

2018 LEOFF 2 Actuarial Valuation Results

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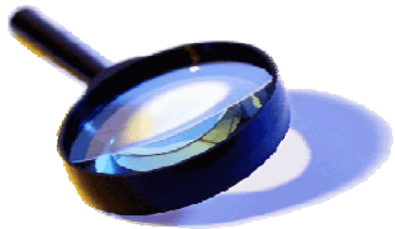
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Presentation to: LEOFF Plan 2 Retirement Board

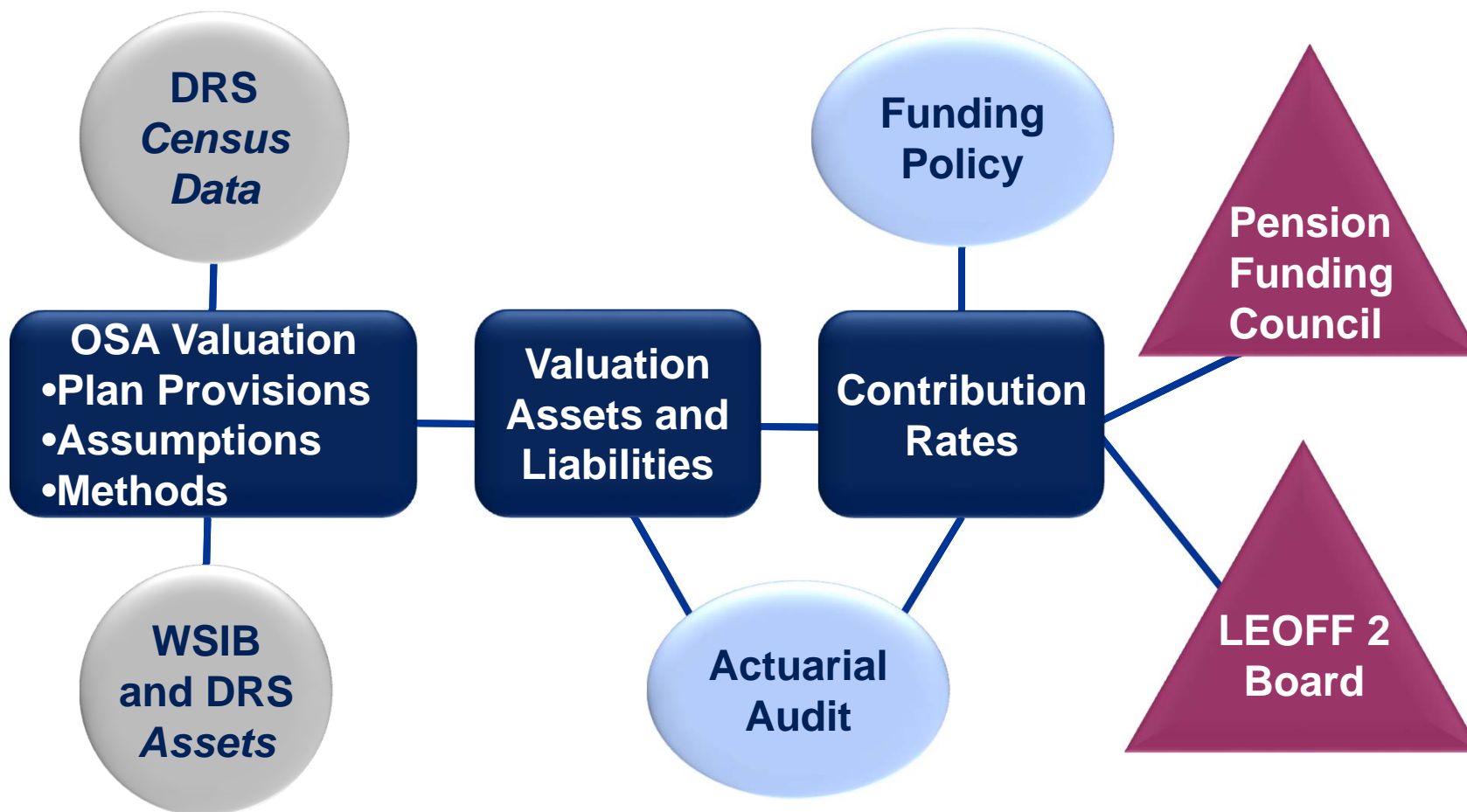


Today's Presentation

- Background on actuarial valuations
- 2018 Actuarial Valuation results
- Look ahead to next year's valuation
 - No Board action needed today



