BOARD MEETING AGENDA

DATE • 9:30AM TO 3:00PM



LOCATION

STATE INVESTMENT BOARD Large Conference Room, STE 100 2100 Evergreen Park Drive S.W. Olympia, WA 98502 Phone: 360.586.2320 Fax: 360.586.2329 recep@leoff.wa.gov

TRUSTEES

KELLY FOX, CHAIR Olympia Fire Department

JACK SIMINGTON, VICE CHAIR Kennewick Police Department

JEFF HOLY
Spokane Police Department (Ret)

WALLY LOUCKS
Spokane County Sheriff's Office

MARK JOHNSTON

Vancouver Fire Department

PAT HEPLER Snohomish County Fire District 1

GLENN OLSON
Kitsap County Administrator

PAUL GOLNIK
WA Fire Commissioners Association

DAVID CLINE City of Tukwila Administrator

SEN. JIM HONEYFORD WA State Senator

REP. KEVIN VAN DE WEGE WA State Representative

STAFF

Steve Nelsen, Executive Director Tim Valencia, Deputy Director Jessica Burkhart, Executive Assistant Greg Deam, Sr. Research & Policy Mgr Paul Neal, Sr. Legal Counsel Ryan Frost, Research Analyst Tammy Harman, Admin Services Mgr Dawn Cortez, Assistant Attorney General

They keep us safe, we keep them secure.

1. Approval of August 28, 2013 Minutes	9:30 AM
 FY 2013 Independent Audit Results Steve Davis, Davis Accounting and Auditing Services 	9:35 AM
 Results of Economic Experience Study Steve Nelsen, Executive Director 	10:15 AM
 Funding Methods - Educational Briefing Lisa Won, Senior Actuary and Aaron Gutierrez, Policy Analyst - Office of the State Actuary 	10:30 AM
 Promoting Individual Savings for Retirement - Comprehensive Report Paul Neal, Senior Legal Counsel 	11:30 AM
6. Board and Administrative Committee Elections	12:00 PM
7. Administrative Update	12:30 PM
SCPP UpdateOutreach ActivitiesOctober Meeting Details	
8. Annual Board Member Training Dawn Cortez, Assistant Attorney General	12:45 PM
 Career Change - Comprehensive Report Paul Neal, Senior Legal Counsel 	1:45 PM
 Correction Legislation - Comprehensive Report Ryan Frost, Research Analyst 	2:15 PM
11. Agenda Items for Future Meetings	2:45 PM

*Lunch is served as an integral part of the meeting.



FY 2013 Independent Audit Results

Date Presented:

9/25/2013

Presenter Name and Title:

Steve Davis, Davis Accounting and Auditing Services

Summary:

The Board receives an annual financial audit of its operations as part of its mission to maintain the financial integrity of the plan. This presentation will provide the results of the Audit.

Strategic Linkage:

This item supports the following Strategic Priority Goals: Goal 3 – Maintain the financial integrity of the plan.

ATTACHMENTS:

Description Type

FY 2013 Audit Results Report

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD

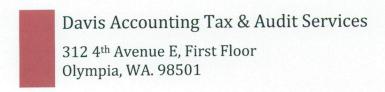
AUDITED SCHEDULE OF EXPENDITURES

For the Year Ended June 30, 2013

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD For the Year Ended June 30, 2013

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INDEPENDENT AUDITOR'S REPORT

To the Board Law Enforcement Officers & Firefighters Plan 2 Retirement Board PO Box 40918 Olympia, WA 98504-0918

I have audited the accompanying schedule of expenditures and related notes to the schedule of expenditures (schedule and notes) of the Law Enforcement Officers & Firefighters Plan 2 Retirement Board for the year ended June 30, 2013.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the schedule and notes in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedule and notes that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

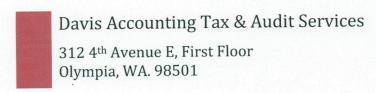
My responsibility is to express an opinion on schedule and notes based on my audit. I conducted my audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the schedule and notes are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule and notes. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule and notes, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedule and notes in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, I express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedule and notes.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the schedule and notes referred to above present fairly, in all material respects, the expenditures of the Law Enforcement Officers and Firefighters Plan 2 Retirement Board for the year ended June 30, 2013 in accordance with accounting principles generally accepted in the United States of America.



Other-Matter

My audit was conducted for the purpose of forming an opinion on the schedule of expenditures and related notes as a whole. The supplementary information presented on pages 7 and 8 is presented for purposes of additional analysis and is not a required part of the schedule of expenditures. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the schedule of expenditures. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the schedule of expenditures or to the schedule of expenditures itself, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In my opinion, the information is fairly stated in all material respects in relation to the schedule of expenditures as a whole.

DAVIS ACCOUNTING TAX & AUDIT SERVICES

Olympia, WA August 30, 2013

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD SCHEDULE OF EXPENDITURES - BUDGET ALLOTMENT TO ACTUAL For the Year Ended June 30, 2013

	BUDGET	4	ACTUAL	VA	RIANCE
Salaries & wages Employee benefits & payroll taxes Personal service contracts Goods & services - supplies & materials Goods & services - communications Goods & services - utilities Goods & services - rentals & leases Goods & services - repairs & maintenance Goods & services - printing & reproduction Goods & services - employee development Goods & services - furniture & equipment leases Goods & services - subscriptions Goods & services - facilities & related services Goods & services - data processing Goods & services - Attorney General's Office Goods & services - insurance Goods & services - other purchased services Other goods & services Travel, lodging & subsistence Capital outlays Grants, benefits & client	\$ 471,110 126,826 45,000 10,584 7,928 6,520 52,760 2,000 20,620 10,900 6,108 1,143 5,635 6,854 13,596 50 160,253 5,915 44,724 24,996 (1,000)	\$	475,596 95,635 28,003 5,864 8,493 5,697 45,954 0 21,293 27,681 5,340 800 5,788 5,341 15,735 25 140,407 5,612 31,209 28,928 0	\$	(4,486) 31,191 16,997 4,720 (565) 823 6,806 2,000 (673) (16,781) 768 343 (153) 1,513 (2,139) 25 19,846 303 13,515 (3,932) (1,000)
Total Expenditures	\$ 1,022,522	\$	953,401	\$	69,121

The accompanying notes are an integral part of this schedule of expenditures.

