by batch process. More comprehensive testing of the system and related tools would have caught and prevented the coding issues that led to these errors.
- *Moro* invoices were created using existing processes, making it difficult to isolate them from our daily work. Creating a unique invoice and cash receipt type for the *Moro* project would have streamlined the process of gathering project statistics.
- General project reporting was not considered early in project development and resulted in more challenging work when data was needed.

### **Dedicated resources**

- When the budget request for the project was developed, PERS requested IT resources but determined that other types of project work could be performed by existing staff using overtime. Having staff try to balance *Moro* work with their existing priorities put a strain on their daily work. For example, staff who process the deceased accounts handled 3,075 calls to the *Moro* voicemail line, which often included multiple callbacks. A dedicated team of limited duration positions to handle the *Moro* work may have been more efficient and minimized the impact on the daily work of the agency.

### **Communication**

- Since the Oregon Supreme Court decision was complicated, it was difficult to explain to members; some agency letters confused retirees. Seeking member input on communications throughout the project may have improved our letters, instructions, and process.
- Internal stakeholder response times slowed the resolution of various action items throughout the project. Setting more clear and direct expectations about response time may have allowed the agency to take action more quickly.

### POSITIVE ASPECTS

#### **Existing processes**

- Rather than creating new processes for this project, we used existing agency processes whenever possible for data modification, communications, and reporting.

#### **Internal Communication**

- We created a comprehensive internal project webpage that provided a variety of details about the project to all agency staff.
- In addition to having a project manager, we assigned a full-time business lead from the Operations Division who coordinated and facilitated communication among work units, assisted with planning, and resolved policy and process issues.

#### **Priority**

- Making this project a clear priority for the agency greatly assisted in gaining access to staff and resources for project implementation.

C.1. Attachment 1 – *Moro* Decision Project Closure Report

*Moro* Decision Project Closure Report  
**Project Summary**

Accounts adjusted	Number
Accounts adjusted by batch process (DCR)	133,370
Accounts adjusted manually by business	17,073
<b>Total</b>	<b>150,443</b>

*Adjustment details on opposite page*

Invoices	Number	Dollar amount
Invoices waived	4,454	\$ (111,557)
Invoices issued	5,658	\$ (1,032,326)
Dollar amount collected	N/A	\$ (1,005,358)
Dollar amount outstanding	N/A	\$ (26,968)
<b>Total</b>	<b>10,112</b>	<b>\$ (1,143,883)</b>

Retroactive payments	Dollar amount
Retroactive payments issued	\$ 67,138,723
Retroactive payments unclaimed	\$ 633,543
<b>Total</b>	<b>\$ 67,772,266</b>

Mailings	Number
Letters mailed	164,556

Appeals	Number
Appeals received	24

Budget	Dollar amount
<b>Beginning budget</b>	<b>\$ 1,603,528</b>
<b>Actual through May 31, 2017</b>	<b>\$ (1,071,897)</b>
Personal services	\$ (98,877)
Office expenses	\$ (77,153)
Professional services	\$ (62,450)
IT professional services	\$ (819,749)
Attorney general legal fees	\$ (13,668)
<b>Balance</b>	<b>\$ 531,631</b>

*Note: Dollar amounts shown reflect total under/over payment and are the net of any retroactive payment and invoice.  
For the purpose of this report, underpayments resulting in a retroactive payment are represented as positive figures.  
Overpayments resulting in an invoice are negative.*

*Moro* Decision Project Closure Report  
**Adjustment Details**

Adjusted by batch process	Description	Accounts	Dollar amount
"Population A"	Adjusted by batch process in October 2015 DCR	115,919	\$ 62,591,029
"Population B"	Adjusted by batch process in February 2016 DCR	16,464	\$ 3,825,254
"Population C"	Adjusted by batch process in October 2016 DCR	987	\$ 417,469
<b>Total</b>		<b>133,370</b>	<b>\$ 66,833,753</b>

Adjusted manually	Description	Accounts	Dollar amount
AEF adjustments	Adjusted for new actuarial equivalency factor (AEF) tables only; no COLA adjustments needed	4,126	\$ (1,053,393)
Normal business	Adjustment performed during normal business process	69	Unavailable
COLA exceptions	2016 batch COLA exceptions adjusted manually	26	Unavailable
OPSRP accounts	Current benefit adjusted by 2016 COLA batch; over/under payment processed manually	84	Unavailable
Deceased Alternate Payees	Deceased Alternate Payees with no known beneficiary	6	Unavailable
Pulled from DCRs	Pulled from DCRs and adjusted manually	39	Unavailable
No adjustment needed	Business reviewed and determined no adjustment was needed	5,271	\$ -
Deceased accounts <i>(detailed breakdown in table below)</i>	Benefit recipients who passed away before their adjustments were completed	7,452	\$ 304,970
<b>Total</b>		<b>17,073</b>	<b>Unavailable</b>

Deceased accounts	Description	Accounts	Dollar amount
Retro fully paid	Payment is 100% issued to survivor(s)	1,118	\$ 248,466
Retro partially paid	Payment is partially issued to some survivors	45	\$ 8,493
Retro in process	Survivor(s) have submitted forms to claim the payment and it is being processed	148	\$ 48,012
Retro unclaimed	Potential survivor(s) have been notified and have not claimed the payment; reported to State Lands	5,025	\$ 633,543
Retro waived	Retro was less than \$5.00 and waived	591	\$ 1,493
Retro applied to invoice	Retro was applied to an existing outstanding invoice	468	\$ 89,828
Invoice issued	Invoice was more than \$50 and issued	13	\$ (716)
Invoice waived	Invoice was less than \$50 and waived	44	\$ (446)
<b>Total</b>		<b>7,452</b>	<b>\$ 1,028,672</b>



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July 28, 2017

TO: Members of the PERS Board  
FROM: Shane Perry, Technical Services Manager  
SUBJECT: Information Security Program Update

### **CURRENT STATUS – PERS INFORMATION SECURITY PROGRAM**

PERS has completed its Information Security Program enhancement project with Hewlett Packard Enterprise (HPE) and has made significant progress in closing out all but four of the original 18 action items identified in a joint letter from Alex Pettit and Ken Rocco dated April 7, 2016. The remaining four items will be addressed and managed under the PERS Information Security Program.

### **REMEDIATION ACTIVITIES**

PERS continues to work through the list of remediation activities identified its 2016 Risk Assessment, the majority of which are focused on maturing its Information Security Program. The remaining are technical controls which will further enhance PERS' ability to identify, protect, detect, respond, and if necessary recover from an Information Security incident. Some remaining activities are:

- Updating and drafting the policies, standards, and processes to support the Information Security Program;
- Enhancing access control by implementing multi-factor authentication and privileged access management solutions for employees with elevated access to member data and systems;
- Improving network segmentation between PERS development and production systems to better limit access to member information on PERS production systems; and
- Assigning dedicated personnel to day-to-day operation and monitoring of the PERS Information Security Program.

While protecting PERS member information is an ongoing effort, PERS expects to complete the list of remediation activities by August 2018.

### **VULNERABILITY SCANS and RISK ASSESSMENT**

PERS established a vulnerability management program years ago, which includes vulnerability scanning, patch management, configuration management, and application security. Part of the latest risk assessment reviewed PERS vulnerability management and provided guidance to further mature the program.

On July 10, 2017, the Office of the CIO and the Enterprise Security Office (ESO) began providing vulnerability reports to state agency directors, as a way of comparing their vulnerability management programs to that of all state agencies and ESO-defined ranges. In the latest report, PERS ratio of vulnerabilities to hosts is 7%, compared to the ratio for all state agencies, which is 252%, and the average critical vulnerabilities per host is less than 1. This is an

overall reflection of the success of the PERS vulnerability management program, and a key component to ensure member and employer data is protected.

A second component of PERS vulnerability management program is to schedule and perform annual third-party Risk Assessments which are designed to evaluate the overall maturity of PERS Information Security Program. Working with the ESO, PERS will schedule a Risk Assessment later this year which should confirm the strides PERS has made to formalize and mature the Information Security Program.

### **INFORMATION SECURITY AWARENESS and TRAINING**

In coordination with the Enterprise Security Office (ESO), PERS has begun implementing an Information Security awareness and training program. A base level of Information Security training content will be provided by the state in accordance with Executive Order 16-13/Senate Bill 90, the first series of which was released July 10, 2017. PERS will supplement the state training to meet the needs of the agency including training specific for application developers, security personnel, and technical personnel.

### **EXECUTIVE ORDER 16-13/SENATE BILL 90 UPDATE**

Governor Kate Brown signed Senate Bill 90 into law, which directs all Executive Branch agencies to “transfer agency information technology security functions, employees, records, and property to the Office of the State Chief Information Security Officer.” There are many steps involved with full implementation of SB 90 and it is unclear how the PERS Information Security Program will be integrated into this effort. PERS will continue working with the State Chief Information Security Office to ensure agency Information Security efforts are continued during the development and transition period.

### **DISASTER RECOVERY PROGRAM UPDATE**

PERS updated the Disaster Recovery plan to reflect the processes and procedures necessary to re-run its monthly pension roll from the previous month in the event of a localized disaster affecting the PERS data center. This is a short-term approach to ensure that the benefit payment stream can continue uninterrupted. PERS continues to develop a broader disaster recovery and business continuity plan so that critical agency functions, such as starting new benefits and adjusting those in process, can continue in the event of a localized disaster.

The agency’s 2017-19 budget includes a \$1.6 million Policy Option Package to enable PERS to formally develop and implement a Disaster Recovery solution. The proposed solution will include a warm-site, which would be used to continue operations in the event of a localized disaster affecting the data center. The target date for delivery of PERS Disaster Recovery program and warm-site is June 30, 2018.



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July 28, 2017

TO: Members of the PERS Board  
FROM: Marjorie Taylor, Senior Policy Director  
SUBJECT: Legislative Update

### **COST CONTAINMENT AND RISK-SHARING MEASURES**

On June 5, 2017, two new legislative measures were introduced that would affect PERS. Senate Bill 1067, characterized as a “Cost Containment” measure, included provisions that applied to state agencies generally, but also included PERS-specific provisions: relax restrictions on employers establishing side accounts; limit crediting to the Contingency Reserve until the balance is less than \$50 million and limit the reserve’s purposes; and require that reports of the system’s Unfunded Actuarial Liability reflect the impact of side accounts. This measure was passed by the legislature and is being considered for approval by the Governor.

Senate Bill 1068, characterized as a “PERS Risk-Sharing” measure, would have established a “Risk Sharing” account for all PERS active members (Tier One, Tier Two, and OPSRP), the balance of which would be used to pay towards the costs of the member’s pension benefit. The account would have been funded by shifting a portion of the member’s Individual Account Program (IAP) contribution (6% of salary) to the Risk Sharing account. Beginning July 1, 2021, the PERS Board would have adjusted rate of the member contribution to the Risk Sharing account to reflect changes to the Pension Funding Rate (defined in the measure). If the Pension Funding Rate increased, within certain parameters, the member’s Risk Sharing Contribution Rate would have increased. Essentially, the member would have shared in the risk of future increases in the cost of PERS benefits, as measured by increases in the OPSRP Pension program. This measure was not discussed in committee or adopted by the legislature.

### **APPROVED BILLS THAT IMPACT PERS**

Although PERS reform was a topic of discussion in the 2017 Regular legislative session until the very end, only seven bills were adopted that have a relatively small impact on limited groups of members. We expect that the PERS reform discussion is not over, but is on hiatus until the 2018 and 2019 legislative sessions.

Bill	Relating Clause	General Summary
SB 41	Relating to workforce information	Provides statutory authority for Employment Department to share data on OPSRP members with us – codifies current practice.
SB 200	Relating to retirement credit for periods of service in uniformed services	Expands the definition of “uniformed service” to include former employees of US Public Health Service and NOAA as members who may purchase retirement credit.
SB 201	Relating to salary of employees of universities with a governing board under OPSRP	Clarifies that, for a specific period of time, salary paid to some OPSRP members who worked for universities but lived out-of-state will be included as salary for PERS benefit calculation.
SB 214	Relating to the eligibility of post-doctoral scholars for retirement benefits	Eliminates participation of post-doctoral scholars at universities and OHSU from PERS.
SB 701	Relating to connection to federal tax law	Updates dates and references in Oregon law to federal tax law.



SB 712	Relating to credit for periods of disability under OPSRP	Provides service credit to OPSRP members who receive workers' compensation disability payments and are reemployed by a PERS-covered employer.
SB 1067	Relating to government cost containment	Provides flexibility around employer side accounts; limits the Contingency Reserve to \$50M and eliminates Board discretion around use; and requires UAL be reported acknowledging side accounts.

### **CONTINGENCY RESERVE**

With approval of Senate Bill 1067, the Board may not credit funds to the Contingency Reserve unless the reserve's balance is less than \$50 million. The measure also eliminated the general category of Board discretion to use the reserve funds for anything it determines to be a contingency, but continues the other permitted uses.

The Board already took action earlier this year to reduce the Contingency Reserve balance to its target level of 0.25% of accrued system liability, triggering deployment of \$345.8 million from the Contingency Reserve to the Benefits-in-Force Reserve. To achieve the reserve level designated in Senate Bill 1067, the Board would have to deploy approximately \$187 million additional funds from the Contingency Reserve. Staff intends to return to the PERS Board's September 29, 2017 meeting with a recommendation on further actions on the Contingency Reserve in light of this new law, with any Board action on the matter to be slated for the December 1, 2017 Board meeting. Any further funds deployed from the Contingency Reserve would therefore be included in the assets considered in the December 31, 2017 system valuation, which will be used to set employer contribution rates for the 2019-2021 biennium.

### **SENATE BILL 5534 – PERS AGENCY BUDGET BILL**

The PERS budget, Senate Bill 5534, was approved on June 7, 2017, by the General Government Subcommittee on Ways and Means and by the full Ways and Means Committee on June 16. In addition to normal review and deliberation of an agency budget request, the legislature approved a new position for a Certified Public Accountant to be hired as the agency's Chief Financial Officer and directed PERS to competitively recruit and hire a Deputy Director. Budget approval also included reporting requirements that will allow PERS to continue conversations about technology issues with legislators during legislative days in September and November of 2017, as well as in the February 2018 session. Specifically, we are to report on: implementation of a cyber security program; progress on the Individual Account Program project; State Data Center usage analysis; and implementation of our disaster recovery and business continuity programs.



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July 28, 2017

TO: Members of the PERS Board  
FROM: Mary Dunn, Assistant Chief Administration Officer  
SUBJECT: Insolvent Employers

### OVERVIEW

- Action: Resolve the unfunded actuarial liability (UAL) owed by insolvent employers.
- Reason: Several former PERS employers are no longer reporting payroll or making PERS contributions but have outstanding UAL. After adopting an administrative rule that sets parameters for an “insolvent employer,” staff is now seeking to resolve these outstanding obligations as these employers no longer exist to assess for further contributions.

### BACKGROUND

At the May 26, 2017 meeting, the PERS Board adopted Oregon Administrative Rule (OAR) 459-009-0400, defining “insolvency” for the purpose of using the Contingency Reserve to cover the costs for such an employer, if the employer meets certain criteria. PERS staff applied this definition to a list of non-reporting employers with outstanding UAL as of the December 31, 2015 system valuation, and determined that three employers meet the criteria and are considered insolvent. Those employers have a combined UAL of \$462,955 as of the valuation date.