The Actuarial Valuation Process: How We Get From Participant Data To Contribution Rates



2018 “Off-Cycle” Valuation

- Under the current contribution rate-setting cycle, even-numbered valuation years (e.g., 2018) are “off-cycle”, or non-rate setting
- “Off-cycle” valuations provide an informational-only update on contribution rate calculations, funding progress, and plan developments over the past year
 - Reflects new data, assets, and legislation
 - The contribution rates calculated in this valuation are not collected



Highlights Of 2018 Valuation

Participant Data

- Annuitant growth outpaced active membership growth
- Ratio of actives to annuitants declines in the short-term

Assets

- Investment return of 9.56%, higher than assumed return of 7.40%
- 2019 asset transfer of \$300M to the Benefit Improvement Account
 - Removed \$279M from 2018 assets to account for transfer

Funded Status

- Funded status decreased from 109% to 108%
- Decrease primarily from BIA asset transfer

Contribution Rates

- Rates increased under Aggregate Cost Method and Minimum Contribution Rate policy compared to prior valuation

Participant Data: Historical Trends

LEOFF 2				
	2015	2016	2017	2018
Actives				
Headcount	17,019	17,186	17,694	18,130
Average Annual Salary	\$102,400	\$103,900	\$106,200	\$109,300
Average Age	43.6	43.5	43.2	43.1
Average Service	14.7	14.5	14.2	13.9
Annuitants				
Headcount	3,710	4,259	4,851	5,436
Average Annual Benefit	\$42,300	\$44,700	\$46,700	\$48,800
Actives to Annuitants	4.6	4.0	3.6	3.3

Participant Data: Projected Demographics

LEOFF 2				
	2018	5 Years	10 Years	15 Years
Actives				
Headcount	18,130	18,900	19,700	20,500
Average Age	43.1	43	42	42
Average Service	13.9	14	13	13
Annuitants				
Headcount	5,436	8,200	10,900	13,300
Actives to Annuitants	3.3	2.3	1.8	1.5