Page 3

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD NOTES TO SCHEDULE OF EXPENDITURES For the Year Ended June 30, 2012

Note 1 – Summary of Significant Accounting Policies

The Law Enforcement Officers & Fire Fighters Plan 2 Retirement Board (the Board) was created through a taxpayer initiative approved by voters in November 2002. The schedule of expenditures – budget allotment to actual of the Board has been prepared in conformity with generally accepted accounting principles as applied to governments. The Governmental Accounting Standards Board (GASB) is the accepted standard setting body for establishing governmental accounting and financial reporting principles.

A. Reporting Entity, Background & Activities:

An eleven-member board, appointed by the Governor of the State of Washington, governs the Board. Board members are appointed from the following groups of individuals:

- Three must be active law enforcement officers who participate in the plan (Beginning with the first vacancy before or after January 1, 2007, one of the members must be a retired law enforcement officer who is a member of the plan).
- Three must be active fire fighters who participate in the plan (Beginning with the first vacancy before or after January 1, 2007, one of the members must be a retired fire figher who is a member of the plan).
- Three must be representatives of employers
- One must be a member of the State House of Representatives
- One must be a member of the State Senate

The Board is empowered to oversee the Law Enforcement Officers & Fire Fighters Plan 2 Retirement system (LEOFF 2). They do not maintain custody or manage the investments of the plan. The custody and investment management function is the responsibility of the Washington State Investment Board (SIB). The Board is required to 1) adopt actuarial tables, assumptions and cost methodologies; 2) adopt contribution rates for LEOFF Plan 2; as well as other related duties. Some specific duties relating to the expenditures of the Board are;

Professionals & technical advisors:

Retain Professionals & technical advisors necessary to accomplish the board's duties.

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD NOTES TO SCHEDULE OF EXPENDITURES For the Year Ended June 30, 2012

Note 1 - Summary of Significant Accounting Policies, Continued

Actuary:

- Consult with an enrolled actuary retained by the board (The state actuary shall provide assistance when the board requests.)
- The actuary used must provide the State Actuary with copies of its valuations, assumptions and cost methodology for a reasonableness review.
- If the two actuaries do not agree, a third actuary must be appointed by the board and state actuary.

Other Costs:

- Engage administrative staff and acquire office space
- Board members shall be reimbursed for travel and education expenses as provided in RCW 43.03.050 and 43.03.060

B. Basis Of Accounting And Reporting:

All payroll, reporting and accounting functions are handled by the Office of Financial Management's Small Agency Client Services (SACS) and recorded in the State of Washington's Accounting & Financial Reporting System under Agency #341.

The Board uses the modified-accrual basis of accounting with a measurement focus on current financial resources. Therefore, the purchase of non-current assets such as property, plant and equipment is not deemed to be an asset for financial reporting purposes. Instead, these costs are reflected as an expenditure in the year they are incurred.

C. Subsequent Events Evaluation:

Management has evaluated for subsequent events through August 30, 2013, the date the financial statements were available to be issued. No material subsequent events were identified by management.

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD NOTES TO SCHEDULE OF EXPENDITURES For the Year Ended June 30, 2012

Note 1 - Summary of Significant Accounting Policies, Continued

D. Budgetary Process:

The Board must develop an annual budget consistent with the requirements of chapter 43.88 RCW. This budget draws funding from the investment income of the LEOFF Trust fund held by the State Investment Board.

The Board's budget is subject to the OFM allotment process but is not subject to legislative appropriation. Allotments may be adjusted on a quarterly basis. Monthly allotments are not binding but are used as a tool to ensure the total biennium budget is not exceeded.

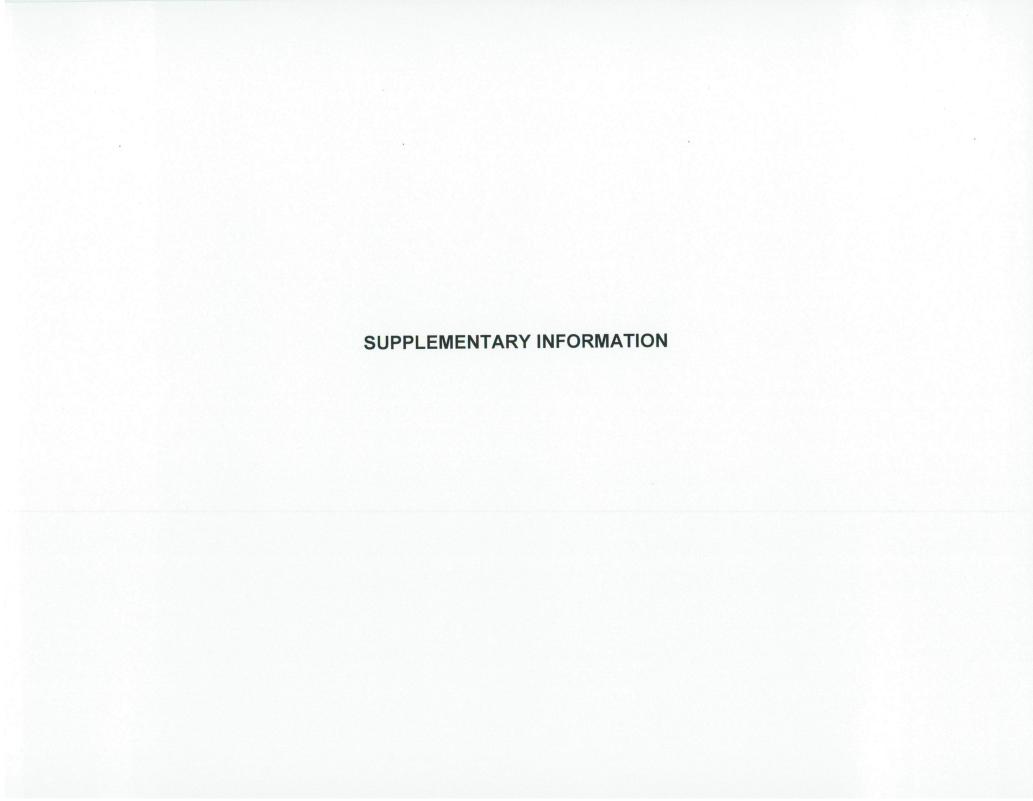
The Board's operating expenses are paid from a sub-account of the LEOFF Plan 2 Retirement Fund (the expense fund).

E. Expenditure Authority (RCW 41.26.732):

The authority to establish all policies relating to the expense fund, other than the investment policies of the SIB, resides with the Board. With the exception of investments by, and expenses of, the SIB, disbursements from the expense fund may be made only on the authorization of the board.

