Office of the State Actuary Update

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Presentation to
Washington State Investment Board

Office of the State Actuary
"Securing tomorrow's pensions today."

November 19, 2015

Today's Presentation

- Background on the Office of the State Actuary (OSA)
- 2014 Actuarial Valuation results
- Report on financial condition
- Long-term economic assumptions
- Highlights of other programs
  - Guaranteed Education Tuition program
  - Higher education supplemental plan

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Key Services Provided By OSA

- Calculate and certify pension contribution rates
- Prepare and certify actuarial reports
  - Actuarial valuation reports
  - Demographic experience studies
  - Actuarial fiscal notes on pension bills
  - Report on Financial Condition
- Recommend economic assumptions for pension funding
- Provide actuarial analysis and education for various clients
- Staff the Select Committee on Pension Policy

Who We Serve

OSA Clients			
Legislative Branch	Executive Branch	Boards	Public
❖ Pension Funding Council ❖ Select Committee on Pension Policy ❖ Legislators and Legislative Staff ❖ GET Legislative Advisory Committee ❖ Fiscal Committees	❖ Governor's Office ❖ Office of the State Treasurer ❖ Health Care Authority ❖ Department of Retirement Systems ❖ Office of Financial Management ❖ Office of the Attorney General	❖ Volunteer Fire Fighters' and Reserve Officers' Relief and Pension Fund ❖ State Investment Board ❖ LEOFF Plan 2 Retirement Board ❖ Public Employees' Benefits Board ❖ GET Committee ❖ Institutions of Higher Education	❖ Pension community ❖ Local governments ❖ Citizens at large

Highlights Of The 2014 Actuarial Valuation

- 18.89 percent return on market value of assets
  - July 1, 2013 through June 30, 2014
- Actuarial value of assets includes deferred asset gains
  - Prior valuation included deferred asset losses
- Contribution rates increased since the 2013 valuation
- Funded status for all plans combined is 87 percent, down from 94 percent in the prior valuation
  - Includes drop of six percent due to change in actuarial cost method from Projected Unit Credit (PUC) to Entry Age Normal (EAN)

Funded Status (FS) Compares Assets To Liabilities

- FS equals Actuarial Value of Assets divided by Accrued Liabilities
- FS more than 100 percent
  - More than $1 of assets for every $1 of earned benefits
  - On track with systematic actuarial funding plan
- FS less than 100 percent
  - Plan needs additional assets to get it back on track to full funding

Actuarial Value Of Assets

- Start with Market Value of Assets (MVA) reported by Washington State Investment Board (WSIB)
- Calculate 2014 asset gain (or loss) based on 7.8 percent expected return (7.5 percent for Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2)
- Develop Actuarial Value of Assets (AVA) by smoothing past and current asset gains (or losses)
  - Smooth gain (or loss) over a period up to eight years
  - AVA limited to 30 percent "corridor" around MVA
  - Smoothing method reduces contribution rate and funded status volatility

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Actuarial Liabilities Of The Plan

- Present Value of Future Benefits
  - Today's value of all future expected benefits for current members
- Accrued Liabilities or "earned" benefits
  - Today's value of all future expected benefits for current members that have been earned as of the measurement date

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Funded Status Of All Washington Plans Combined

Funded Status at June 30		
(Dollars in Millions)	2014	2013
All Systems		
a. Accrued Liability*	$78,800	$69,828
b. Market Value of Assets	72,553	62,213
c. Deferred Gains/(Losses)	3,776	(3,245)
d. Actuarial Value of Assets (b-c)	68,777	65,458
e. Unfunded Liability (a-d)	$10,023	$4,370
f. Funded Ratio (d/a)	87%	94%

**Liabilities valued using EAN cost method starting in 2014.*
Note: Totals may not agree due to rounding.

Interactive Web Reports

- OSA has moved some elements from the actuarial valuation report to our website
- Provides the ability to use different inputs to see how the results change
- Current reports include:
  - Funded Status
  - Future Value and Present Value of Benefit Payments
- New reports in the queue:
  - Contribution Rates
  - Age/Service Distributions

Report On Financial Condition (RFC)

- Three key measures to assess plan's financial condition
  - Funding level
  - Adequacy and affordability of contributions
  - Underlying financial risks of the plan
- One measure alone will not provide the complete story
- Maintaining plan health requires striking the right balance of these measures for all stakeholders