Per ORS 238.670(1)(a) and OAR 459-009-0400, PERS staff requests a transfer of \$462,955 from the Contingency Reserve to the Benefits-In-Force Reserve to satisfy the outstanding UALs of these insolvent employers.

Employer	Tier 1/2 Actuarial Accrued Liability	Tier 1/2 Actuarial Asset Value	Tier 1/2 UAL
Umpqua Regional Council of Governments	\$370,184	\$260,129	\$110,055
East Central Oregon Assoc. of Counties	\$295,286	\$230,230	\$65,057
N/NE Community Mental Health Center	\$802,393	\$514,550	\$287,843
		<b>TOTAL</b>	<b>\$462,955</b>

### BOARD ACTION

The Board’s options include:

1. Pass a motion to “authorize the transfer of Contingency Reserve funds to pay the unfunded actuarial liability of the employers staff has determined to be insolvent, as listed above;” or
2. Direct staff to pursue alternatives to the Contingency Reserve for funding current and future insolvent employers’ UAL.

### STAFF RECOMMENDATION

Staff recommends the Board choose Option #1.



# Valuations Methods & Assumptions

## OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

Presented by:

Matt Larrabee, FSA, EA

Scott Preppernau, FSA, EA

**July 28, 2017**

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# Agenda

- Background
- Overview of demographic assumptions
  - Mortality
  - Other
- Recap of economic assumptions and actuarial methods
  - Reviewed at last Board meeting
- Review of long-term investment return assumption
- Estimated effect of assumptions
- Adoption of assumptions

---

# Executive Summary

- Based on our system experience review, we are recommending updates to various demographic assumptions, which result in the following net effects:
  - No appreciable change in UAL
  - Decrease of 0.2% of payroll in uncollared system average base contribution rates, driven by a modest decrease in assumed future individual member salary increases for non-school district employers
- Illustrating the effect of lowering the system's assumed rate from 7.50% to an 7.10% (as an example):
  - UAL increases by \$3.2 billion
  - Uncollared system average base contribution rates increase by 2.8% of payroll
  - Other assumed rates would have a pro-rata effect
- The return assumption selected does not affect actual future returns
- 50<sup>th</sup> percentile returns in outlook models look to be lower for the next ten years than in the following decade

# Background Information

This work product was prepared for discussion purposes only and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Any recipient of this work product who desires professional guidance should engage qualified professionals for advice appropriate to its own specific needs.

# Two-Year Rate-Setting Cycle

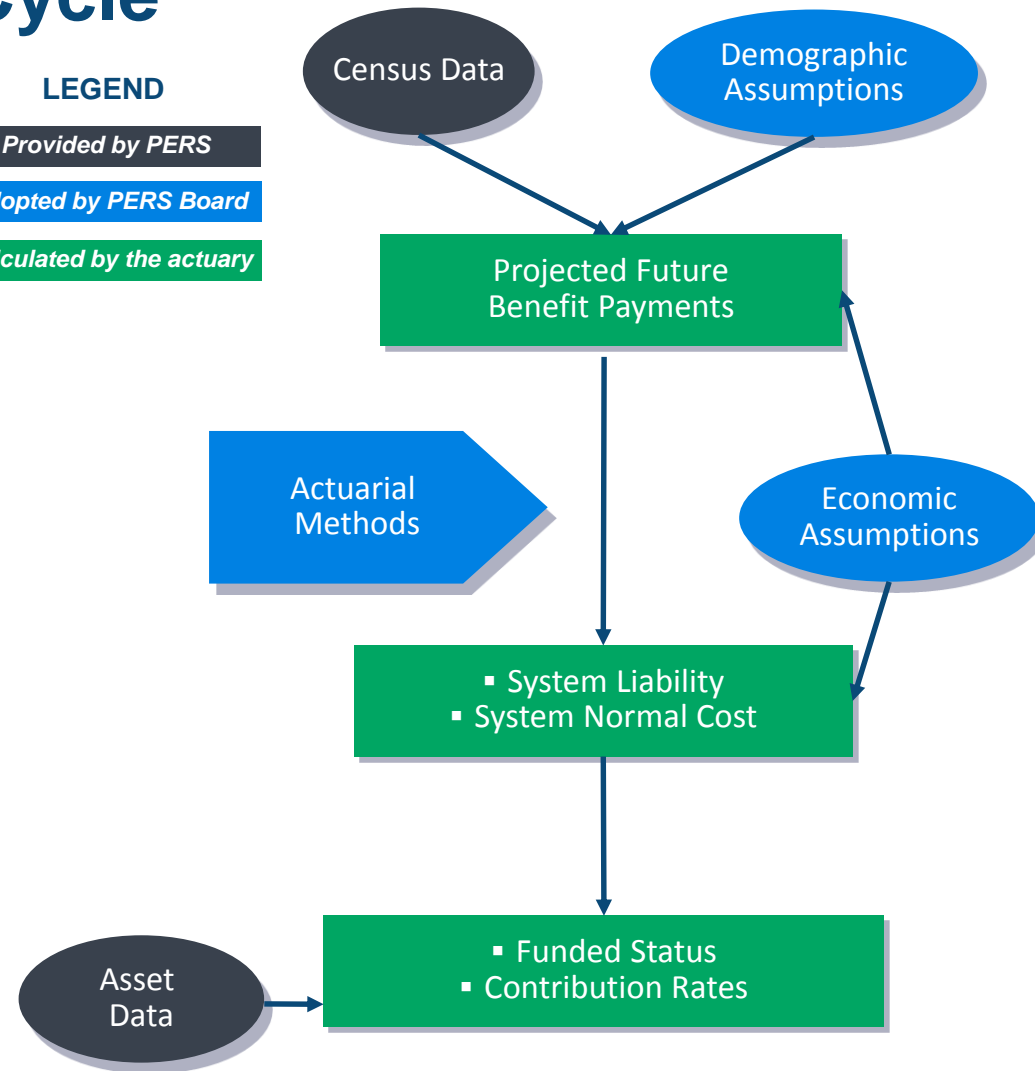
- July 2017: Assumptions & methods adopted by Board in consultation with the actuary
- September 2017: System-wide 12/31/16 actuarial valuation results
- November 2017: Advisory 2019-2021 employer-specific contribution rates
- July 2018: System-wide 12/31/17 actuarial valuation results
- September 2018: Disclosure & adoption of employer-specific **2019-2021** contribution rates

## LEGEND

*Provided by PERS*

*Adopted by PERS Board*

*Calculated by the actuary*



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# Board Objectives - Methods & Assumptions

- Transparent
- Predictable and stable rates
- Protect funded status
- Equitable across generations
- Actuarially sound
- GASB compliant

Some of the objectives can conflict, particularly in periods with significant volatility in investment return or projected benefit levels. Overall system funding policies should seek an appropriate balance between conflicting objectives.



---

# The Fundamental Cost Equation

- Long-term program costs are the contributions, which are governed by the “fundamental cost equation”:

$$\begin{aligned} &\mathbf{BENEFITS =} \\ &\mathbf{EARNINGS +} \\ &\mathbf{CONTRIBUTIONS} \end{aligned}$$

# Governance Structure

- Benefits:
  - Plan design set by Oregon Legislature
  - Subject to judicial review
- Earnings:
  - Asset allocation set by OIC
  - Actual returns determined by market
- Contributions:
  - Funding, including methods & assumptions, set by PERS Board
  - Since contributions are the balancing item in the fundamental cost equation, PERS Board policies primarily affect the **timing** of contributions
  - Different actuarial methods and assumptions produce different projected future contribution patterns



# Demographic Assumptions

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# Demographic Assumptions

- We have statistically analyzed member data provided by PERS
  - Four years of data for most assumptions
  - Eight years of data for salary increases
- Recommended demographic assumptions were developed based on the statistical analysis
- Full details of the analysis are in our formal experience study report

---

# Summary of Demographic Assumptions

- Update mortality assumptions to reflect new set of mortality tables and projections regarding future mortality improvement
- Adjust retirement rates to reflect recent experience
- Reduce merit portion of salary assumption for two groups
- Adjust pre-retirement termination assumptions for three groups
- Update assumed final average salary adjustments for factors such as unused vacation and sick leave for several groups
- Adjust post-retirement medical program assumptions
  - Participation levels (RHIA & RHIPA)
  - Healthcare inflation assumption for RHIPA program

# Mortality Assumptions

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# Mortality Assumption

- For each group, the mortality assumption consists of two parts:
  - 1) A **base table** – for a given age, lists a probability of death at that age
  - 2) A **projection scale** – modifies base table entries to reflect anticipated continued mortality improvement over time
    - Reflects common-sense understanding that a new retiree today has a longer life expectancy than a new retiree 25 years ago...and that a new retiree 25 years from now is reasonably anticipated to have a longer life expectancy than a new retiree today
- We are recommending base table and projection scale updates:
  - Increase in liability of less than \$200 million
  - Increase in uncollared base contribution rate of 0.1% of payroll
- The prior valuation's assumptions reflect base tables and projection scales published by the Society of Actuaries (SOA):
  - Base tables: Versions of standard RP-2000 mortality tables (published in 2000)
  - Projection scale: Scale BB (published Sept. 2012, adopted by PERS in 2015)

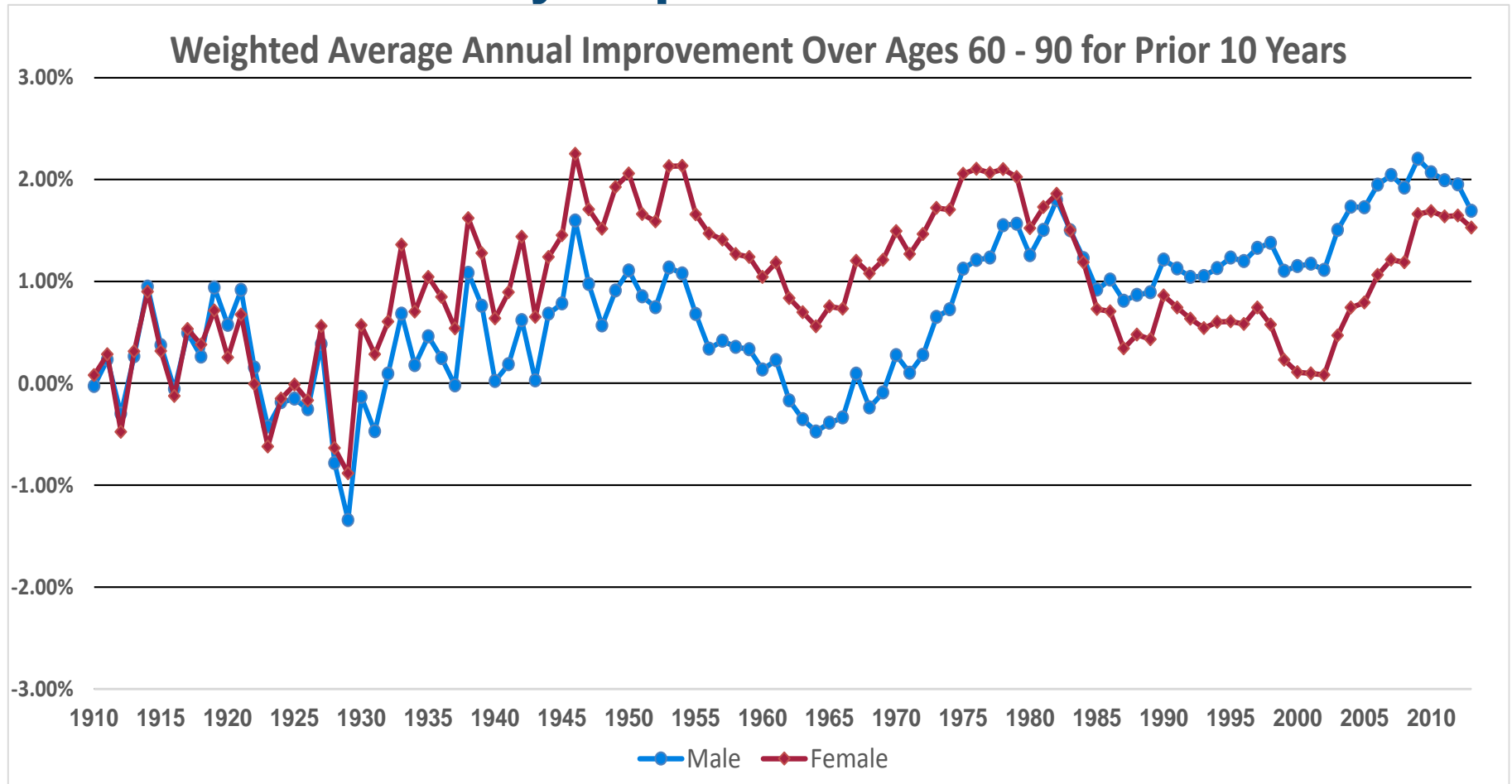
# Mortality Assumption

- ORS 238.607: adopted actuarial equivalency factors *must use the best actuarial information on mortality available at the time*
  - We separately reviewed police and fire mortality per ORS 238.608, and our review indicated recent experience for male PERS police and fire retirees was similar to that of male PERS non-school district general service members
- We matched PERS experience to the SOA's RP-2014 base tables
  - Blending white, blue collar tables and using “set-backs” tightens calibration to PERS
- SOA currently conducting a public plan-specific mortality study
  - By the time of the next experience study, new base tables should be available
  - Study committee has stated observed experience is similar to the RP-2014 tables
- Updating the base tables from RP-2000 to RP-2014 suggests also updating the projection scale assumption
  - Scale BB is intended specifically for use with RP-2000 tables

Technical details on our recommendation and more information on the mortality assumption are in the Appendix and in the formal Experience Study report



# Historical Mortality Improvement – Soc. Sec. Data



- We don't know whether male or female mortality will improve faster
- We don't know from one decade what the next will be like

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# Mortality Projection Scale

- SOA published four (!) mortality projection scales in five years
  - BB, MP-2014, MP-2015, MP-2016
  - The MP scales are profoundly complex (concern about misreading noise for signal)
  - Scales make assumptions about one gender improving faster than the other
  - The scales produce noticeably different results from each other
- As a firm, Milliman reviewed Social Security experience and relevant literature to develop an alternative mortality projection scale
  - Scale set equal to 60-year average of observed Social Security improvement
  - Uses large, credible, publically available dataset
  - Mortality projection scale's improvement varies by age, but does not vary by gender
- We recommend adopting this alternative mortality projection scale for PERS
  - Reasonably anticipates the effects of continuing future mortality improvement
  - Provides a more stable and understandable assumption than the SOA's approach
  - Doesn't prognosticate about one gender's improvement outpacing the other's

# Mortality Assumption

- Illustrative effect of assumption changes for non-disabled retiree:

Future Life Expectancy (in years)	Retires at Age 60 in 2017			Retires at Age 60 in 2037		
	Current	New	Change	Current	New	Change
School District Male	27.6	28.1	0.5	29.7	29.5	-0.2
Other Male	26.9	26.7	-0.2	29.0	28.2	-0.8
School District Female	29.9	29.8	-0.1	31.8	31.1	-0.7
Other Female	28.2	28.0	-0.2	30.1	29.4	-0.7