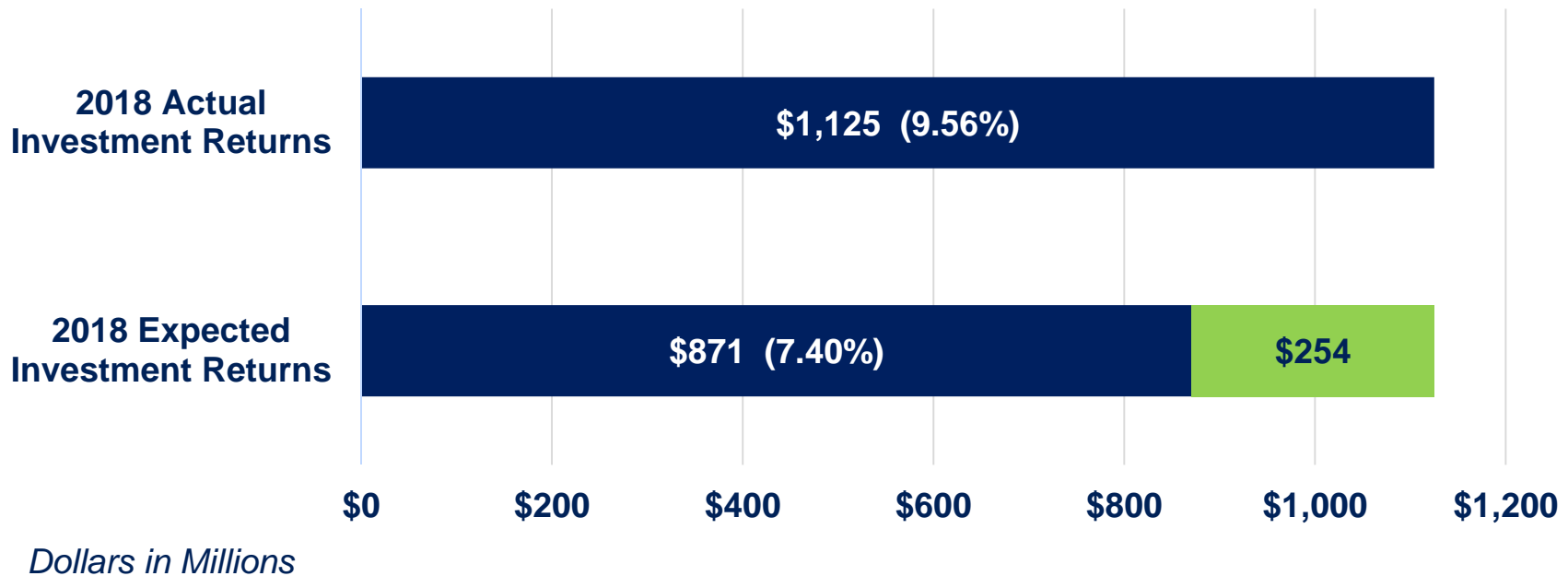
Assets: Changes In Market Value From Last Valuation

LEOFF 2			
<i>(Dollars in Millions)</i>	2017	2018	Difference
Market Value	\$11,758	\$12,706	\$948
Contributions Less Disbursements*	\$117	(\$175)	(\$292)
Investment Return	\$1,446	\$1,125	(\$321)
Return on Assets	14.14%	9.56%	(4.58%)

**Includes transfers, restorations, and payables. 2018 includes (\$279M) transfer to the BIA.*

Assets: Calculating Actuarial Value Of Assets

- AVA smooths market fluctuations which leads to less volatility when calculating funded status and underlying contribution rates