Summary Of Financial Condition

- Funded status declined since last report
  - Most plans on target for full funding
  - Plan in place to get Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS) Plans 1 back on track
  - Reporting changes lowered funded status in open plans
- Contributions required under funding policy currently being made
- Affordability measures have experienced volatility
- Financial risk of the systems has improved
  - Changes to benefit provisions for new hires
  - Court ruling regarding Gain Sharing and UCOLA
  - Adoption of updated assumptions

Funded Status Declined Since Last RFC

- Phase-in of lower investment return assumption from 7.9 to 7.8 percent (all plans except LEOFF Plan 2)
  - Increases today's value of future benefits
- Recognizing longer life spans (mortality improvements)
  - When members live longer they receive more benefits and the cost (liabilities) of the plan increases

Funded Status as of June 30			
Plan	2012	2013	2014
PERS 1	69%	63%	61%
PERS 2/3	111%	102%	101%
TRS 1	79%	71%	69%
TRS 2/3	114%	105%	104%
SERS 2/3	110%	102%	101%
PSERS 2	134%	124%	124%
LEOFF 1	135%	125%	127%
WSPRS 1/2	114%	105%	103%

Note: Shown under PUC cost method.

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Funded Status Also Declined Under Different Cost Method

- Governmental Accounting Standards Board (GASB) requires EAN Actuarial Cost Method to report funded status in state and local government's financial reports
- GASB requirements do not change contribution rate calculations for funding purposes
- We will report the funded status under EAN starting in 2014

Funded Status as of June 30, 2014, Under Different Cost Methods		
Plan	PUC	EAN
PERS 1	61%	61%
PERS 2/3	101%	90%
TRS 1	69%	69%
TRS 2/3	104%	94%
SERS 2/3	101%	91%
PSERS 2	124%	96%
LEOFF 1	127%	127%
WSPRS 1/2	103%	100%

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Financial Condition Based On Funded Status

- Washington's combined plans rank seventh in the nation based on national report by the Pew Charitable Trusts
- All open plans and LEOFF 1 at least 90 percent funded and considered on target for full funding
- PERS and TRS Plans 1 less than 70 percent funded but Legislature requires additional employer contributions to get them back on track
  - Legacy costs (Unfunded Actuarial Accrued Liability (UAAL)) amortized over rolling ten year period
  - Minimum rates in place to ensure full funding
  - Under current projections and assumptions, full funding is expected in 2027 (PERS 1) and 2025 (TRS 1)
  - Full funding will occur sooner/later under optimistic/pessimistic outlooks

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Adequate Funding Improves Plan Health

- Contributions are adequate if they provide full funding based on the funding policy and reasonable set of assumptions
  - Recent history shows adequate contributions have been made
  - Future increases are expected to reach full funding for most plans
  - PERS and TRS Plans 1 also require additional funding to amortize the past legacy costs (UAAL)
- Adopting set of reasonable assumptions improves adequacy
  - When assumptions closely model actual experience the contributions calculated under the funding policy will closely model actual plan costs

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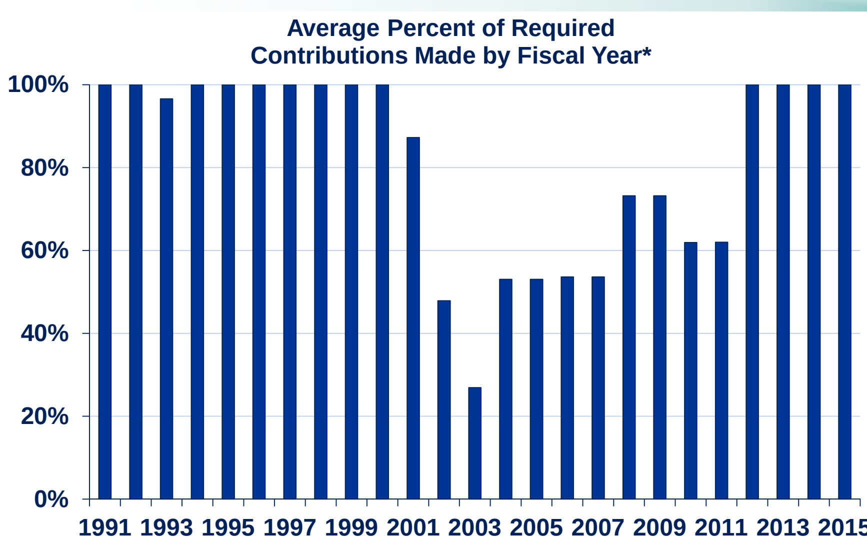
Percent Of Required Contributions Made



For PERS, TRS, and SERS combined.