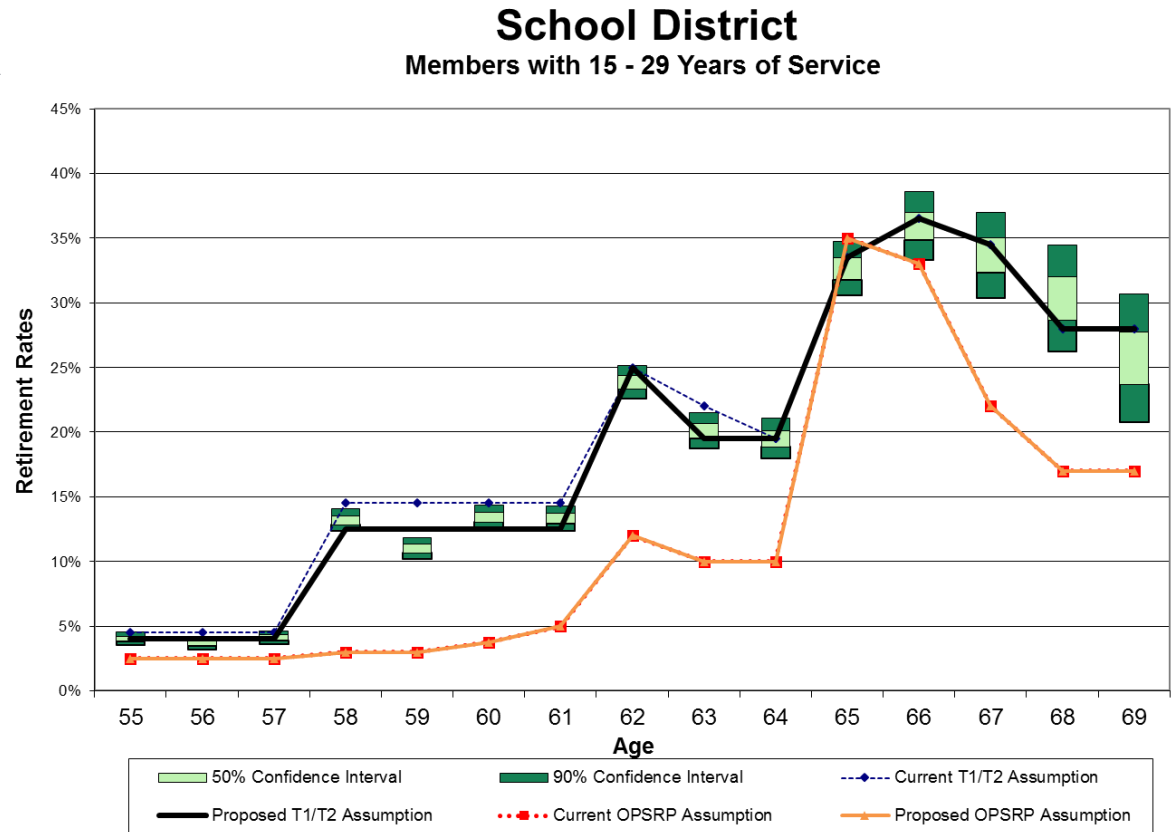
- Combination of updates to base tables and improvement scales increases life expectancy for some and decreases for others
- The table above has three assumed preconditions, all of which serve to increase the life expectancy:
  - The individual is assumed to have already survived to age 60
  - The individual is assumed to have served in PERS-covered employment
  - The individual is assumed to not be disabled as of age 60

# Other Demographic Assumptions

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# Rate of Retirement Assumption

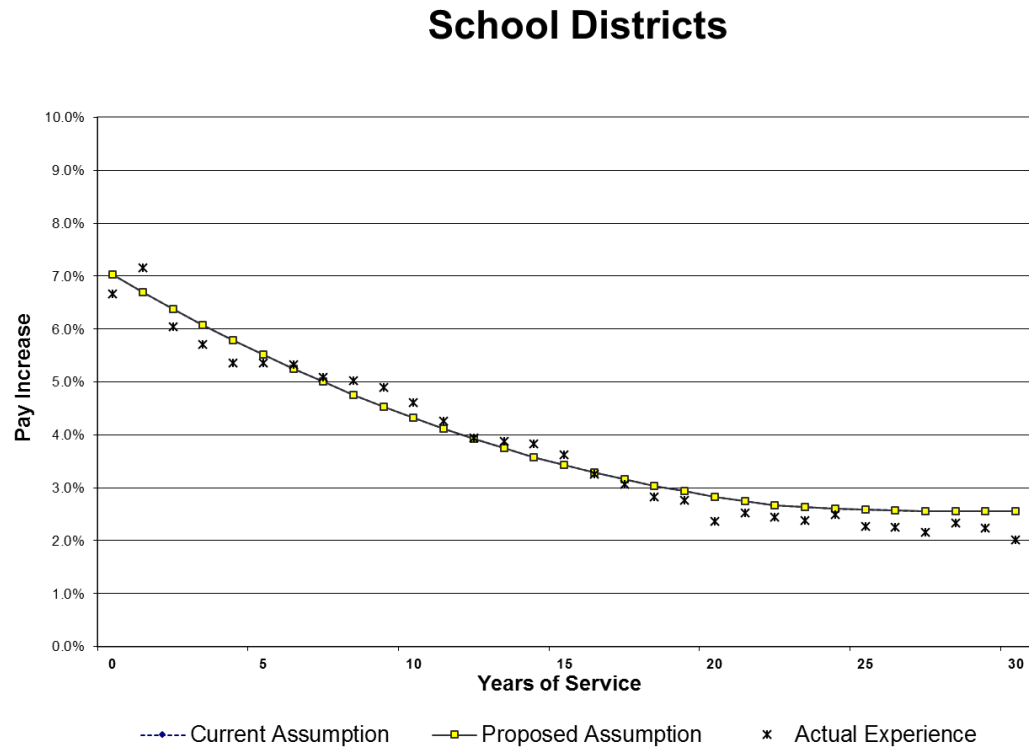
- The likelihood that an eligible member retires in a given year
- Structure:
  - School District
  - Other General Service
  - Police & Fire
  - Divided into 3 service bands
  - Tier 1/Tier 2 vs. OPSRP
- Modifications made to assumptions at certain ages to more closely align with recent experience
  - Typically, lowering assumptions at some earlier retirement ages



Example shown above. Recommendations for other groups shown in detailed Experience Study report.

# Individual Member Salary Increase Assumption

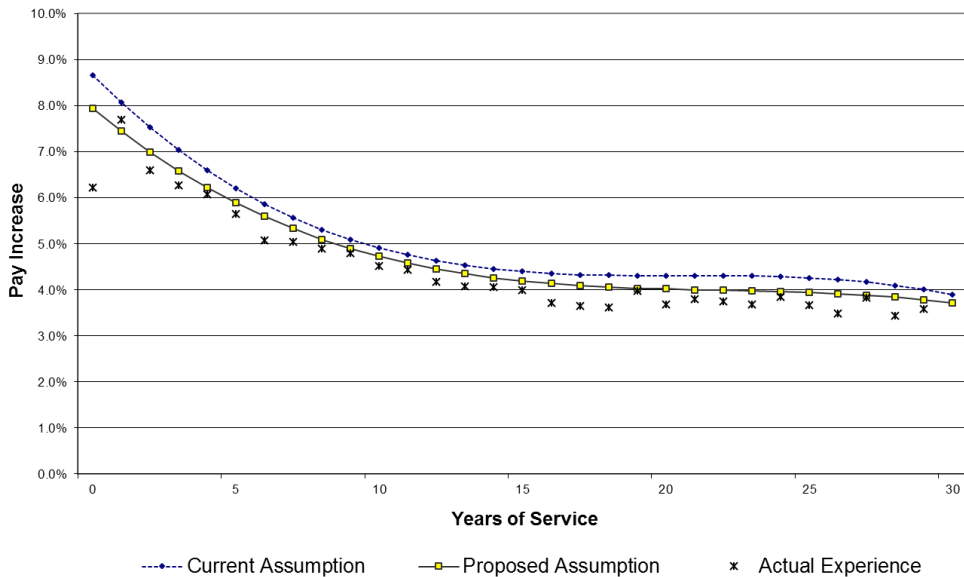
- Reflects combined effects of merit/longevity, general wage growth and inflation assumptions
  - Analyzed eight years of individual pay increases, then back out assumed inflation and general wage growth to isolate the merit/longevity component
- Structure:
  - School District
  - Other General Service
  - Police & Fire
- School Districts matched current assumption well



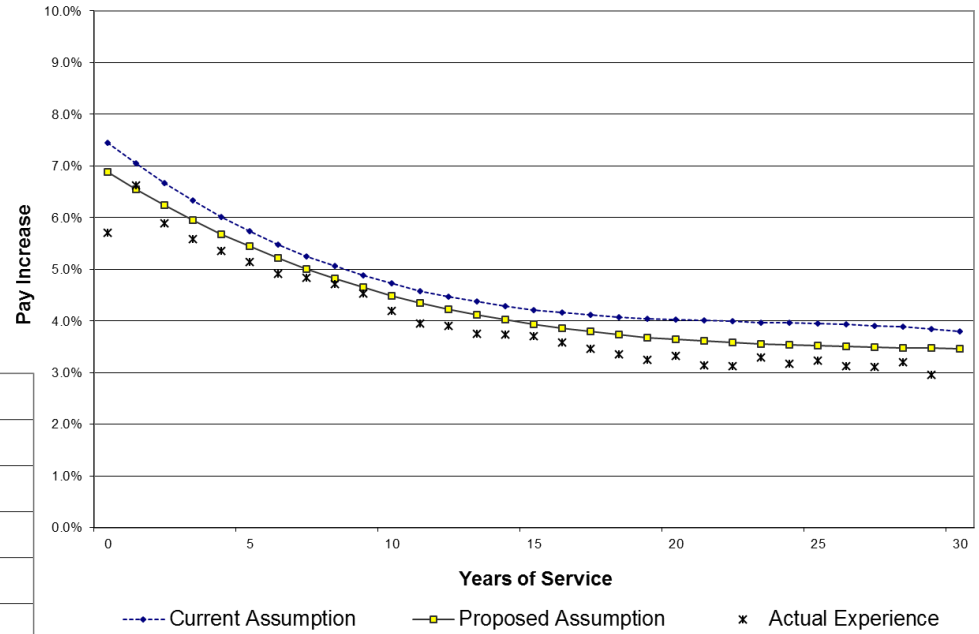
# Individual Member Salary Increase Assumption

- Police & Fire and Other General Service had lower increases than assumed

**Police & Fire**



**Other General Service**

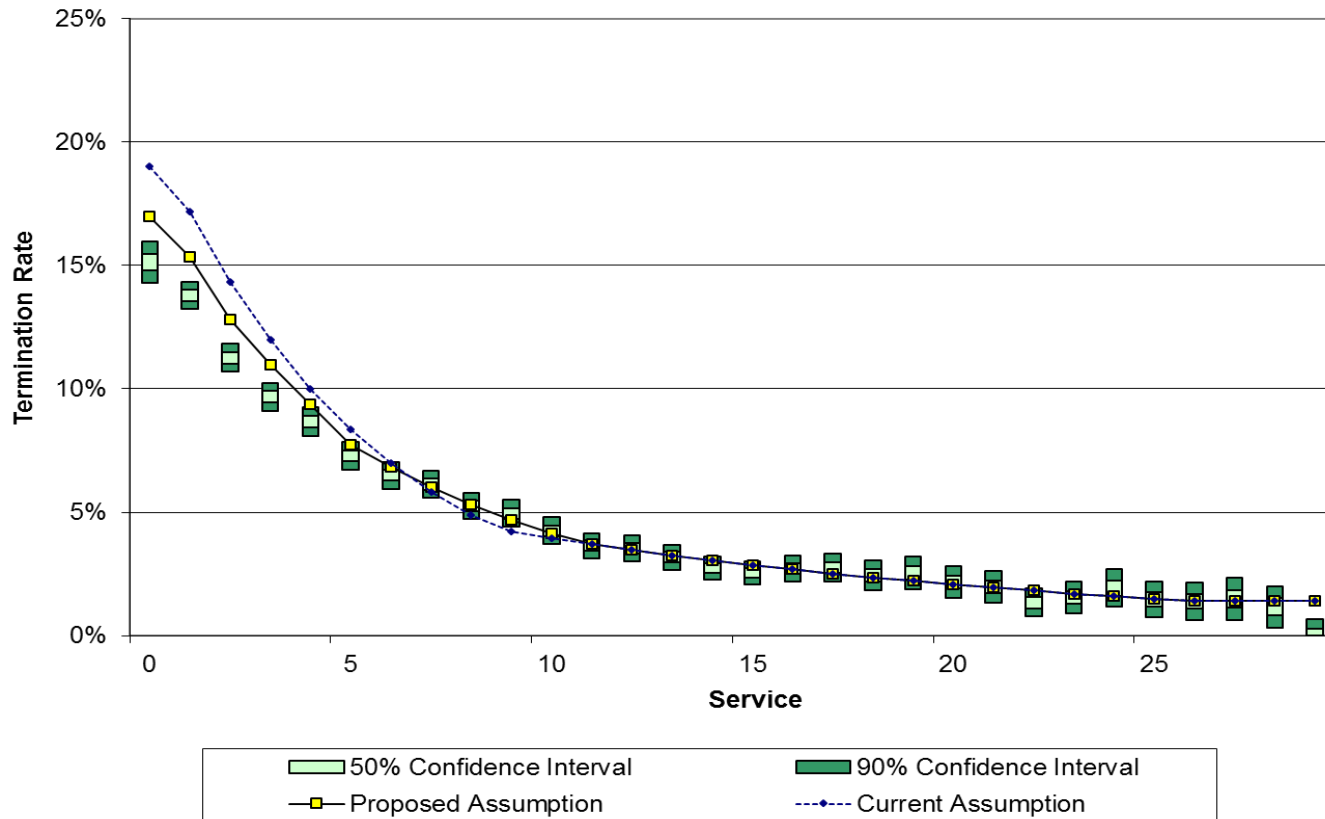


- Assumptions updated reflecting a blend of current assumption and recent observed experience

# Pre-Retirement Employment Termination Assumption

- The likelihood that a member leaves employment in a given year prior to retirement eligibility for reasons other than death or disability
- We recommend adjustments to the assumption for three of five groups for relatively minor, but statistically significant, differences between the current assumption and observed experience

## Other General Service Male



Example shown above. Recommendations for other groups shown in detailed Experience Study report.