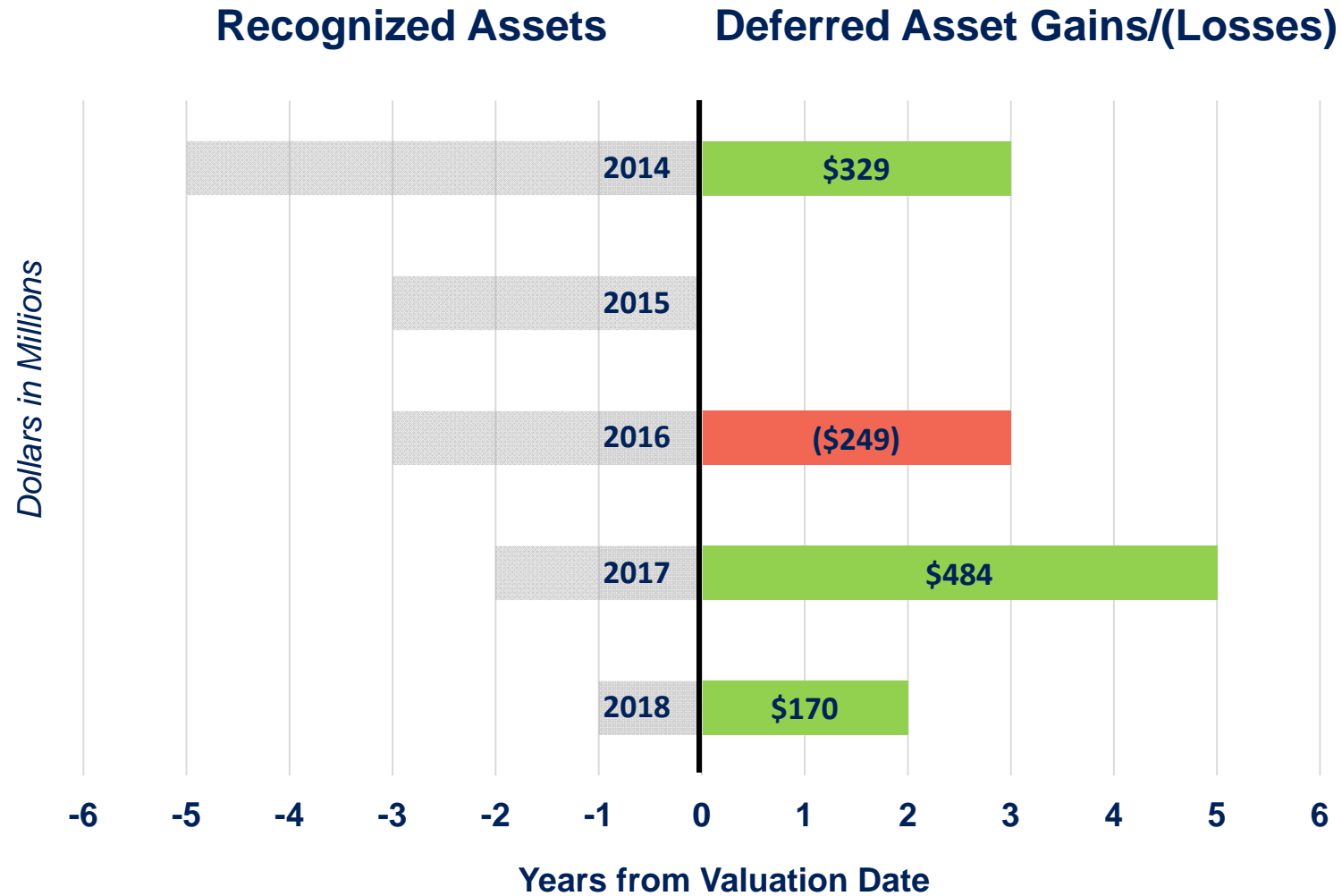
Assets: Calculating Actuarial Value Of Assets

- AVA method smooths out investment gains and losses over a period of time...in this case, over three years.



Note: Totals do not agree due to rounding.