Affordability Is The Ability To Provide Adequate Funding

- If contributions are deemed unaffordable, full funding and plan health are at risk of declining
- Affordability is subjective
- Can measure/assess affordability by the growth in contributions over time
  - As a percent of pay
  - As a percent of General Fund-State (GF-S) budget
- Affordability improves if contribution rates are stable and predictable
  - Asset smoothing method helps reduce volatility

Contribution Rates As A Percent Of Pay

System		Actual 2013-15	Adopted 2015-17	Projected[1] 2017-19
PERS	Member[2]	4.92%	6.12%	7.23%
	Employer	9.03%	11.00%	12.29%
TRS	Member[2]	4.96%	5.95%	7.00%
	Employer	10.21%	12.95%	14.69%
SERS	Member[2]	4.64%	5.63%	6.94%
	Employer	9.64%	11.40%	12.52%
PSERS	Member	6.36%	6.59%	6.80%
	Employer	10.36%	11.36%	11.75%
LEOFF[3]	Member	8.41%	8.41%	8.85%
	Employer	8.41%	8.41%	8.85%
WSPRS	Member	6.59%	6.69%	7.19%
	Employer	7.91%	8.01%	12.45%

[1]Rates shown for 2017-19 are expected projections based on the 2013 Actuarial Valuation.

[2]Plan 1 members' contribution rate is statutorily set at 6.0%. Members in Plan 3 do not make contributions to their defined benefit.

[3]No member or employer contributions are required for LEOFF Plan 1 when the plan is fully funded.

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Estimated Pension Contributions As A Percent Of GF-S Budget

(Dollars in Millions)	1989	1994	2000	2005	2010	2014
Est GF-S Contributions*	$200	$323	$265	$81	$384	$597
GF-S Budget**	$5,686	$8,013	$11,068	$13,036	$13,571	$16,383
Percent of GF-S Budget	3.5%	4.0%	2.4%	0.6%	2.8%	3.6%

**Actual total employer contributions were found in the 2005, 2009, and 2014 OFM CAFRs. The estimated GF-S contributions is the product of actual employer contributions and assumed GF-S fund splits (found on OSA's website).*

***1989 and 1994 GF-S budget found in June 2008 ERFC Annual Forecast. All other GF-S budgets were found in June 2015 ERFC Annual Forecast.*

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Financial Risk Has Improved

- Recent changes to benefit provisions for new hires
  - Early retirement benefits less generous
  - Reduces contribution requirements
  - Improves affordability and sustainability of plans
- Litigation risks for gain-sharing and Plan 1 UCOLA removed after court ruling in favor of the state
- Adoption of updated assumptions
  - Longer life spans
  - Lower investment return assumption
  - Short term costs with long term savings

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Concluding Remarks On Financial Condition

- Contribution rates expected to increase in the short term to meet full funding goal
- Full funding and maintenance of affordable/sustainable plan designs will help systems manage financial risks and improve health
- Adopting reasonable assumptions improves adequacy
  - Require continual monitoring and adjustments as needed

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Assumptions Are Reviewed And Updated Regularly

- To ensure they remain reasonable over the long term
- Economic assumptions
  - Formally reviewed at least every two years by OSA
  - Reviewed and adopted by the Pension Funding Council (PFC) and LEOFF 2 Board in odd years
  - Include inflation, investment returns, general salary growth, and growth in plan membership
- Demographic assumptions
  - Formally reviewed at least every six years by OSA
  - Reviewed/adopted by the PFC and LEOFF 2 Board during a "rate setting" cycle as part of the contribution rate adoption process
  - Include assumptions such as termination rates, retirement rates, merit salary increases, etc.
  - Last study completed in 2014

Summary Of Report On Long-Term Economic Assumptions

- All current assumptions reasonable
- Two assumption changes recommended
  - Lower long-term rate of return
  - Higher TRS system growth rate
- Adopting recommendation will improve system health and lessen some financial risks, but increase short-term budget impacts
- Continued phase-in of change in assumed rate of return recommended
- Supporting data and analysis in full report

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Lower Long-Term Rate Of Return, Higher TRS Growth Rate Recommended

Assumption	Current	Recommended
Inflation	3.00%	3.00%
General Salary Growth	3.75%	3.75%
Annual Investment Return	7.80%	7.50%
Growth in System Membership	0.80% (TRS), 0.95% (PERS)	1.25% (TRS), 0.95% (PERS)

Note: Excludes LEOFF 2. The LEOFF 2 Board adopts assumptions for LEOFF 2.