The expense fund may be spent only for the purposes of defraying the expenses of the Board. Expenses include, but are not limited to:

- Salaries and expenses of personnel
- Lease payments
- Travel
- · Goods & services
- Audits
- Other general costs of conducting board business



LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD COMPARATIVE SCHEDULE OF EXPENDITURES For the Biennium Ended June 30, 2013

	ear Ended 6/30/2012	ear Ended 6/30/2013	!	Biennium Ended 06/30/2013
Salaries & wages Employee benefits & payroll taxes Personal service contracts Goods & services - supplies & materials Goods & services - communications Goods & services - utilities Goods & services - rentals & leases Goods & services - repairs & maintenance Goods & services - printing & reproduction Goods & services - employee development Goods & services - furniture & equipment leases Goods & services - subscriptions Goods & services - facilities & related services Goods & services - data processing Goods & services - Attorney General's Office Goods & services - insurance Goods & services - other purchased services Other goods & services Travel, lodging & subsistence Capital outlays Grants, benefits & client	\$ 398,446 334,150 26,241 3,868 19,690 5,744 45,954 0 9,826 16,873 5,618 677 6,186 2,986 25,967 0 25 140,185 655 38,032 699 0	\$ 475,596 374,029 28,003 5,864 8,493 5,697 45,954 0 21,293 27,681 5,340 800 5,788 5,341 15,735 0 25 140,407 5,612 31,209 28,928 0	\$	961,419 235,076 38,322 6,836 26,596 9,869 91,908 601 7,119 37,610 11,797 1,170 8,625 6,862 22,585 762 50 258,218 4,088 49,041 6,583 119
Total Expenditures	\$ 1,081,822	\$ 1,231,795	\$	1,785,256

LAW ENFORCEMENT OFFICERS & FIRE FIGHTERS PLAN 2 RETIREMENT BOARD SCHEDULE OF BIENNIUM EXPENDITURES - BUDGET TO ACTUAL For the Biennium Ended June 30, 2013

						OVER
					((UNDER)
	E	BUDGET	_	ACTUAL	Ţ	BUDGET
Salaries & wages Employee benefits & payroll taxes Personal service contracts	\$	953,169 247,100 86,342	\$	874,043 196,214 54,244 9,732	\$	(79,126) (50,886) (32,098) (8,268)
Goods & services - supplies & materials Goods & services - communications Goods & services - utilities Goods & services - rentals & leases		18,000 29,856 12,025 98,720		28,182 11,440 91,908		(5,200) (1,674) (585) (6,812) (4,000)
Goods & services - repairs & maintenance Goods & services - printing & reproduction Goods & services - employee development Goods & services - furniture & equipment leases Goods & services - subscriptions		4,000 34,141 45,900 12,216 1,861		0 31,119 44,555 11,458 1,477		(3,022) (1,345) (758) (384)
Goods & services - facilities & related services Goods & services - data processing		12,170 9,983		11,975 8,327		(195) (1,656) 1,102
Goods & services - Attorney General's Office Goods & services - personnel services Goods & services - insurance		40,600 381 75		41,702 0 50		(381) (25)
Goods & services - other purchased services Other goods & services Travel, lodging & subsistence		290,759 10,705 86,005		280,591 6,267 69,242		(10,168) (4,438) (16,763)
Capital outlays Total Expenditures	\$	49,992	\$	29,627 1,802,153	\$	(20,365)



Results of Economic Experience Study

Date Presented:

9/25/2013

Presenter Name and Title:

Steve Nelsen, Executive Director

Summary:

The economic assumptions are reviwed every two years during odd years. The Office of the State Actuary will make recommendations for changes, if any, to the long term economic assumptions.

Strategic Linkage:

This item supports the following Strategic Priority Goals: Goal 3 – Maintain the financial integrity of the plan.

ATTACHMENTS:

Description Type

Results of Economic Experience Study
 Correspondence

2013 Economic Experience Study
 Report



Office of the State Actuary

"Securing tomorrow's pensions today."

September 12, 2013

Mr. Steve Nelsen Executive Director LEOFF Plan 2 Retirement Board PO Box 40918 Olympia, Washington 98504-0918

SUBJECT: 2013 ECONOMIC EXPERIENCE STUDY

Dear Steve:

Guided by applicable actuarial standards of practice, we performed an economic experience study to develop a best estimate range for each long-term economic assumption for LEOFF Plan 2. The recommended assumptions represent our best estimate from within each range. We developed them as a consistent set of economic assumptions and advise you to review them as a set of assumptions.

The table below summarizes the current and recommended long-term economic assumptions that apply to LEOFF 2.

Assumption	Current	Recommended
Inflation	3.00%	3.00%
General salary growth	3.75%	3.75%
Annual investment return	7.50%	7.50%

We find all current economic assumptions reasonable and recommend no changes. Even after adjustments to the experience study data to remove short-term salary practices in response to the Great Recession, we observed reductions in observed productivity rates for LEOFF 2 from the 2011 study to this current experience study. However, we recommend maintaining the current assumed level of general salary growth and will consider a reduction to the current merit/longevity salary scale during the next demographic experience study. We plan to complete the next demographic experience study in the summer of 2014.

Please see the <u>2013 Economic Experience Study</u> and the enclosed exhibit on general salary growth for supporting information and analysis. We prepared the <u>2013 Economic Experience Study</u> for the Pension Funding Council, but the analysis in that report applies to LEOFF Plan 2 as well. Please combine the <u>2013 Economic</u>

Phone: 360.786.6140

Fax: 360.586.8135

TDD: 711



Experience Study with this letter and the enclosed exhibit to form a complete actuarial communication for the LEOFF 2 Board.