Assets: Calculating Actuarial Value Of Assets



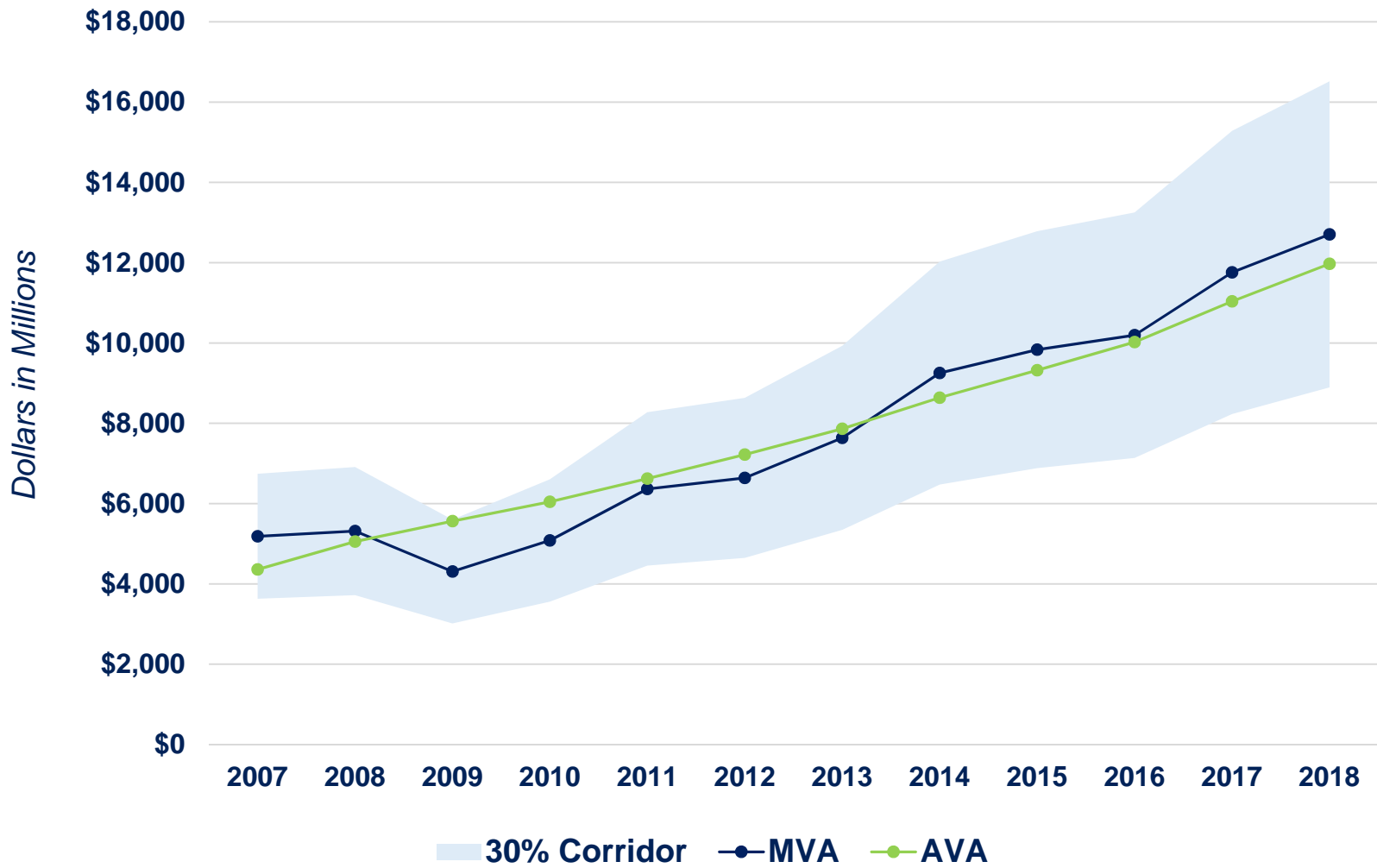
Assets: Calculating Actuarial Value Of Assets

Calculation of Actuarial Value of Assets				
LEOFF 2				
<i>(Dollars in Millions)</i>				2018
Market Value of Assets				\$12,706
Plan Year Ending	Return on Assets	Years Deferred	Years Remaining	Amount Deferred*
6/30/2018	9.56%	3	2	170
6/30/2017	14.14%	7	5	484
6/30/2016	2.48%	6	3	(249)
6/30/2014	18.93%	8	3	329
Total Deferral				734
Actuarial Value of Assets**				\$11,972

*Amount of asset gains and (losses) left to recognize, or apply, in future valuations.

**Actuarial Value of Assets can never be less than 70% (\$8,894) or greater than 130% (\$16,518) of the Market Value of Assets.