- No changes adopted by the PFC
- Annual investment return assumption drops to 7.70 percent effective July 1, 2017

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Conclusions For State Retirement Plans

- Among best funded systems nationally
- Pension plans require consistent, stable, and adequate funding to remain affordable over the long term
- Future contribution increases expected
  - Three-biennia phase-in of higher requirements resulting from new mortality assumption
  - Lowering assumed rate of investment return to 7.7 percent for 2017+
  - Creates short-term pressure on state and local government budgets
- Stay on track with the funding plan
  - Funding shortfalls today increase future contribution requirements
- Regularly review plan experience and assumptions used to model experience
  - Update assumptions when appropriate

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Highlights Of Other Programs

- Guaranteed Education Tuition Program (GET)
- Higher Education Supplemental Retirement Plan

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GET Funded Status Summary

Funded Status Summary		
(Dollars in Millions)	**2015**	**2014**
Present Value of Future Obligations	$2,042	$2,767
Present Value of Fund	$2,862	$2,928
Funded Status	140.1%	105.8%
Reserve/(Deficit)	$820	$161

- Latest actuarial valuation at June 30, 2015
- Results preliminary until conclusion of outside actuarial audit and GET Committee adoption of full report in December

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Interpreting Results

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- Based on current contracts only
- Results highly sensitive to short-term changes in tuition policy
  - For example, if recent tuition reductions hold for one year only, funded status, measured at June 30, 2015, drops from 140 to 125 percent
- Funded status also sensitive to changes in long-term assumed rates of investment return and tuition growth
- Readers should exercise caution when interpreting and reaching conclusions based on a single, point-in-time, measurement
- Funded status more/less than 100 percent does not necessarily mean program is overfunded/at risk

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Key Assumptions And Methods

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Key Assumptions	
Annual Investment Return	6.00%
Annual Tuition Growth	
2015-16	(5.00%)
2016-17	(10.50%)
2017-18	6.50%
2018-19	6.50%
2019-20	6.00%
2020-21+	5.00%

- Consistent with Chapter 36, Laws of 2015, 3rd Special Legislative Session
  - Assumed negative tuition growth rates for next two academic school years
  - Applied a minimum future payout value of $117.82 for all unredeemed units at June 30, 2015

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Other Considerations

- GET Committee authorized current contract holders the choice to remain in program or request refund on unredeemed units during a specified window
  - Window for optional refunds authorized after the valuation date and will not conclude until December 2016
  - We will include impact of refunds in future actuarial valuation reports after refunds are known
- If the program is permanently closed or terminated, the WSIB may change the program's asset allocation
  - Such a change would likely lower the program's funded status

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Supplemental Retirement Plans In Higher Education

- Institutions of higher education authorized to offer retirement plans separate from the state's pension systems
  - Defined contribution plans with a supplemental defined benefit
- Supplemental retirement plans
  - Provide a "floor" defined benefit to ensure eligible retirees achieve at least a certain level of retirement income from their defined contribution plan
- Pay-as-you-go funding policy adopted at institutions
- Relevant changes under ESHB 1981 (2011)
  - Eliminated supplemental retirement benefits for new hires
  - OSA to prepare on-going actuarial valuations on supplemental retirement plans
  - Fund created to pre-fund supplemental benefits; invested by WSIB
  - Temporary employer contribution rate established

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Progress Update – Completed

- Reasonably replicated prior actuary's most recent valuation
  - Relied on same census data, assumptions and methods
- Reviewing all assumptions and methods
  - Split into two phases
  - Phase 1 completed June, 2015
- Prepared July 1, 2015 valuation for financial reporting
  - Reflects first phase of assumptions and methods study

Progress Update – Next Steps

- Reviewing remaining assumptions and methods
  - Expected completion end of current calendar year
- Discussions underway on determining future on-going employer contribution rates
  - Expected to rely on actuarial analysis
  - Help inform investment policy of benefit fund
    - Projected benefit payments
    - Cash-flow analysis

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Additional Pension References

- Office of the State Actuary
  - 2014 Actuarial Valuation Report
  - Report on Financial Condition and Economic Experience Study
  - Risk Assessment Report
  - Demographic Experience Study

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