Please let us know if you have any questions or need further information.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA

State Actuary

Enclosure

cc: Lisa Won

O:\LEOFF 2 Board\2013\9-25\2013_Economic_Experience_Study.docx

Exhibit

LEOFF - 1984 to 2009									
Year of Service	Average Increase in Salary	Average Observed Inflation*	Average Observed Productivity	Average Observed Merit Increase	Currently Assumed Merit Increase	Cumulative Observed Merit Increase	Cumulative Assumed Merit Increase		
0									
1	14.90%	3.13%	0.36%	11.03%	11.00%	111.03%	111.00%		
2	11.47%	3.13%	0.36%	7.71%	7.70%	119.59%	119.55%		
3	9.56%	3.13%	0.36%	5.86%	6.10%	126.60%	126.84%		
4	7.54%	3.13%	0.36%	3.92%	4.00%	131.56%	131.91%		
5	6.38%	3.13%	0.36%	2.79%	2.80%	135.24%	135.61%		
6	5.57%	3.13%	0.36%	2.01%	2.00%	137.96%	138.32%		
7	4.95%	3.13%	0.36%	1.41%	1.60%	139.90%	140.53%		
8	4.92%	3.13%	0.36%	1.38%	1.50%	141.84%	142.64%		
9	4.83%	3.13%	0.36%	1.30%	1.40%	143.68%	144.64%		
10	5.33%	3.13%	0.36%	1.78%	1.70%	146.24%	147.10%		
11	4.79%	3.13%	0.36%	1.26%	1.30%	148.08%	149.01%		
12	4.78%	3.13%	0.36%	1.25%	1.30%	149.93%	150.94%		
13	4.64%	3.13%	0.36%	1.11%	1.30%	151.60%	152.91%		
14	4.98%	3.13%	0.36%	1.44%	1.30%	153.78%	154.89%		
15	4.98%	3.13%	0.36%	1.45%	1.30%	156.00%	156.91%		
16	4.57%	3.13%	0.36%	1.05%	1.10%	157.64%	158.63%		
17	4.68%	3.13%	0.36%	1.16%	1.10%	159.46%	160.38%		
18	4.80%	3.13%	0.36%	1.27%	1.10%	161.48%	162.14%		
19	4.66%	3.13%	0.36%	1.13%	1.10%	163.31%	163.93%		
20	5.03%	3.13%	0.36%	1.49%	1.10%	165.75%	165.73%		

^{*} Average change in the CPI-W, Seattle, Tacoma, Bremerton, from 1984 to 2009. Increase in salary = (1 + observed inflation + observed productivity) * (1 + observed merit) - 1

Report on Financial Condition

and

Economic Experience Study

Prepared for the Pension Funding Council





Office of the State Actuary

"Securing tomorrow's pensions today."

Matthew M. Smith, FCA, EA, MAAA State Actuary

Trent Alsin
Kelly Burkhart
Graham Dyer
Aaron Gutierrez, MPA, JD
Michael Harbour
Elizabeth Hyde
Devon Nichols, MPA
Darren Painter
Christi Steele
Kyle Stineman
Keri Wallis
Lisa Won, ASA, FCA, MAAA

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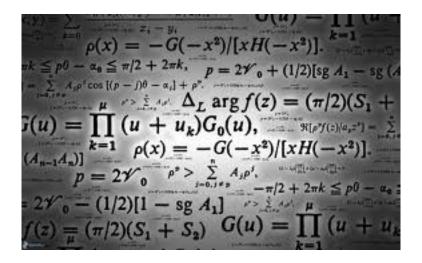
actuary.state@leg.wa.gov osa.leg.wa.gov

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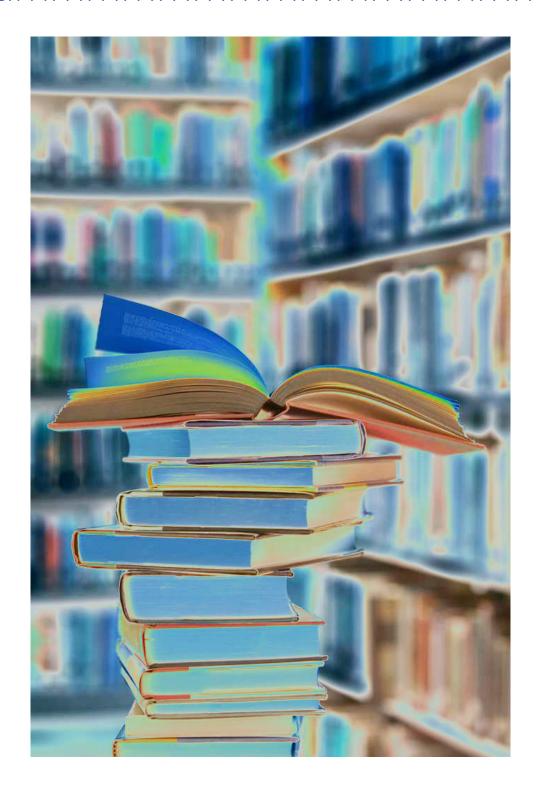






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Executive Summary

Executive Summary

RCW 41.45.030 requires the Office of the State Actuary (OSA) to prepare and submit a report on financial condition and long-term economic experience every two years by September 1. The focus of the **Report on Financial Condition** is on the health of the pension systems, whereas the **Report on Long-Term Economic Assumptions** involves comparing actual economic experience with the assumptions made. Pursuant to statute, the **Report on Long-Term Economic Assumptions** also includes a set of recommended long-term economic assumptions made by the state actuary. Both reports are attached to this executive summary.

The primary purpose of the attached reports is to assist the Pension Funding Council (Council) in evaluating whether to adopt changes to the long-term economic assumptions identified in RCW 41.45.035. We do not recommend using the attached reports for other purposes.

Summary of Reports

Since our <u>2011 Report on Financial Condition</u>, the financial status of the pension systems has declined, but that decline is expected to be short-term and followed by an improvement in the funded status of the plans. Recent investment returns and changes in benefits for new-hires will improve the financial condition of the affected plans. Additionally, the continued phase-in of lower assumed rates of investment return will reduce the long-term risks we expect for the retirement systems. Recent reporting changes adopted by the Governmental Accounting Standards Board (GASB) and Moody's will not affect the financial condition of the plans unless they lead to changes in future funding policy. The outcome of current litigation may change the financial condition of the affected plans.

All current economic assumptions are considered reasonable and fall within our best estimate range. The state actuary's best estimate for total inflation, general salary growth, and growth in system membership match the assumptions prescribed in statute. No changes are recommended for these assumptions. The state actuary's best estimate regarding assumed rate of investment return is 7.5 percent and is below the rate prescribed in statute. However, the recommendation is for a continued phase-in of the rate of investment return assumption, over the next eight years, until 7.5 percent is achieved.

Summary of Financial Condition

At the time of our 2011 Report on Financial Condition, we saw an overall improvement in financial condition of our pension systems from the previous report in 2009. This was largely due to improved investment performance, funding, and benefit changes during the 2011 Legislative Session.

Since our 2011 Report on Financial Condition, the financial status of the pension systems has declined slightly. However, that decline is expected to be short-term and followed by an improvement in the funded status of the plans due, in part, to steps that have been taken to improve the overall financial condition of the plans.