# Final Average Salary Adjustments

- In the valuation, we apply assumptions regarding the increase in final average salary for Tier 1/Tier 2 members attributable to:
  - Unused sick leave
  - Lump sum distribution of vacation pay (only affects Tier 1)
- Only relevant when benefits are calculated using Full Formula or Formula Plus Annuity
- We recommend some adjustments to more closely track recent experience:

Unused Sick Leave	Current Assumption	Proposed Assumption	Tier 1 Vacation Cash Out	Current Assumption	Proposed Assumption
State GS Male	6.25%	6.25%	State GS	1.60%	<b>2.00%</b>
State GS Female	3.75%	3.75%	School District	0.25%	0.25%
School District Male	7.25%	<b>7.50%</b>	Local GS	2.20%	<b>2.75%</b>
School District Female	5.75%	5.75%	State Police & Fire	1.80%	<b>2.50%</b>
Local GS Male	4.75%	4.75%	Local Police & Fire	2.90%	<b>3.75%</b>
Local GS Female	3.25%	3.25%			
State Police & Fire	4.75%	4.75%			
Local Police & Fire	7.50%	<b>7.25%</b>			
Inactive Members	3.00%	<b>3.25%</b>			

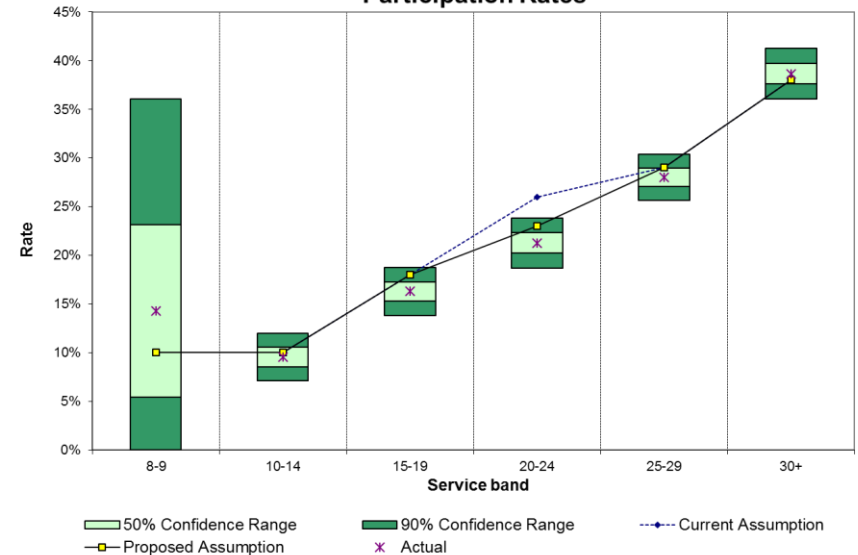
# RHIA and RHIPA Assumptions

- Updates to retiree healthcare participation:
  - Healthy RHIA: Lower participation rates
  - Disabled RHIA: No change
  - RHIPA: Minor change in one category
- Health care cost trend assumption applied to RHIPA full subsidy amount was also updated
  - Based on analysis by Milliman health actuaries

**RHIA Participation Rates**



**RHIPA Participation Rates**



# Economic Assumptions and Actuarial Methods

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# Economic Assumptions and Actuarial Methods

- At the May 26, 2017 meeting, the Board reviewed
  - Non-investment economic assumptions
  - Actuarial methods
  - Investment return assumption
- Our recommendations regarding economic assumptions and actuarial methods are unchanged since the May meeting

# Economic Assumptions

Details of these recommendations are included in our May 2017 presentation

	12/31/2015 Valuation Assumptions	12/31/2016 Valuation Proposed Assumptions
Inflation	2.5%	2.5%
Real Wage Growth	<u>1.0%</u>	<u>1.0%</u>
Payroll Growth	3.5%	3.5%
<u>Administrative Expenses:</u>		
- OPSRP	\$5.5 million	\$6.5 million
- Tier 1/Tier 2	\$33.0 million	\$37.5 million

No explicit assumption is made for investment-related expenses, which are accounted for implicitly in the analysis of the long-term investment return assumption.

# Key Actuarial Methods

Details of these recommendations are included in our May 2017 presentation

	12/31/2015 Valuation Methods	12/31/2016 Valuation Proposed Methods
Cost Allocation Method	Entry Age Normal	No change
Shortfall Amortization Method	Level percent of pay, layered fixed periods:  Tier 1/Tier 2: 20 years OPSRP: 16 years RHIA/RHIPA: 10 Years	No change
Rate Collar	Limits change in based contribution rate to larger of 20% of current rate or 3.00% of payroll; Collar widens incrementally when funded status below 70%	No change

# Long-Term Investment Return Assumption

- Uses of the investment return assumption
  - As a “discount rate” for establishing the:
    - Actuarial accrued liability, which is a net present value
    - Associated unfunded actuarial liability, also called the UAL or actuarial shortfall
  - Guaranteed crediting level for regular Tier 1 active member account balances
  - Annuitization rate for converting member account balances to lifetime money match monthly benefits



Reflecting expectations for both investment earnings and benefit levels for certain members, the assumption helps set a reasonable and appropriate budgeting glide path for projected employer contribution rates

# Investment Return Estimates

- We applied a standard mean/variance model to calculate 50<sup>th</sup> percentile return estimates based on capital market outlook assumptions from four sources
  - Milliman
  - Callan – Consultant to OIC
  - Pension Consulting Alliance (PCA) – Consultant to OIC
  - 2016 Horizon survey of capital market assumptions (survey of 35 advisors)
- At May meeting, showed 20 year estimate for Milliman, 10 year for others
  - Today we also have a 10 year Milliman estimate and a 20 year PCA estimate
- Estimates do not reflect any possible “alpha” due to selected managers potentially outperforming market benchmarks over the long term, net of fees
- Today’s speakers are not credentialed investment advisors
  - We are presenting Milliman capital market outlook model results based on assumptions developed by Milliman’s credentialed investment professionals

Details on each set of capital market outlook assumptions are in the Appendix



# 50<sup>th</sup> Percentile Investment Returns Over 10 Years

- Modeling based on OIC's target long-term asset allocation
  - Current actual allocation differs somewhat from the target allocation

	<b>Callan</b>	<b>Milliman</b>	<b>PCA</b>	<b>Horizon</b>
<b>Median Annualized Return</b>	<b>7.05%</b>	<b>6.33%</b>	<b>7.40%</b>	<b>7.24%</b>
Assumed Inflation	2.25%	2.30%	2.25%	2.16%
Real Return	4.80%	4.03%	5.15%	5.08%
Timeframe Modeled	10 years	10 years	10 years	10 years

The median returns shown above are geometric annualized average returns over the timeframes indicated above for each provided set of capital market assumptions

# 50<sup>th</sup> Percentile Investment Returns Over 20 Years

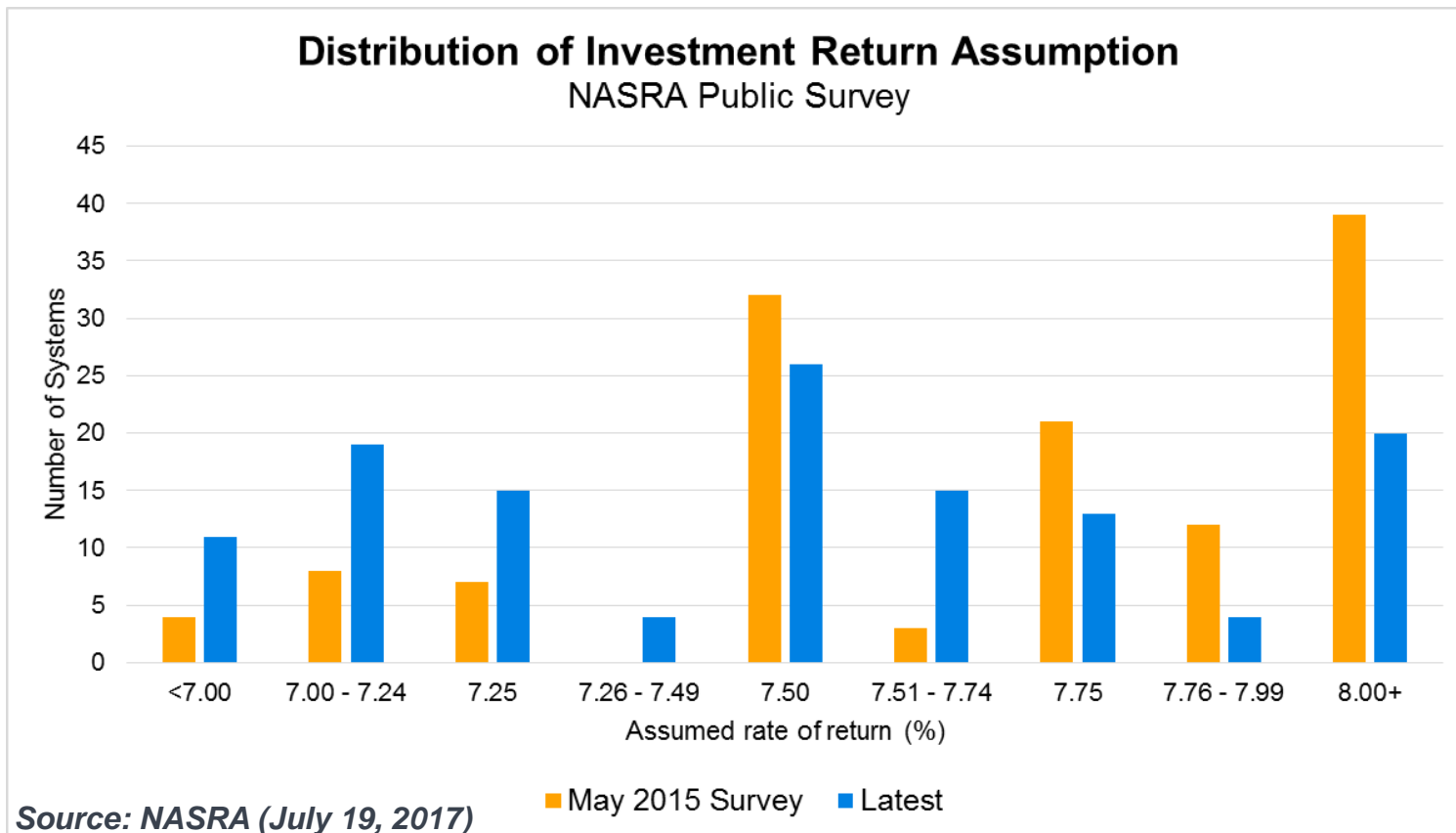
- Modeling based on OIC's target long-term asset allocation
  - Current actual allocation differs somewhat from the target allocation

	Milliman	PCA
<b>Median Annualized Return</b>	<b>6.70%</b>	<b>7.60%</b>
Assumed Inflation	2.50%	2.25%
Real Return	4.20%	5.35%
Timeframe Modeled	20 years	20 years

The median returns shown above are geometric annualized average returns over the timeframes indicated above for each provided set of capital market assumptions

# Comparison to Peer Systems

- There is a downward trend in public plan return assumptions
- Over 50% of the 127 systems tracked by the NASRA Public Fund Survey reduced their assumption over last 2-3 years



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# Effects of Lowering the Assumed Return

- A lower investment return assumption would produce higher calculated liabilities and contribution rates
- Liabilities are net present values, as of the valuation date, of a benefit payment projection that stretches far into the future
  - Changing the assumption modifies the projected balance of the fundamental cost equation between future investment earnings and future contributions
    - The actual balance will depend on actual investment earnings, not on the assumed return adopted by the PERS Board
- For PERS, such an assumption change would also lower benefits for future retirements calculated under Money Match
  - From “PERS by the Numbers”, in 2016 the Money Match formula determined benefits for 34% of retirees (typically long-service General Service members)
  - Illustration for a hypothetical Tier 1 member shown in Appendix

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# Considerations in Setting the Return Assumption

- In our opinion, the long-term future investment return assumption should be lowered based on the current data from the capital market outlook models, review of the guiding principles, and our perspective regarding Actuarial Standards of Practice
- Actual investment returns are not determined by the assumed return
- Selecting an assumed return above the median annualized return implies a greater than 50% expectation of actual experience falling short of the selected assumption

# Estimated Effect of Assumption Changes

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# Preliminary Effect of Changes – Liability

- Estimated effect on combined Tier 1, Tier 2, and OPSRP liabilities based on preliminary valuation work
  - For illustration, considers investment return assumption of 7.10%

	12/31/2016 Accrued Liability
Current assumptions	\$78.7 B
Mortality	\$0.2 B
Merit	(\$0.2 B)
Other demographic assumptions	(\$0.1 B)
Assumed return - 7.10%	<u>\$3.2 B</u>
Revised assumptions	\$81.8 B

Combined effect of illustrated changes: \$3.1 billion

*(Amounts in billions)*

An assumed return other than 7.10% would have a liability change proportional to that shown above (e.g., a 7.30% return would have a \$1.6 billion effect)

# Preliminary Effect of Changes – Uncollared Rates

- Estimated impact on uncollared system-average advisory pension rates for 2019-2021 based on preliminary valuation work

	Tier 1 / Tier 2 / OPSRP	
	UAL	Normal Cost
Mortality	0.1%	0.0%
Merit salary increase	(0.1%)	(0.3%)
Other demographic assumptions	(0.0%)	0.1%
Assumed return - 7.10%	<u>1.8%</u>	<u>1.0%</u>
Total	1.8%	0.8%

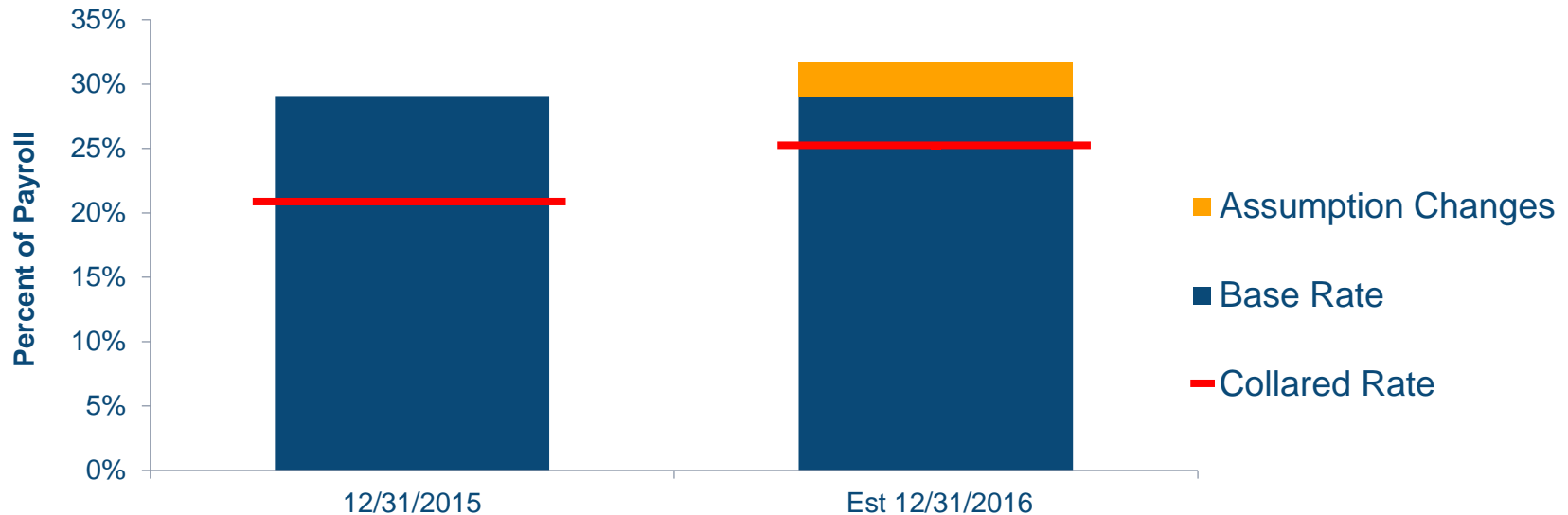
Total effect:  
2.6% of payroll

Changes shown are stated as a percent of payroll and exclude changes for the RHIA & RHIPA retiree healthcare programs



# Preliminary Effect of Changes – Collared Rates

- The size of 2019 base rate increases will very likely be set by the rate collar
  - If the 2019-2021 uncollared rate is greater than the 2019 increase allowed by the rate collar, a portion of the increase will be deferred to 2021



Rates shown are system-average base employer contribution rates and exclude contributions for the Individual Account Program (IAP) and the RHIA and RHIPA retiree healthcare programs

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# Agenda Items – Remaining 2017 Meetings

- July action item:
  - Adoption of assumptions and methods for use in the following valuations:
    - December 31, 2016 “advisory” valuation that estimates 2019-2021 rates
    - December 31, 2017 valuation that calculates recommended 2019-2021 rates
- September meeting:
  - Presentation of system-level December 31, 2016 actuarial valuation results
  - Adoption of actuarial equivalency factors effective January 1, 2018
- December meeting:
  - Acceptance of the December 31, 2016 actuarial valuation report and employer-specific advisory 2019-2021 contribution rates
  - Financial modeling over the next twenty years under a variety of possible future scenarios for actual investment return

# Appendix

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# Caveats and Disclaimers

This presentation discusses actuarial methods and assumptions for use in the valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”). For the most recent complete actuarial valuation results, including cautions regarding the limitations of use of valuation calculations, please refer to our formal Actuarial Valuation Report as of December 31, 2015 (“the Valuation Report”) published on September 27, 2016. The Valuation Report, including all supporting information regarding data, assumptions, methods, and provisions, is incorporated by reference into this presentation. The statements of reliance and limitations on the use of this material is reflected in the actuarial report and still apply to this presentation.