Actuarial Value Of Assets Less Volatile Than Market Value

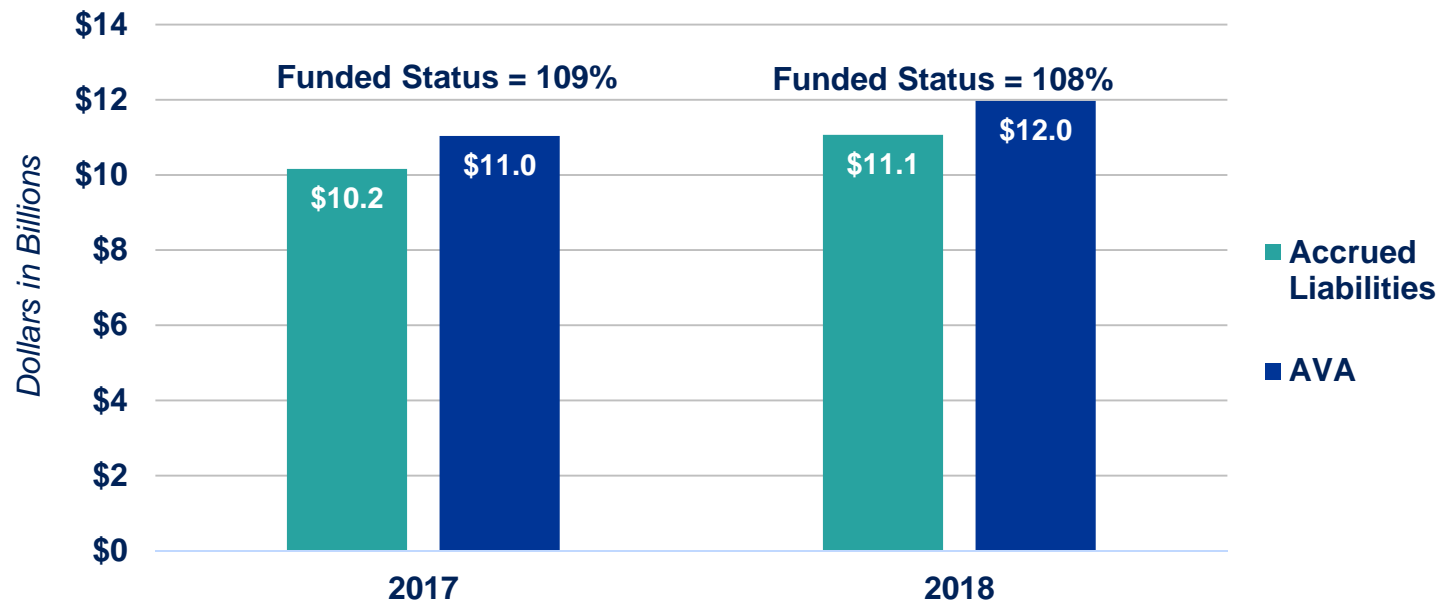


Liabilities: Change From Last Valuation

LEOFF 2			
<i>(Dollars in Millions)</i>	2017	2018	Difference
Present Value of Future Benefits	\$13,689	\$14,846	\$1,157
Accrued Liability	\$10,160	\$11,066	\$906

- Present Value of Future Benefits
 - Today's value of all future expected benefits for current members
- Accrued Liability
 - Today's value of all future plan benefits that have been accrued or "earned" as of the valuation date by current plan members

Funded Status: Changes From Last Valuation



- Funded status = $\frac{\$ \text{Actuarial Value of Assets}}{\$ \text{Accrued Liabilities}}$
- If the funded status exceeds 100%, the plan has more than \$1 of assets for every \$1 of accrued benefits
- Plan greater/less than 100% funded status not necessarily overfunded/at-risk

Contribution Rates: Changes From 2017 Valuation

LEOFF 2 Member Contribution Rate			
	2017	2018	Difference
Aggregate Rate	6.44%	6.58%	0.14%
Minimum Rate*	8.59%	8.67%	0.08%
Adopted 2019-23	8.59%		

**Calculated from Normal Cost of Entry Age Normal Cost Method.*

- Aggregate rates increase primarily from BIA asset transfer and 2019 legislation expanding occupational disease presumptions.
- Minimum rates increase mainly from 2019 legislation.

Summary Of 2018 Actuarial Valuation

- Participant Data: Annuitant growth outpaces active membership growth
- Assets: Investments returned more than expected; BIA asset transfer reduced LEOFF 2 fund assets
- Funded Status: Decreased slightly from last year
- Contribution Rates: Increased under Aggregate Cost Method and Minimum Contribution Rate policy compared to prior valuation
- Actuarial valuation is snap-shot in time measurement
 - The plan is considered healthy

Looking Ahead To The 2019 Actuarial Valuation

- Rate-setting valuation which is the basis for contribution rates during the 2021-23 Biennium
- Updates from demographic experience study
 - Includes mortality, retirement, and termination assumptions
- Actuarial audit of valuation and demographic experience study
- Potentially new information on our website

Additional Education On OSA's Website



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What's New

- The 2018 Actuarial Valuation Report is now complete. Please click the Actuarial Valuation Report link below to view the report.
- New to our website is a Commentary on Risk webpage, where readers can learn more about the risks inherent in our actuarial measurements. Please click the Commentary on Risk link below for more information.