Investment Return Experience Expected to Improve Long-Term Financial Condition, Short-Term Decline in Funded Status Still Expected

During the Great Recession of 2009, nearly all public pension plans experienced large investment losses from 2008-2009, including Washington's. We saw investment returns for the fiscal years ending June 30, 2008, and June 30, 2009, at -1.2 percent and -22.8 percent, respectively.

Since the Great Recession of 2009, short-term investment returns have continued to, on average, exceed expectations. We expected an 8 percent return on investments for 2008-2011 and 7.9 percent return on investments for 2012 and 2013. We saw higher than expected investment returns for Washington's Commingled Trust Fund (CTF) for the fiscal years ending June 30, 2010, June 30, 2011, and June 30, 2013, at 13.2 percent, 21.1 percent, and 12.4 percent, respectively. Since the recession, we have only seen one year with lower than expected investment returns at 1.4 percent in 2012. However, with the recession factored in, on average we have seen investment returns below long-term expectations over the past six years at 2.95 percent.

While higher than expected returns since the Great Recession have helped the funded status of the plans, we continue to see the funded status decline overall due to the continued impact of investment losses seen during the Great Recession.

Funded Status as of June 30								
Plan	2010*	2011	2012**					
PERS 1	74%	71%	69%					
PERS 2/3	113%	112%	111%					
TRS 1	84%	81%	79%					
TRS 2/3	116%	113%	114%					
SERS 2/3	113%	110%	110%					
PSERS 2	129%	132%	134%					
LEOFF 1	127%	135%	135%					
WSPRS 1/2	118%	115%	114%					

^{*}After Uniform Cost Of Lliving Adjustment repeal (consistent with 2010 Actuarial Valuation Report).

We present the funded status measured at June 30, 2010, June 30, 2011, and June 30, 2012, in the table to the left.

The decline in funded status shown to the left is less than expected in our previous report, mainly due to the recent higher than expected investment returns. We also expect the funded status to improve for all plans in the future. However, future funded status will depend on actual investment performance and future contribution and benefit levels.

Lower Investment Return Assumption Increases Liabilities in the Short Term, Improves Long-Term Risk

During the 2012 Session, the Legislature lowered the prescribed rate of investment return assumption from 8.0 percent to 7.7 percent over three biennia, beginning in 2013-15. As a result of this lowered assumption, downward pressure was placed on the funded status and financial condition of the plans in the short-term. However, financial risk is subsequently lowered when our assumption for future returns is closer to actual experience, which will result in better long-term financial health.

^{**}Based on 2012 AVR results.

Recent Benefit Changes Will Improve Financial Condition

The same legislation mentioned previously (Chapter 7, Laws of 2012, First Special Session) also included a provision that reduced subsidized early retirement benefits (ERFs) for members hired after May 1, 2013, in Plans 2/3 of PERS, TRS, and SERS. Generally, lowering benefits lowers the liabilities of a plan, which subsequently increases the funded status. We expect to see an increase in funded status in the future as a result of this legislation, but it will take some time for new hires to replace existing members.

Litigation May Change Financial Condition

There are currently two pending Supreme Court cases - gain-sharing and Plan 1 Uniform Cost Of Living Adjustment (UCOLA) — that are scheduled to be heard as companion cases in the fall of 2013.

The potential reinstatement of gain-sharing benefits or the UCOLA would change

Estimated Funded Status on an Actuarial Value Basis									
(Dollars in Millions)	PE	PERS TRS							
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3				
2012 AVR ¹	69%	111%	79%	114%	110%				
w/ Gain Sharing (GS) ²	66%	111%	76%	108%	103%				
w/ UCOLA ³	60%	111%	65%	114%	110%				
w/ GS & UCOLA ⁴	57%	111%	63%	108%	103%				

¹ Based on 2012 Actuarial Valuation results (AVR).

the results of the attached report on financial condition. The tables on this page demonstrate how current funded status and budget impacts could change should the court reinstate gain-sharing, the UCOLA, or both.

2015-17 Estimated Employer Contributions from the State General Fund							
(Dollars in Millions)	Increase in Contributions After Restoration of Gain-Sharing ¹	Increase in Contributions After Restoration of UCOLA ²	Increase in Contributions After Restoration of Gain- Sharing and UCOLA ³				
PERS	\$24	\$67	\$95				
TRS	\$139	\$293	\$447				
SERS	\$35	\$28	\$65				
PSERS	\$2	\$7	\$9				
Total	\$199	\$395	\$616				

¹ Based on AVR results after restoration of gain-sharing and continuation of replacement benefits.

² Based on AVR results after restoration of gain sharing and continuation of replacement benefits.

³ Based on AVR results after restoration of UCOLA.

⁴ Based on AVR results after restoration of gain sharing and UCOLA.

² Based on AVR results after restoration of UCOLA.

³ Based on AVR results after restoration of gain-sharing and UCOLA.

2015-17 Estimated Total Employer Contributions						
(Dollars in Millions)	Increase in Contributions After Restoration of Gain-Sharing ¹	Increase in Contributions After Restoration of UCOLA ²	Increase in Contributions After Restoration of Gain- Sharing and UCOLA ³			
PERS	\$126	\$356	\$502			
TRS	\$209	\$441	\$675			
SERS	\$79	\$62	\$145			
PSERS	\$3	\$10	\$14			
Total	\$417	\$871	\$1,336			

¹ Based on AVR results after restoration of gain-sharing and continuation of replacement benefits.

Upcoming Reporting Changes Will Not Change the Funded Status of the Pension Systems

State and local governments will soon be required to distinguish several separate pension measurements due to recent announcements by GASB and certain credit rating agencies (Moody's).

GASB and Moody's measurements each have a specific purpose and neither is meant to be used in the calculation that determines the appropriate annual contribution that employers and members must make in order to maintain the soundness of the pension systems. Therefore, an important thing to keep in mind is that none of these reporting and calculation changes will actually alter the financial condition of the pension systems unless they lead to changes in future funding policy.

Summary

While the financial condition of the pension systems has declined in recent years, steps have been taken to improve the overall financial condition of the pension system. We advise the Council to consider the following three outstanding issues when contemplating future pension action.

- 1. We expect contribution rates to increase, as remaining asset losses from 2008-2009 are recognized and lower rate of return assumptions are phased-in, before approaching expected long-term levels. While higher contribution rates result in additional prefunding and improved long-term financial condition of the plans, they put pressure on near-term budgets. If increasing contribution levels cannot be met, the financial condition of the plans will most likely decline.
- 2. A court reinstatement of recently repealed benefits would negatively impact the financial condition of the pension systems.
- 3. Volatility or swings in financial markets can weaken or improve the financial condition of a pension system over a short period of time. Continued full funding and the maintenance of affordable/sustainable plan designs will help the pension systems weather such volatility.