In preparing this presentation, we relied, without audit, on information (some oral and some in writing) supplied by the System’s staff, as well as capital market expectations provided by Callan and information presented to the Oregon Investment Council. 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 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.

Milliman’s work product was prepared exclusively for Oregon PERS for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning PERS’ operations, and uses PERS’ data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman’s work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Any third party recipient of Milliman’s work product who desires professional guidance should not rely upon Milliman’s work product, but should engage qualified professionals for advice appropriate to its 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. 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 - Mortality Assumption

	Current Assumption	Proposed Changes
<b>Healthy Retired</b>	RP 2000, Generational, with Scale BB Combined Active/Healthy Retired, Sex distinct	RP 2014 Generational, with unisex Social Security scale Healthy Annuitant, Sex distinct
<ul style="list-style-type: none"> <li>School district male</li> <li>Other GS male</li> <li>P&amp;F male</li> </ul>	No collar, set back 2 years 25% blue/75% white collar, set back 1 year 25% blue/75% white collar, set back 1 year	White collar, set back 1 year 50% blue/50% white collar, set back 1 year 50% blue/50% white collar, set back 1 year
<ul style="list-style-type: none"> <li>School district female</li> <li>Other female</li> </ul>	No collar, set back 2 years Blend 25% blue/75% white collar, no set back	White collar, set back 1 year 50% blue/50% white collar, no set back
<b>Disabled Retired</b>	RP 2000 Disabled, Generational with BB Sex distinct	RP 2014 Disabled, Generational with unisex Social Security scale Sex distinct
<ul style="list-style-type: none"> <li>Male</li> <li>Female</li> </ul>	70% of rates 90% of rates	100% of rates 100% of rates
<b>Non-Retired Mortality</b>	% of Healthy Retired Mortality	RP 2014 Generational, with unisex Social Security scale Employee (Non-Annuitant), Sex distinct
<ul style="list-style-type: none"> <li>School district male</li> <li>Other GS male</li> <li>P&amp;F male</li> </ul>	60% 75% 75%	White collar, set back 1 year 50% blue/50% white collar, set back 1 year 50% blue/50% white collar, set back 1 year
<ul style="list-style-type: none"> <li>School district female</li> <li>Other female</li> </ul>	55% 60%	White collar, set back 1 year 50% blue/50% white collar, no set back

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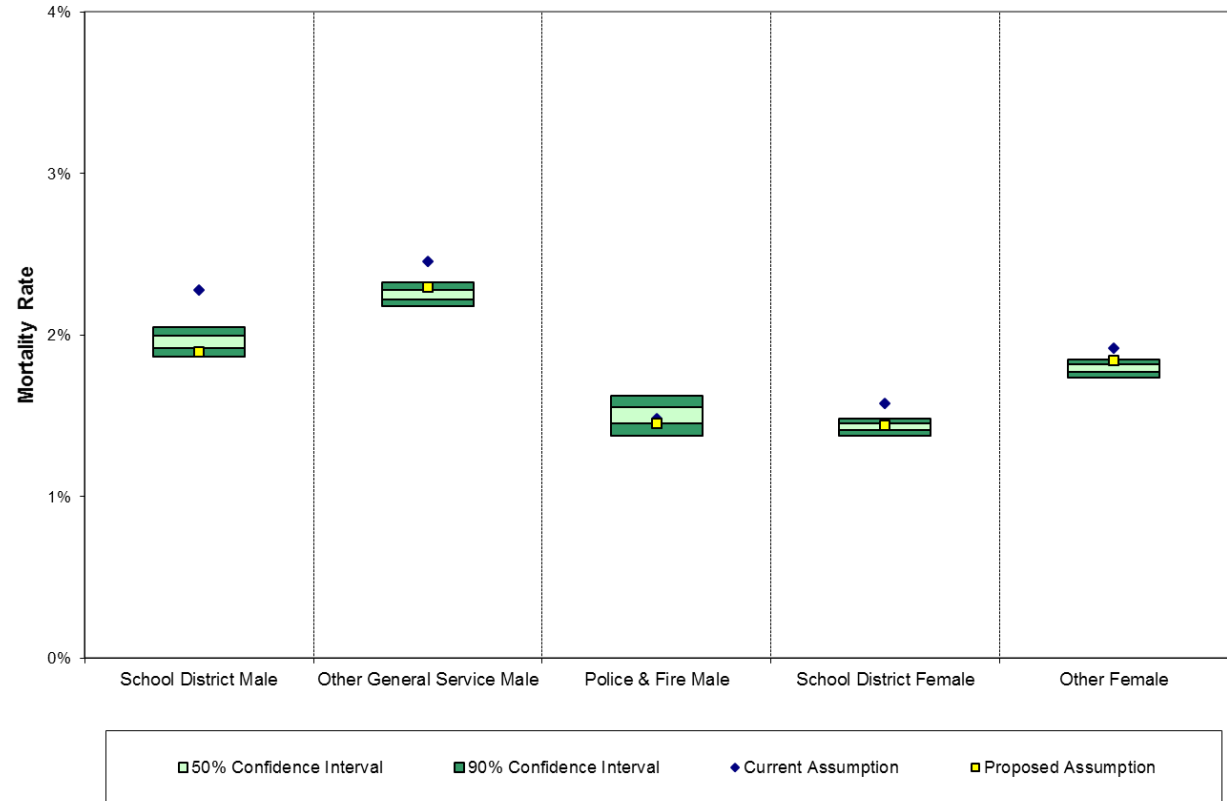
# Mortality Assumption

- PERS-specific mortality experience is analyzed separately for:
  - Healthy annuitant mortality
  - Disabled retiree mortality
  - Non-retired mortality
- Assumptions are grouped by gender and employment category
- In past, PERS mortality assumption analysis focused primarily on headcount-weighted analysis
  - Current assumption matches experience well on this basis
- Emerging preference for “benefits-weighted” or “amounts-weighted” mortality analysis
  - Benefits-weighted analysis reflects relative importance of experience of higher-benefit retirees on liabilities
  - In general, members with larger benefits experience lower mortality (higher life expectancies) than average
  - Benefits-weighted analysis was used in this year’s Experience Study

# Appendix – Mortality Assumption

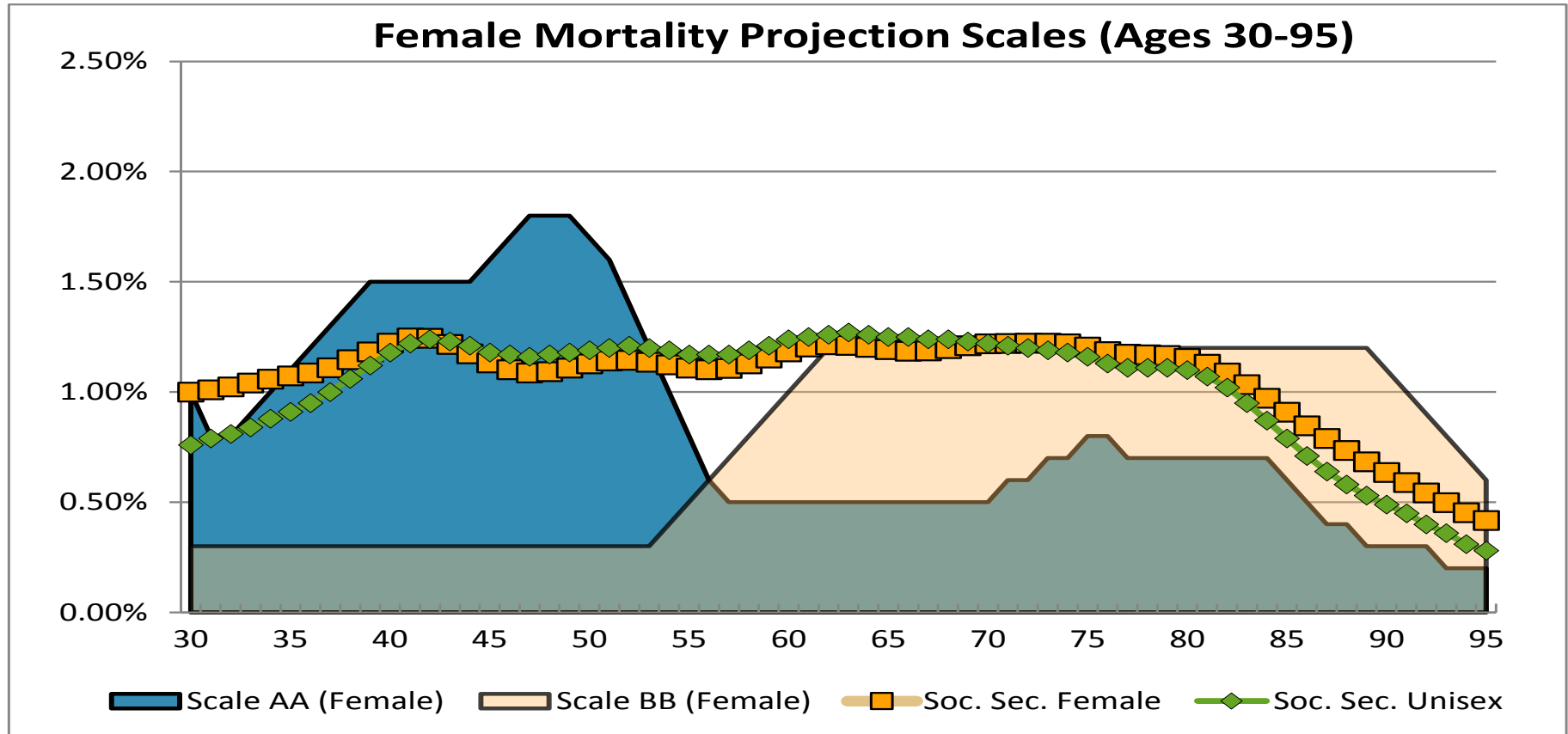
- Analysis shown is based on benefits weighting
- New base tables reflect lower mortality assumption for each group
- Updated projection scale anticipates less improvement in future
  - Combined effect will be increases in life expectancy for some groups and decreases for others

Healthy Retiree Mortality  
Aggregate Confidence Intervals and Rates



Aggregate mortality rates shown are functions of both mortality rates and the ages of members of the group. Since average ages differ by group, you cannot conclude from the graph that, for example, Police & Fire males have lower mortality than other groups.

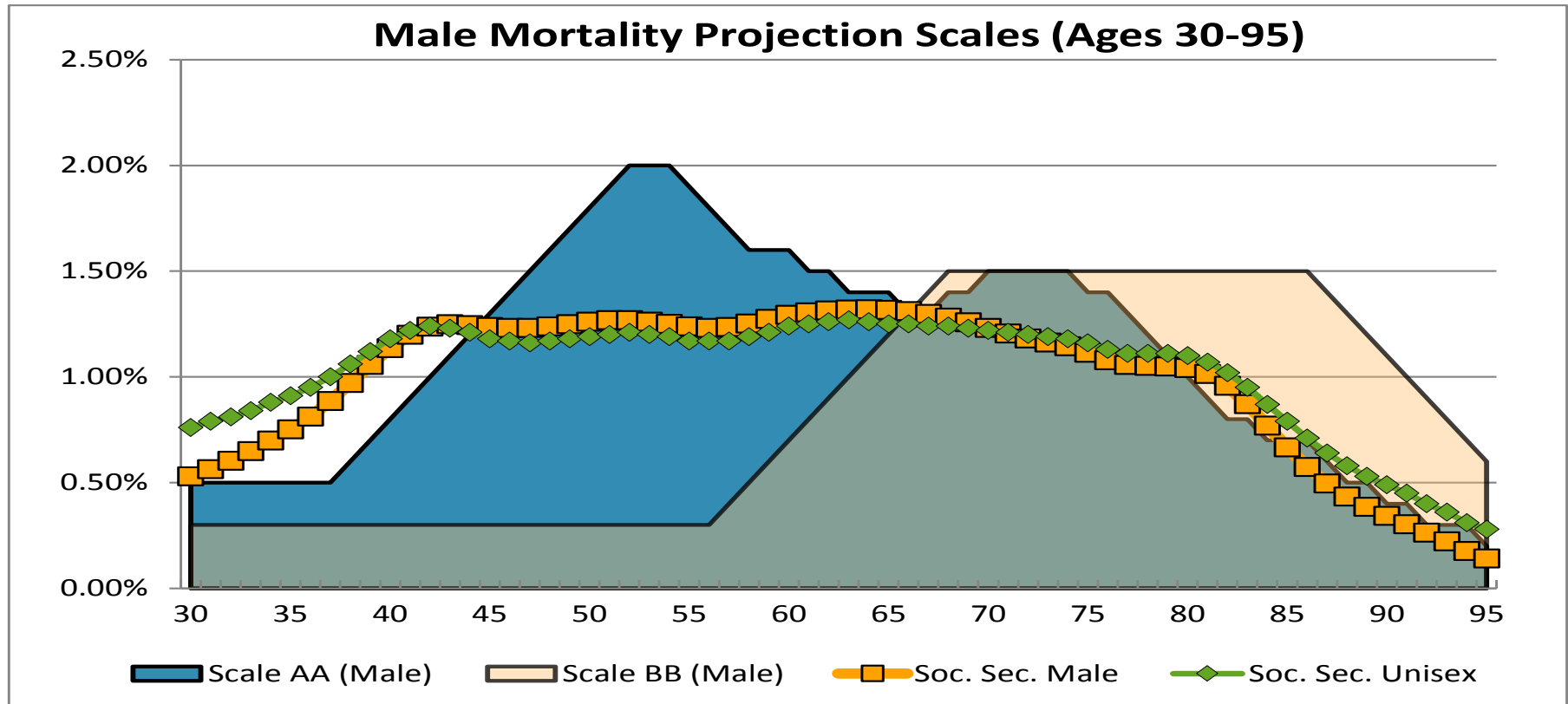
# Mortality Projection Scales – Female



- Social Security 60-Year Unisex is our proposed mortality projection scale
- PERS adopted Scale BB in 2015 and used Scale AA (published 2000) prior to that
- The MP 2014, 2015 and 2016 scales are too technically complex to depict above



# Mortality Projection Scales – Male



- Social Security 60-Year Unisex is our proposed mortality projection scale
- PERS adopted Scale BB in 2015 and used Scale AA (published 2000) prior to that
- The MP 2014, 2015 and 2016 scales are too technically complex to depict above

# Effects of Lowering the Assumed Return

- Lowering the assumption to either 7.00% or 7.25% would affect the Money Match calculation for a member age 59½ with a \$135,000 member account balance as of 6/30/2017 as shown:

Benefit Commencement	Starting Benefit Under Assumed Rate*		
	7.50%	7.25%	7.00%
7/1/2017	\$1,963		
12/1/2017	\$2,031		
1/1/2018		\$1,999	\$1,954
3/1/2018		\$2,028	\$1,982
6/1/2018		\$2,069	\$2,021

\* Illustration uses 2018 actuarial equivalency mortality in calculation of all benefits

- At a 7.00% assumption, it would take about six months without retirement for the December 2017 initial benefit level to be reached
  - At a 7.25% assumed return, it would take about three months
  - Illustration ignores Full Formula “floor”, which may mitigate any benefit decrease

# Appendix

## Actuarial Basis

### Capital Market Assumptions – Milliman 20 year

For assessing the expected portfolio return under Milliman’s capital market assumptions, we considered the Oregon PERS Fund to be allocated among the model’s asset classes as shown below. This allocation is based on the Oregon Investment Council’s Statement of Investment Objectives and Policy Framework for the Oregon PERS Fund, as revised December 3, 2014, and changes adopted in June 2015.