Actuarial Valuation Report



Contribution Rates



OPEB Reports and Tools



Commentary on Risk



Interactive Reports

■ <http://leg.wa.gov/osa/Pages/default.aspx>

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Additional Education On OSA's Website

(Dollars in Millions)	2018		2017		2016		2015	
	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2	Plan 1	Plan 2
Contribution Information								
Employer Rate	0.00%	5.20%	0.00%	5.15%	0.00%	4.75%	0.00%	4.73%
State Rate	0.00%	3.47%	0.00%	3.44%	0.00%	3.16%	0.00%	3.15%
Employee Rate	0.00%	8.67%	0.00%	8.59%	0.00%	7.91%	0.00%	7.88%
Funded Status²								
Entry Age Normal Liability	\$4,095	\$11,066	\$4,121	\$10,160	\$4,197	\$9,571	\$4,307	\$8,838
Market Value of Assets	\$5,903	\$12,706	\$5,736	\$11,758	\$5,371	\$10,194	\$5,610	\$9,833
Actuarial Value of Assets	\$5,538	\$11,972	\$5,403	\$11,037	\$5,275	\$10,021	\$5,404	\$9,320
Unfunded Liability	(\$1,444)	(\$906)	(\$1,282)	(\$878)	(\$1,078)	(\$450)	(\$1,097)	(\$482)
Funded Ratio	135.3%	108.2%	131.1%	108.6%	125.7%	104.7%	125.5%	105.5%
Participant Data								
Number of Actives	26	18,130	40	17,694	62	17,186	82	17,019
Total Annual Salaries	\$3	\$1,982	\$5	\$1,879	\$7	\$1,786	\$9	\$1,743
Number of Terminated Vested	1	934	0	863	1	953	0	785
Number of Terminated, Not Vested	29	2,055	29	1,917	31	1,806	32	1,693
Number of Annuitants	7,074	5,436	7,228	4,851	7,378	4,259	7,507	3,710
Total Annual Benefits	\$369	\$266	\$363	\$227	\$360	\$190	\$361	\$157
Ratio of Actives to Annuitants	0.00	3.34	0.01	3.65	0.01	4.04	0.01	4.59
Economic Assumptions for Funding Valuation								
Interest Rate	7.50%		7.50%		7.70%		7.70%	
General Salary Growth	3.50%		3.50%		3.75%		3.75%	
Inflation Rate	2.75%		2.75%		3.00%		3.00%	
Actual vs. Assumed Experience for Actuarial Gain/Loss								
Return on Market Value	9.55%	9.56%	13.95%	14.14%	2.24%	2.48%	4.51%	4.64%
Return on Actuarial Value	9.55%	10.02%	9.55%	8.92%	4.43%	6.21%	4.92%	6.26%
Assumed Investment Return	7.50%	7.40%	7.70%	7.50%	7.70%	7.50%	7.80%	7.50%

■ <http://leg.wa.gov/osa/supportinformation/Pages/HistoricalData.aspx>

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Questions



Appendix: Contribution Rates Detail

LEOFF 2					
	Aggregate Rate		Minimum Rate*		Adopted
	2017	2018	2017	2018	2019-23
Member	6.44%	6.58%	8.59%	8.67%	8.59%
Employer**	3.86%	3.95%	5.15%	5.20%	5.15%
State	2.58%	2.63%	3.44%	3.47%	3.44%

*Calculated from Normal Cost of Entry Age Normal Cost Method.

**Excludes current administrative expense rate of 0.18%.