² Based on AVR results after restoration of UCOLA.

³ Based on AVR results after restoration of gain-sharing and UCOLA.

Please see the attached **Report on Financial Condition** for further discussion and supporting data.

Summary of Long-Term Economic Assumptions

According to RCW 41.45.030(2), the Pension Funding Council may adopt changes to the long-term economic assumptions every two years by October 31. As an example, the assumptions adopted by October 31, 2013, will be effective July 1, 2015, for contribution rate-setting purposes. Any changes adopted by the Council are subject to revision by the Legislature.

Guided by applicable actuarial standards of practice, OSA performed an economic experience study to develop a best estimate range for each long-term economic assumption. The recommended assumptions represent the state actuary's best estimate from within each range. We developed them as a consistent set of economic assumptions and it is recommended to review them as a set of assumptions.

Lower Long-Term Rate of Return Recommended

The table to the right summarizes the current and recommended long-term economic assumptions.

All current economic assumptions are considered reasonable and fall within our best estimate range.

Assumption	Current	Recommended	
Inflation	3.00%	3.00%	
General salary growth	3.75%	3.75%	
Annual investment return*	7.90%	7.50%	
Growth in system membership*	.80% (TRS),	.80% (TRS),	
Growth in System membership	.95% (others)	.95% (others)	

^{*}Excludes LEOFF 2.

The state actuary recommends maintaining current long-term economic assumptions for total inflation, general salary growth, and growth in system membership and a continuation of the phase-in of the rate of investment return assumption, until 7.5 percent is achieved.

Continued Phase-In of Lower Assumed Rate of Return Recommended

At the time of the <u>2011 Economic Experience Study</u> the state actuary recommended adoption of a phase-in approach to lowering the annual rate of investment return assumption from 8 percent to 7.50 percent. In response to this recommendation the Legislature passed legislation that included a phase-in of a lower rate of return assumption over three biennia. Current statute requires the rate of return assumption to be lowered by ten basis points each biennium beginning with the 2013-15 Biennium and continuing until the 2017-19 Biennium.

The state actuary recommends a continuation of the phase-in over the next eight years until 7.5 percent is achieved in 2021-23, as shown in the table to the right.

Please see the enclosed **Report on Long- Term Economic Assumptions** for details and supporting data, including risk analysis.

Investment Return Phase-In					
Biennium Current Law Recommendo					
2013-15	7.90%	7.90%			
2015-17	7.80%	7.80%			
2017-19	7.70%	7.70%			
2019-21	7.70%	7.60%			
2021-23	7.70%	7.50%			

Office of the State Actuary: 2013 Report on Financial Condition and Economic Experience Study				

Report on Financial Condition

As required under RCW 41.45.030, we present this **Report on Financial Condition** (Report), along with the **Economic Experience Study**, to assist the Pension Funding Council in evaluating whether to adopt changes to the long-term economic assumptions identified in RCW 41.45.035. We do not advise readers of this report to use the information contained herein for other purposes. Please see the **Actuarial Certification Letter** for additional considerations.

In this report, we focus on the funded status as a measure of the plans' health and financial condition. We measured the funded status by dividing the plan's assets by the liabilities at a single point in time. The assets of the plan are based on the actuarial or smoothed value, which helps limit the fluctuation in results from year to year that would occur if the market value of assets was used in this measure. The liabilities are today's value (present value) of all future benefits that will be paid out to current members and retirees based on what has been "earned" as of the measurement date. In determining the present value, we discount future benefit payments by the expected annual rate of return on assets.

At the highest level, this funded status measurement helps evaluate whether a plan is on target with its funding policy (or financing plan). A plan with a funded status of at least 100 percent is on target with its financing plan; whereas a plan with a funded status below 100 percent is off target. Generally speaking, a plan that's off target will require additional contributions over time to get back on track. The degree of increase and the length of time required will depend on other measurements (i.e., plan maturity, amount of remaining benefits, salary and revenue available to collect additional contributions, etc.) However, it's important to note that a plan with less than a 100 percent funded status is not automatically "at risk" of not being able to meet future benefit obligations. Conversely, a plan with a funded status above 100 percent is not necessarily over funded.

In reviewing the financial condition of the plans, we also look at the changes since the 2011 Report on Financial Condition and how we expect the financial condition to change in the future. This helps determine the path of financial health the plans are on and identify certain risks the plans face in the future. We discuss these changes in the context of the funded status and what is impacting either the assets or liabilities.

Under current funding policy, investment returns primarily drive changes to asset levels while the main drivers to changes in the liabilities include the discount rate (or future investment return expectations) and changes to the current benefit structure. The following sections discuss these key drivers and their impact on the financial condition of the plans.

Recent Investment Return Experience Expected To Improve Financial Condition, Short Term Decline in Funded Status Still Expected

Since the Great Recession of 2009, short-term investment returns have continued to, on average, exceed long-term expectations. We saw higher than expected investment returns in 2010, 2011, and 2013 with 13.22 percent, 21.14 percent, and 12.36 percent respectively. Since the recession, we have seen only one year (2012) with lower than expected investment returns at 1.4 percent. However, on average, we have seen investment returns below long-term expectations over the past six years.

Historical Plan Performance					
Fiscal Year Ending 30-Jun	Actual Investment Return	Expected Investment Return			
2008	(1.24%)	8.00%			
2009	(22.84%)	8.00%			
2010	13.22%	8.00%			
2011	21.14%	8.00%			
2012	1.40%	7.90%			
2013	12.36%	7.90%			
Average	2.95%	7.97%			

The higher than expected returns since the Great Recession improved the funded status of the plans. However, primarily because average annual investment returns over the past six years are below expectations, we are continuing to see the funded status for some plans decline as shown in the table below.

	Funded Status as of June 30						
Plan	2010*	2011	2012**				
PERS 1	74%	71%	69%				
PERS 2/3	113%	112%	111%				
TRS 1	84%	81%	79%				
TRS 2/3	116%	113%	114%				
SERS 2/3	113%	110%	110%				
PSERS 2	129%	132%	134%				
LEOFF 1	127%	135%	135%				
WSPRS 1/2	118%	115%	114%				

^{*}After Uniform Cost Of Lliving Adjustment repeal (consistent with 2010 Actuarial Valuation Report).