	<b>Annual Arithmetic Mean</b>	<b>20-Year Annualized Geometric Mean</b>	<b>Annual Standard Deviation</b>	<b>Policy Allocation</b>
US Large/Mid-Cap Equity	7.45%	6.30%	16.25%	<b>15.75%</b>
US Small Cap Equity	8.49%	6.69%	20.55%	<b>1.31%</b>
US Micro-Cap Equity	9.01%	6.80%	22.90%	<b>1.31%</b>
Non-US Developed Equity	8.21%	6.71%	18.70%	<b>13.13%</b>
Emerging Markets Equity	10.53%	7.45%	27.35%	<b>4.13%</b>
Non-US Small Cap Equity	8.67%	7.01%	19.75%	<b>1.88%</b>
Private Equity	11.45%	7.82%	30.00%	<b>17.50%</b>
US Core Fixed Income	3.59%	3.49%	4.55%	<b>8.00%</b>
US Short-Term Bonds	3.42%	3.38%	2.70%	<b>8.00%</b>
US Bank/Leveraged Loans	5.34%	5.09%	7.50%	<b>3.00%</b>
High Yield Bonds	6.90%	6.45%	10.00%	<b>1.00%</b>
Real Estate	6.15%	5.51%	12.00%	<b>10.00%</b>
Global REITs	8.26%	6.37%	21.00%	<b>2.50%</b>
Timber	6.37%	5.62%	13.00%	<b>1.88%</b>
Farmland	6.90%	6.15%	13.00%	<b>1.88%</b>
Infrastructure	7.54%	6.60%	14.65%	<b>3.75%</b>
Commodities	5.43%	3.84%	18.95%	<b>1.88%</b>
Hedge Fund of Funds - Diversified	4.36%	4.09%	7.80%	<b>2.50%</b>
Hedge Fund Event-Driven	6.21%	5.86%	8.90%	<b>0.63%</b>
US Inflation (CPI-U)		2.50%	1.85%	<b>N/A</b>
<b>Fund Total (reflecting asset class correlations)</b>	<b>7.48%</b>	<b>6.74%*</b>	<b>12.97%</b>	<b>100.00%</b>

\* Reflects 0.10% average reduction to model passive investment expenses. The model does not try to assess the actual investment expenses for active management. The model’s 20-year annualized geometric median is **6.70%**.

# Appendix

## Actuarial Basis

### Capital Market Assumptions – Milliman 10 year

For assessing the expected portfolio return under Milliman’s capital market assumptions, we considered the Oregon PERS Fund to be allocated among the model’s asset classes as shown below. This allocation is based on the Oregon Investment Council’s Statement of Investment Objectives and Policy Framework for the Oregon PERS Fund, as revised December 3, 2014, and changes adopted in June 2015.

	<b>Annual Arithmetic Mean</b>	<b>10-Year Annualized Geometric Mean</b>	<b>Annual Standard Deviation</b>	<b>Policy Allocation</b>
US Large/Mid-Cap Equity	7.19%	6.09%	16.25%	<b>15.75%</b>
US Small Cap Equity	8.16%	6.44%	20.55%	<b>1.31%</b>
US Micro-Cap Equity	8.65%	6.54%	22.90%	<b>1.31%</b>
Non-US Developed Equity	7.88%	6.45%	18.70%	<b>13.13%</b>
Emerging Markets Equity	10.07%	7.15%	27.35%	<b>4.13%</b>
Non-US Small Cap Equity	8.34%	6.75%	19.75%	<b>1.88%</b>
Private Equity	10.95%	7.50%	30.00%	<b>17.50%</b>
US Core Fixed Income	2.89%	2.80%	4.55%	<b>8.00%</b>
US Short-Term Bonds	2.73%	2.70%	2.70%	<b>8.00%</b>
US Bank/Leveraged Loans	4.89%	4.65%	7.50%	<b>3.00%</b>
High Yield Bonds	5.83%	5.40%	10.00%	<b>1.00%</b>
Real Estate	6.11%	5.50%	12.00%	<b>10.00%</b>
Global REITs	7.90%	6.10%	21.00%	<b>2.50%</b>
Timber	6.31%	5.60%	13.00%	<b>1.88%</b>
Farmland	6.81%	6.10%	13.00%	<b>1.88%</b>
Infrastructure	7.29%	6.40%	14.65%	<b>3.75%</b>
Commodities	5.26%	3.75%	18.95%	<b>1.88%</b>
Hedge Fund of Funds - Diversified	4.26%	4.00%	7.80%	<b>2.50%</b>
Hedge Fund Event-Driven	6.09%	5.75%	8.90%	<b>0.63%</b>
US Inflation (CPI-U)		2.30%	1.85%	<b>N/A</b>
<b>Fund Total (reflecting asset class correlations)</b>	<b>7.10%</b>	<b>6.40%*</b>	<b>12.97%</b>	<b>100.00%</b>

\* Reflects 0.10% average reduction to model passive investment expenses. The model does not try to assess the actual investment expenses for active management. The model’s 10-year annualized geometric median is **6.33%**.

# Appendix

## Actuarial Basis

### Capital Market Assumptions - Callan

For assessing the expected portfolio return under Callan's capital market assumptions, we applied the assumptions shown below provided by Callan.

	<b>10-Year Annualized Geometric Mean</b>	<b>Annual Standard Deviation</b>	<b>Policy Allocation</b>
Large Cap Equity	6.68%	17.40%	<b>15.38%</b>
Small/Mid Cap Equity	7.04%	22.60%	<b>3.00%</b>
Emerging Markets Equity	7.24%	27.45%	<b>4.50%</b>
Global ex-US Equity	6.98%	21.00%	<b>12.75%</b>
International Small Cap Equity	7.00%	24.30%	<b>1.88%</b>
OIC Private Equity	9.50%	26.30%	<b>17.50%</b>
US Fixed Income	2.98%	3.75%	<b>20.00%</b>
Diversifying Strategies	6.25%	11.00%	<b>5.00%</b>
OIC Real Assets	6.60%	15.00%	<b>20.00%</b>
Inflation	2.25%	1.50%	<b>N/A</b>
<b>Fund Total (reflecting asset class correlations)</b>	<b>7.15%*</b>	<b>14.11%</b>	<b>100.00%</b>

\* 10-year annualized geometric median is **7.05%**.

# Appendix

## Actuarial Basis

### Capital Market Assumptions - PCA

For assessing the expected portfolio return under PCA's capital market assumptions, we applied the assumptions shown below provided by PCA in their April 26 presentation to OIC.

	10-Year Annualized Geometric Mean	20-Year Annualized Geometric Mean	Annual Standard Deviation	Policy Allocation
Global Equity	7.15%	7.15%	20.00%	37.50%
Private Equity	8.50%	8.50%	27.00%	17.50%
OIC Real Estate	7.90%	8.20%	21.00%	12.50%
OIC Fixed Income	2.90%	3.50%	7.70%	20.00%
OIC Liquid Alternatives	6.10%	6.70%	14.00%	6.00%
OIC Illiquid Alternatives	6.80%	6.80%	14.90%	6.50%
Inflation	2.25%	2.25%	1.50%	N/A
<b>Fund Total (reflecting asset class correlations)</b>	<b>7.49%*</b>	<b>7.68%**</b>	<b>13.51%</b>	<b>100.00%</b>

\* 10-year annualized geometric median is 7.40%.

\*\* 20-year annualized geometric median is 7.60%.

# Appendix

## Actuarial Basis

### Capital Market Assumptions - Horizon

For assessing the expected portfolio return under an additional set of capital market assumptions, we applied the assumptions from the 2016 Survey of Capital Market Assumptions published by Horizon Actuarial Services, LLC. According to the survey report, the 10-year return assumptions shown below represent an average of the expectations for 35 investment advisors responding to the survey.

	<b>10-Year Annualized Geometric Mean</b>	<b>Annual Standard Deviation</b>	<b>Policy Allocation</b>
US Equity – Large Cap	6.64%	16.92%	<b>15.75%</b>
US Equity – Small/Mid Cap	7.00%	21.01%	<b>5.13%</b>
Non-US Equity – Developed	7.12%	19.50%	<b>15.00%</b>
Non-US Equity – Emerging	8.48%	26.35%	<b>4.13%</b>
US Corporate Bonds – Core	3.41%	5.96%	<b>12.00%</b>
US Corporate Bonds – High Yield	5.90%	11.01%	<b>4.00%</b>
US Treasuries (Cash Equivalents)	2.14%	2.79%	<b>4.00%</b>
Real Estate	6.36%	14.74%	<b>13.75%</b>
Hedge Funds	5.41%	8.39%	<b>3.13%</b>
Commodities	3.98%	18.50%	<b>1.88%</b>
Infrastructure	6.59%	13.78%	<b>3.75%</b>
Private Equity	9.22%	23.12%	<b>17.50%</b>
Inflation	2.16%	1.78%	<b>N/A</b>
<b>Fund Total (reflecting asset class correlations)</b>	<b>7.31%*</b>		<b>100.00%</b>

\* 10-year annualized geometric median is 7.24%.

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# GASB and Actuarial Assumptions

- GASB Statements 67 & 68 require financial reporting actuarial assumptions to follow Actuarial Standards of Practice (ASOPs)
- Under ASOPs, if a selected assumption “*significantly conflicts*” with what the actuary considers reasonable, the actuary must make a statement to this effect in the report
- GASB recently published Statement 82 amending (or clarifying) how GASB 67 & 68 apply in such a situation
  - Per GASB 82, employer financial reporting produced using a disclaimed assumption might not be considered GAAP-compliant
- Assumptions requiring disclaimer language could lead to:
  - Need for second set of results on different assumption basis, or
  - Potential for modified audit opinions



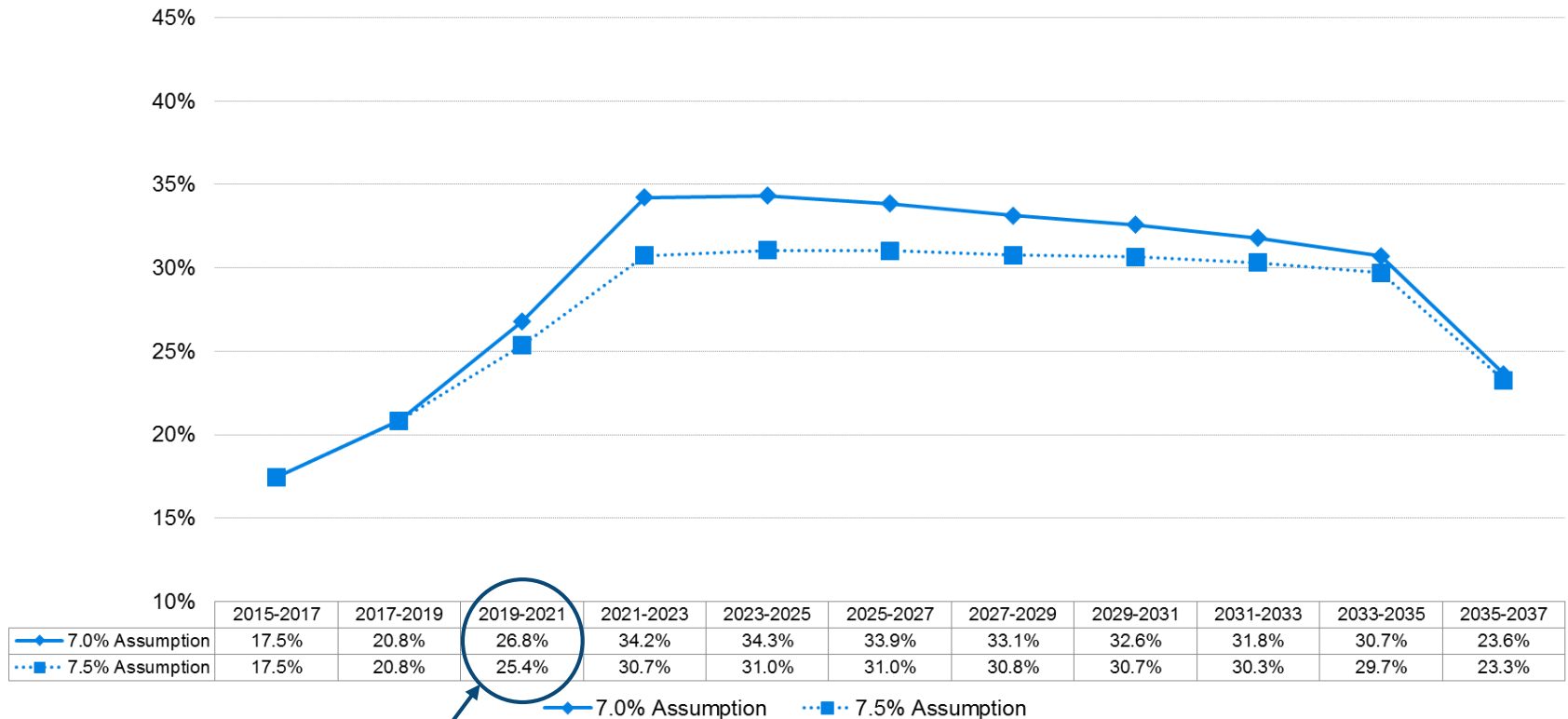
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# Financial Modeling & The Return Assumption

- Milliman prepared additional financial modeling projections, building on work from the November 2016 Board meeting
- Includes projections under both:
  - 7.5% investment return assumption (as presented in November 2016)
  - 7.0% investment return assumption (as requested for subsequent analysis)
- Results are illustrative, not presuming a specific Board decision on investment return assumption
- See November 2016 Board materials for discussion of modeling basis and assumptions