Although we're seeing a decline in the funded status for some plans, this decline is less than we expected in our last report due to the higher than expected returns over the past few years. We also expect to see the funded status begin to improve for all plans. However, actual funded status in the future will depend on future contribution levels, actual future investment returns, and actual future benefit levels, which may vary from our expectations.

^{**}Based on 2012 AVR results.

Lower Investment Return Assumption Increases Liabilities in the Short Term, Improves Long-Term Risk

Chapter 7, Laws of 2012, First Special Session lowered the prescribed rate of investment return assumption from 8.0 percent to 7.7 percent over a three-biennia period beginning in 2013-15. Lowering the investment return assumption (discount rate) increases the present value of the liabilities and puts downward pressure on the funded status and financial condition of the plans in the short-term. However, the closer the investment return assumption is to our best estimate for future returns, the lower the financial risk we expect for the plans. While we expect the plans will experience a short term decline in funded status during the phase-in of the lower investment return assumption, we expect they will be in a better financial position over the longer-term due to the lower investment return assumption.

Recent Benefit Changes For New Hires Will Improve Financial Condition

Chapter 7, Laws of 2012, First Special Session also reduced subsidized Early Retirement Factors (ERFs) for members hired after May 1, 2013, in Plans 2/3 of PERS, TRS, and SERS retirement systems. All else being equal, lowering benefits lowers the liabilities of the plan which increases the funded status. However, because this recent benefit change is effective after the date of our measurements we do not see any impact to the liabilities in this report. Also, since this benefit change only impacts new members joining the plan after May 1, 2013, it will take some time before this change will start to impact the liabilities and funded status.

Current Litigation May Increase Benefits and Impact the Financial Condition

We assessed the financial condition of the pension systems based on the plan provisions that exist in current law. However, there are currently two pending Supreme Court cases scheduled to be heard in the fall of 2013. The decisions in those cases could impact the financial condition of the pension systems.

The Legislature repealed gain-sharing provisions available to certain members of the state retirement systems in 2007 and adopted replacement benefits, including alternate early retirement benefits, for PERS, TRS, and SERS Plans 2/3 members, and an addition to the PERS and TRS Plan 1 Uniform Cost Of Living Allowance (UCOLA) (collectively, the "replacement benefits"). In 2011, the Legislature repealed the UCOLA benefit, an annual benefit increase for PERS 1 and TRS 1 retirees. The trial court reinstated gain-sharing, but found constitutional the repeal of the replacement benefits for Plan 1 and Plan 3 members, and reinstated the UCOLA for those Plan 1 members who worked at any time after the UCOLA was enacted. Both the state and the plaintiffs appealed these decisions. The Supreme Court will hear both the gain-sharing and UCOLA lawsuits as companion cases. Should the Supreme Court uphold lower court decisions, gain-sharing and UCOLA benefits would be reinstated for certain members, and the replacement benefits would continue only for PERS, TRS, and SERS Plan 2 members.

The potential reinstatement of these benefits would pose a unique risk to the pension systems. Generally, when we model risks to the pension systems and show a range of

possible outcomes, most of the outcomes occur between the extremes. In other words, a broad spectrum of possibilities exists and the worst-case scenario is highly unlikely to occur. Also, each risk usually occurs many times (e.g., investment returns occur each year), and a bad outcome one year can be offset in the future. However, for purposes of modeling, these litigation risks have only two possible outcomes — either the repeal of the benefits stands or the benefits are reinstated. They are also, for purposes of modeling, one-time decisions that would not be offset in future years.

If gain-sharing is reinstated, certain members of the state retirement plans will receive a benefit for the 2014 gain-sharing event based on investment returns in the prior four fiscal years and receive future gain-sharing benefits when a gain-sharing event occurs. The 2014 gain-sharing benefit would be smaller than the one seen in 2008 but would still affect the financial condition of the pension systems through an unexpected release of assets or an unexpected increase in future Plan 1 benefit payments. The larger impact on the affected plans' financial condition would occur from the unexpected increase in liability from the recognition of the cost of future gain-sharing benefits beyond 2014.

Estimated Funded Status on an Actuarial Value Basis						
(Dollars in Millions)	PERS		TRS		SERS	
	Plan 1	Plan 2/3	Plan 1	Plan 2/3	Plan 2/3	
2012 AVR ¹	69%	111%	79%	114%	110%	
w/ Gain Sharing (GS) ²	66%	111%	76%	108%	103%	
w/ UCOLA ³	60%	111%	65%	114%	110%	
w/ GS & UCOLA4	57%	111%	63%	108%	103%	

¹ Based on 2012 Actuarial Valuation results (AVR).

The table to the left shows the estimated funded status, as of June 30, 2012, of the affected plans if the court reinstates gain-sharing, the UCOLA, or both. Please note, the first row of numbers, labeled 2012 Actuarial Valuation Report (AVR), displays the funded status measured at June 30, 2012, without future gain-

sharing or UCOLA benefits (assuming the repeals are upheld). (For PERS 1 and TRS 1, note the effect of reinstating both benefits is larger than the effect of reinstating each on their own due to the interaction of these benefits).

In addition to the funded status decreasing, the reinstatement of both benefits, under current funding policy, would have an impact on employer contribution rates and state and local government budgets.

The tables on the following page shows the estimated impact on contribution rates and budget impacts when we assume an effective date at the beginning of the 2015-17 Biennium under current funding policy. The actual effective date and funding policy may vary from what we assumed.

² Based on AVR results after restoration of gain sharing and continuation of replacement benefits.

³ Based on AVR results after restoration of UCOLA.

⁴ Based on AVR results after restoration of gain sharing and UCOLA.

Estimated 2015-17 Impact on Contribution Rates					
System/Plan	PERS	TRS	SERS	PSERS	
Reinstatement of Gain-Sharing					
Employee (Plan 2)	0.00%	0.00%	0.00%	0.00%	
Employer					
Normal Cost	0.26%	1.56%	2.40%	0.00%	
Plan 1 UAAL	0.42%	0.73%	0.42%	0.42%	
Total	0.68%	2.29%	2.82%	0.42%	
Reinstatement of UCOLA					
Employee (Plan 2)	0.00%	0.00%	0.00%	0.00%	
Employer					
Normal Cost	0.00%	0.00%	0.00%	0.00%	
Plan 1 UAAL	1.77%	4.18%	1.77%	1.77%	
Total	1.77%	4.18%	1.77%	1.77%	
Reinstatement of Gain-Sharing	g and UCOLA				
Employee (Plan 2)	0.00%	0.00%	0.00%	0.00%	
Employer					
Normal Cost	0.26%	1.56%	2.40%	0.00%	
Plan 1 UAAL	2.30%	5.15%	2.30%	2.30%	
Total	2.56%	6.70%	4.70%	2.30%	

The table below shows the estimated 2015-17 budget impacts.