# Actual Return 7.0%; Assumption either 7.0% or 7.5% Employer Contribution Rates

System Average Employer Collared Base Pension Rates

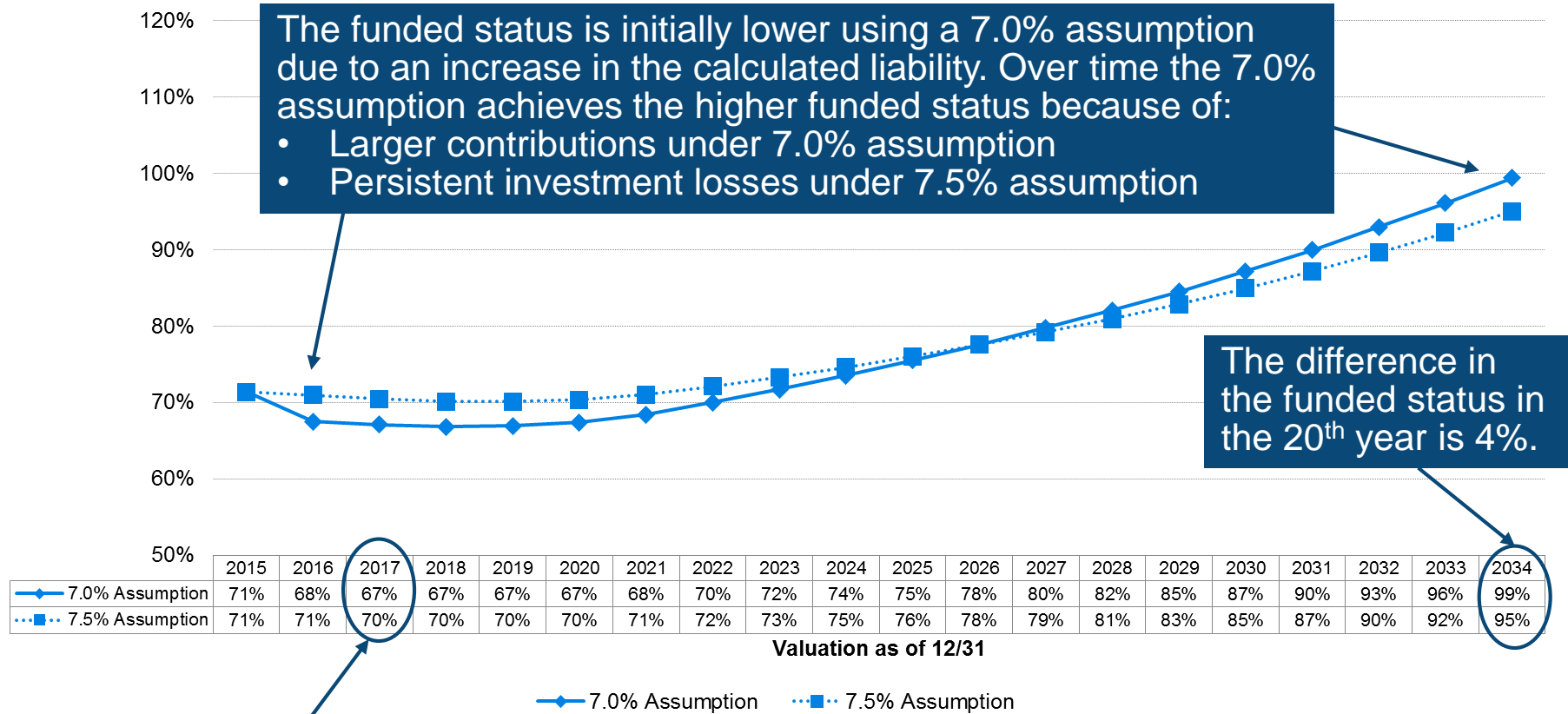


Contribution rates for 2019-2021 will be calculated in the rate-setting actuarial valuation as of year-end 2017, summary results of which will be presented to the Board in July 2018.

# Actual Return 7.0%; Assumption either 7.0% or 7.5%

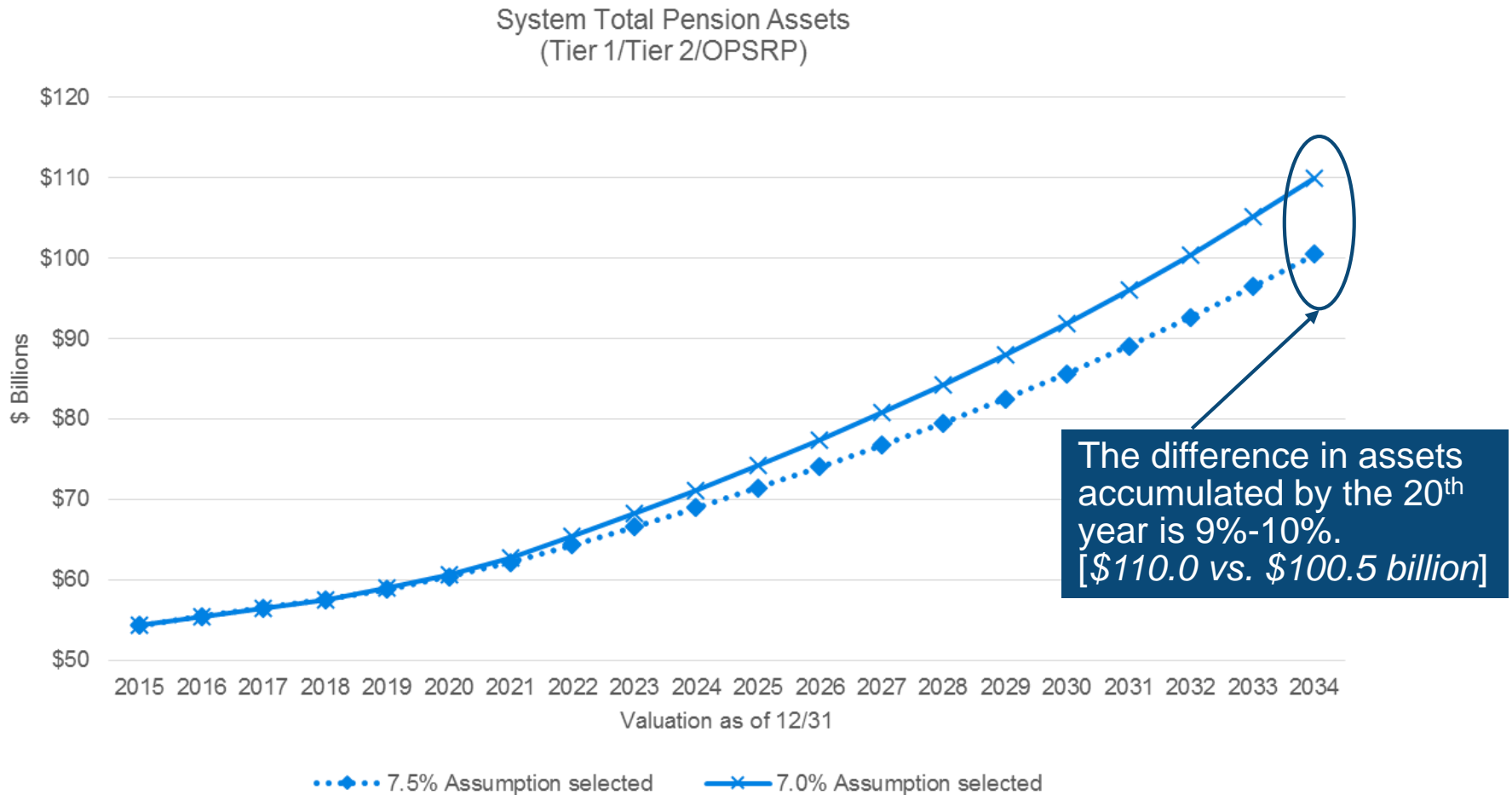
## Year-End Funded Status

System Average Funded Status (Excluding Side Accounts)



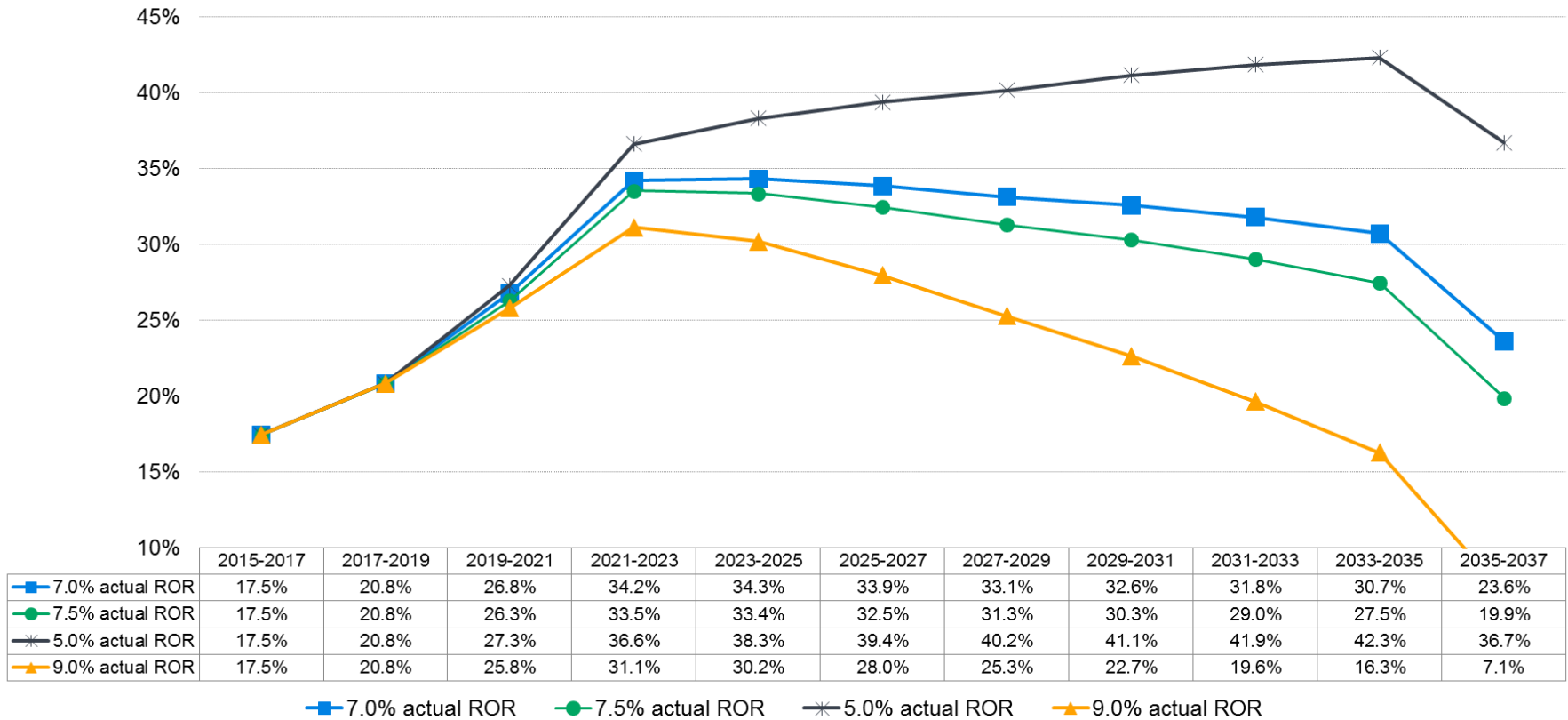
The year-end 2017 valuation will calculate 2019-2021 rates. The largest potential variability source from the above projections is likely to be actual investment returns through year-end 2017. For example, actual 2017 return differing from assumption by +/-5% would modify funded status by 3%-4%.

# Actual Return 7.0%; Assumption either 7.0% or 7.5% Valuation Assets (Excluding Side Accounts)



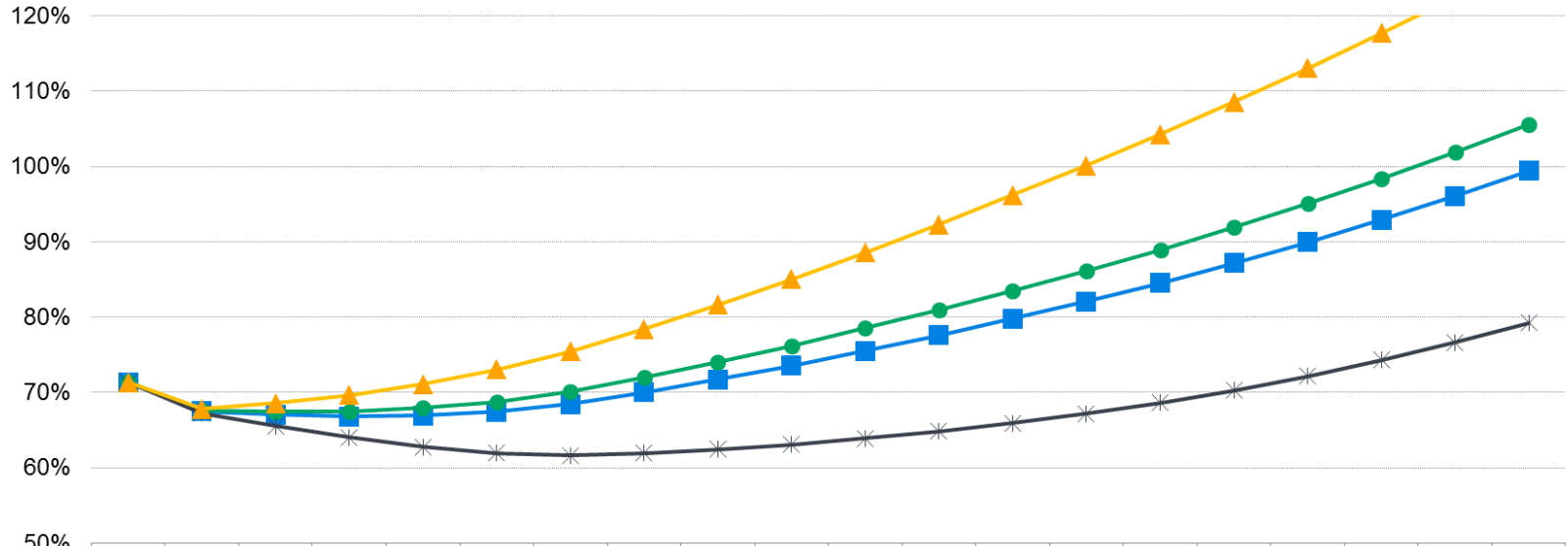
# Financial Modeling: 7.0% Return Assumption

## System Average Employer Collared Base Pension Rates



# Financial Modeling: 7.0% Return Assumption

## System Average Funded Status (Excluding Side Accounts)

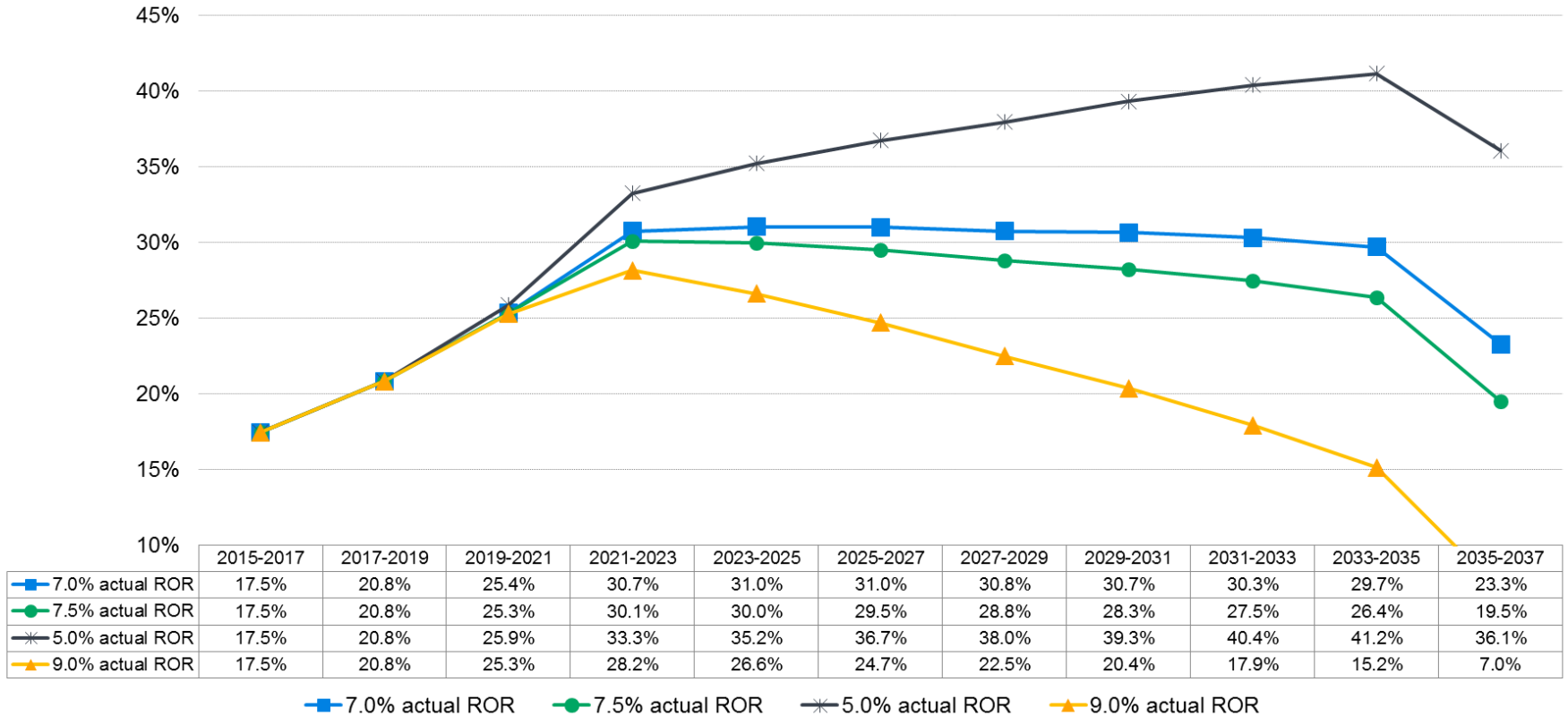


Valuation as of 12/31

■ 7.0% actual ROR   
 ● 7.5% actual ROR   
 ✱ 5.0% actual ROR   
 ▲ 9.0% actual ROR

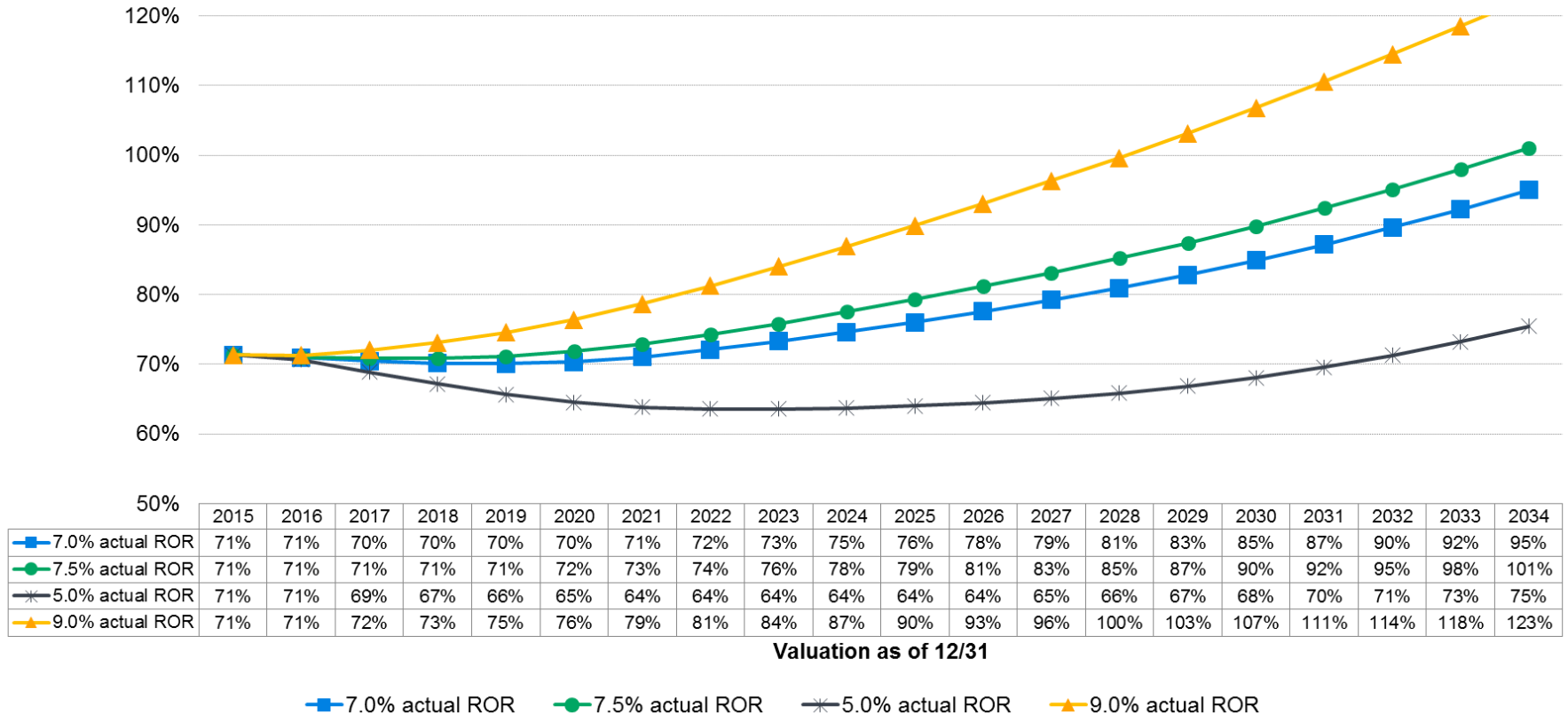
# Financial Modeling: 7.5% Return Assumption

## System Average Employer Collared Base Pension Rates



# Financial Modeling: 7.5% Return Assumption

## System Average Funded Status (Excluding Side Accounts)







# Oregon

Kate Brown, Governor

## Public Employees Retirement System

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July 28, 2017

TO: Members of the PERS Board  
FROM: Stephanie Vaughn, Manager, Policy Analysis & Compliance Section  
SUBJECT: Adoption of Assumed Rate Rule:  
OAR 459-007-0007, *Assumed Rate*

### OVERVIEW

- Action: Adopt modifications to the Assumed Rate rule.
- Reason: Reflect the change in the assumed rate as adopted by the Board and specify the effective date for implementation of the rate for PERS transactions.
- Policy Issue: None identified.

### BACKGROUND

The PERS Board reviews the assumed rate in odd-numbered years as part of the Board's adoption of actuarial methods and assumptions. That rate is then adopted in an administrative rule; therefore, staff is presenting the administrative rule change for approval after the Board adopts the rate. These rule modifications include a blank space to show the assumed rate, and the exact percentage will be added upon adoption by the Board.

The rule specifies that the adopted assumed rate will be effective for PERS transactions with an effective date of January 1, 2018, consistent with this Board's policy decision from 2013 that the assumed rate will be effective January 1 following the Board's adoption of the rate. A January 1 effective date also provides equitable treatment to all members who retire in a year that a change is adopted, no matter which month they retire. The adopted assumed rate will be aligned with the new actuarial equivalency factors (AEFs), which will allow for a clear effective date for all transactions that involve calculations using both the rate and AEF components.

### PUBLIC COMMENT AND HEARING TESTIMONY

A rulemaking hearing was held June 27, 2017, at 2:00 p.m. at PERS headquarters in Tigard. No members of the public provided comment on the rule. The public comment period ended July 7, 2017, at 5:00 p.m. No public comment was received.

### LEGAL REVIEW

The attached draft rule was submitted to the Department of Justice for legal review and any comments or changes are incorporated in the rule as presented for adoption.

### IMPACT

**Mandatory:** Yes, the assumed rate determined by the Board must be adopted by rule and clearly describe the effective date of the assumed rate on PERS transactions.

**Impact:** The proposed rule benefits members, employers, and staff by setting forth the assumed rate and a clear effective date for implementing any change in the rate.

**Cost:** There are no discrete costs directly attributable to specifying the assumed rate in rule.

### RULEMAKING TIMELINE

May 15, 2017	Staff began the rulemaking process by filing Notice of Rulemaking with the Secretary of State.
May 26, 2017	PERS Board notified that staff began the rulemaking process.
June 1, 2017	<i>Oregon Bulletin</i> published the Notice. Notice sent to employers, legislators, and interested parties. Public comment period began.
June 27, 2017	Rulemaking hearing held at 2:00 p.m. at PERS in Tigard.
July 7, 2017	Public comment period ended at 5:00 p.m.
July 28, 2017	Board may adopt the permanent rule modifications.

### BOARD OPTIONS

The Board may:

1. Pass a motion to “adopt modifications to the Assumed Rate rule, including the assumed rate percentage approved at today’s Board meeting.”
2. Direct staff to make other changes to the rule or explore other options.

### STAFF RECOMMENDATION

Staff recommends the Board choose Option #1.

- Reason: Reflect the change in the assumed rate as adopted by the Board and specify the effective date for implementation of the rate for PERS transactions.

If the Board does not adopt: Staff would return with rule modifications that more closely fit the Board’s policy direction if the Board determines that a change is warranted.

**OREGON ADMINISTRATIVE RULE  
PUBLIC EMPLOYEES RETIREMENT BOARD  
CHAPTER 459  
DIVISION 007 – EARNINGS AND INTEREST DISTRIBUTION**

1   **459-007-0007**

2   **Assumed Rate**

3       (1) The Board will review the assumed rate in odd-numbered years as part of the  
4 Board's review and adoption of actuarial assumptions and methods.

5       (2) The Board may adopt a change in the assumed rate at any time. A change in the  
6 assumed rate is effective the first of the year following the Board's adoption of the change.

7       (3) The assumed rate is set at ~~[7.50]~~ \_\_\_\_ percent, effective on January 1, ~~[2016]~~ 2018.

8       Stat. Auth.: ORS 238.650 & 238A.450

9       Stats. Implemented: ORS Chapters 238 & 238A

**ADDITIONAL ITEMS FOR PERS BOARD  
July 28, 2017**

Agenda Item C.5.

Memo from Executive Director Rodeman

Time Horizon Estimates from Board member Furnstahl



# Oregon

Kate Brown, Governor

## Public Employees Retirement System

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July 28, 2017

TO: Members of the PERS Board  
FROM: Steven Patrick Rodeman, Executive Director  
SUBJECT: Adoption of Valuation Methods and Assumptions

At today's meeting, the Milliman actuaries are presenting their recommended changes to actuarial methods and assumptions so that they can complete the 2016 system valuation. These items are included in their presentation materials and the 2016 Experience Study, which was distributed to you prior to this meeting. The purpose of this memo is to compile these changes into one document and provide a recommended board motion.

Milliman recommends making changes to the following actuarial methods and assumptions:

### ECONOMIC ASSUMPTIONS

- Lower the investment return assumption from the current assumption of 7.50% per year, based on an analysis of PERS's current target asset allocation using different sets of capital market outlook assumptions. The averages of the 50<sup>th</sup> percentiles for those outlooks across 10-year (four sources, including the projection from the OIC's lead investment consultant) and 20-year (two of the four sources) time horizons fell in the range between 7.00% and 7.25%.
- Update the explicit assumptions regarding administrative expenses for Tier 1/Tier 2 and OPSRP.
- Update the assumed health cost trend (i.e., health cost inflation) rates for the RHIPA retiree healthcare program.

### DEMOGRAPHIC ASSUMPTIONS

- Adjust mortality assumptions to use RP-2014 base tables and mortality improvement scale based on 60-year unisex average Social Security experience.
- Adjust retirement rates for certain member categories and service bands to more closely align with recent and expected future experience; reduce percentage of members assumed to elect a partial lump sum; increase percentage of members assumed to purchase credited service at retirement.
- Decrease the merit component of the salary increase assumption for two member categories based on observations of the last eight years of experience.
- Update pre-retirement termination of employment assumptions for three member categories.
- Lower assumed rates of ordinary (non-duty) disability to more closely match recent experience.
- Increase the Tier 1 unused vacation cash out assumption for most categories.
- Adjust the Tier 1/Tier 2 unused sick leave assumption for three member categories to more closely reflect recently observed experience.

- Decrease the healthy participation assumption for the RHIA retiree healthcare program.
- Decrease the RHIPA participation assumption for one service band.

#### ALLOCATION PROCEDURES

- When allocating accrued liability for Tier 1/Tier 2 active members who have earned service with multiple PERS employers, base 85% of the allocation on service with each employer (100% for police & fire members) and base the rest on the member account balance associated with each employer. The assumption for general service has increased 10% since the prior experience study. This movement illustrates the continued migration of projected future Tier 1/Tier 2 retirement benefits away from the Money Match calculation, which is based on account balances, toward the ongoing Full Formula approach, which is based on final average salary.

#### BOARD OPTIONS

The Board may:

1. Pass a motion to “Adopt the recommended changes to the actuarial methods and assumptions as presented by Milliman in the 2016 Experience Study, including setting the assumed rate at \_\_\_%.”
2. Direct Milliman to review one or more of their recommended changes and return with recommendations that more closely align with the Board’s direction.

#### STAFF RECOMMENDATION

Staff recommends that the PERS Board choose Option #1 above, setting the assumed rate within the range identified by Milliman of between 7.00% and 7.25%.

If the Board does not adopt: If the PERS Board does not adopt actuarial methods and assumptions at today’s meeting, production of the 2016 system valuation will be delayed.

# Difference Between 10 Year & 20 Year Time Horizons

	Milliman	PCA	Average of 2
10 year inflation	2.30%	2.25%	
20 year inflation	2.50%	2.25%	
Difference in inflation	0.20%	0.00%	0.10%
10 year real return	4.03%	5.15%	
20 year real return	4.20%	5.35%	
Difference in real return	0.17%	0.20%	0.19%

# Four Estimates Adjusted to 20 Year Time Horizon

	Callan 10 Year Adjusted	Horizon 10 Year Adjusted	Milliman 20 Year	PCA 20 Year	Average of 4 Adjusted
Inflation	2.25%	2.16%	2.50%	2.25%	
Adjusted to 20 year	0.10%	0.10%			
Adjusted inflation	2.35%	2.26%	2.50%	2.25%	2.34%
Real return	4.80%	5.08%	4.20%	5.35%	
Adjusted to 20 year	0.19%	0.19%			
Adjusted inflation	4.99%	5.27%	4.20%	5.35%	4.95%
Adjusted nominal return	7.34%	7.53%	6.70%	7.60%	7.29%
			Inflation adjustment only		7.20%
			Real return adjustment only		7.24%