2015-17 Estimated Budget Impacts					
(Dollars in Millions)	PERS	TRS	SERS	PSERS	Total
Reinstatement of Gain-Sharing					
General Fund	\$24	\$139	\$35	\$2	\$199
Non-General Fund	37	0	0	0	37
Total State	\$61	\$139	\$35	\$2	\$237
Local Government	65	71	44	1	180
Total Employer	\$126	\$209	\$79	\$3	\$417
Total Employee	\$0	\$0	\$0	\$0	\$0
Reinstatement of UCOLA	4				
General Fund	\$67	\$293	\$28	\$7	\$395
Non-General Fund	105	0	0	1	106
Total State	\$172	\$293	\$28	\$8	\$501
Local Government	184	149	35	2	370
Total Employer	\$356	\$441	\$62	\$10	\$871
Total Employee	\$0	\$0	\$0	\$0	\$0
Reinstatement of Gain-S	haring and	UCOLA			
General Fund	\$95	\$447	\$65	\$9	\$616
Non-General Fund	148	0	0	1	150
Total State	\$243	\$447	\$65	\$11	\$766
Local Government	260	227	81	3	570
Total Employer	\$502	\$675	\$145	\$14	\$1,336
Total Employee	\$0	\$0	\$0	\$0	\$0

Note: Totals may not agree due to rounding. We use long-term assumptions to produce our short-term budget impacts. Therefore, our short-term budget impacts will likely vary from estimates produced from other short-term budget models.

Important Note: The estimated impacts for the reinstatement of gain-sharing also include continuation of the replacement benefits for members of PERS and TRS Plans 1, 2, and 3 and SERS Plans 2/3 members. Should the Supreme Court uphold the lower court decision restoring gain-sharing, but repeal the replacement benefits for all members of PERS, TRS, and SERS, (including Plans 2) the early retirement benefits would not be available to anyone who had not yet retired and received his or her first monthly retirement allowance. Furthermore, the estimated impacts for the reinstatement of the UCOLA benefits assume reinstatement for all members in PERS 1 and TRS 1. Should the Supreme Court uphold the lower court decision on the UCOLA, the UCOLA would be reinstated for only certain Plan 1 members. As a result, the actual impacts of any reinstatement of benefits could be lower than estimated above.

Upcoming Reporting Changes Will Not Affect the Funded Status of the Pension Systems

There are multiple changes coming to how we will calculate and report pension liabilities due to recent announcements by the Governmental Accounting Standards Board (GASB) and certain credit rating agencies (Moody's). State and local governments will soon be required to distinguish several separate pension measurements, each for their own different purpose. The important thing to keep in mind is that none of these changes will actually change the financial condition of the pension systems unless they lead to changes in future funding policy.

GASB and Moody's measurements each have a specific purpose and neither is meant to be used in the calculation that determines the appropriate annual contribution that employers and members must make in order to maintain the soundness of the pension systems.

GASB changes are to take place in phases beginning in Fiscal Year 2014 and include new reporting requirements for local employers. New measurements from Moody's are aimed at creating more consistency between the states (and municipal plans) when calculating pension obligations for the purpose of government bond ratings. These upcoming reporting changes do not affect current funding policies or statutes for the state.

Summary

Since our 2011 Report on Financial Condition, the financial status of the pension systems has continued to decline but that decline is expected to be short-term and followed by an improvement in the funded status. Recent investment returns and changes in benefits for new hires will improve the financial condition of the affected plans. The continued phase-in of lower assumed rates of investment return will reduce the long-term risks we expect for the retirement systems. Recent reporting changes adopted by GASB and Moody's will not affect the financial condition of the plans unless they lead to changes in future funding policy.

While the financial condition of the pension systems has declined in recent years and steps have been taken to improve the overall financial condition, we advise the Council to consider the following three outstanding issues when contemplating future pension action.

- 1. We expect contribution rates to increase, as remaining asset losses from 2008-2009 are recognized and lower rate of return assumptions are phased-in, before approaching expected long-term levels. While higher contribution rates result in additional prefunding and improved long-term financial condition of the plans, they put pressure on near-term budgets. If increasing contribution levels cannot be met, the financial condition of the plans will most likely decline.
- 2. A court reinstatement of recently repealed benefits would negatively impact the financial condition of the pension systems.
- 3. Volatility or swings in financial markets can weaken or improve the financial condition of a pension system over a short period of time. Continued full funding and the maintenance of affordable/sustainable plan designs will help the pension systems weather such volatility.

Data, Assumptions, and Methods Used

We performed this analysis consistent with the *June 30, 2012, Actuarial Valuation Report* (AVR). We used asset information and participant data as of June 30, 2012. We have provided the June 30, 2013 asset returns for informational purposes only. Assets and liabilities measured at June 30, 2013, will be reflected in the 2013 Actuarial Valuation Report.

In estimating the cost of reinstating the UCOLA, we added back the liability (adjusted with interest) that was removed in 2011 when the UCOLA was removed prospectively. We compared the funded status and contribution rates with this additional liability to the funded status and contribution rates without this liability to determine the change in funded status and contribution rates. We applied the change in contribution rates to projected payroll to estimate the budget impacts for 2015-17. For purposes of this estimate, we assumed the UCOLA would be reinstated immediately. We did not include a liability for any back payments. Please see the actuarial fiscal note for SHB 2021 (2011) for a complete description of the data, assumptions and methods we used to determine the liability removed when the UCOLA was repealed.

In estimating the cost of reinstating gain-sharing benefits, we added back the liability (adjusted with interest) that was removed in 2007 when gain-sharing was removed prospectively. We compared the funded status and contribution rates with this additional liability to the funded status and contribution rates without this liability to determine the change in funded status and contribution rates. We applied the change in contribution rates to projected payroll to estimate the budget impacts for 2015-17. For purposes of this estimate, we assumed gain-sharing benefits would be reinstated only for members who were eligible to receive the 2008 gain-sharing event. The method for calculating the cost of gain sharing is consistent with the method used in our actuarial fiscal note for EHB 2391 from the 2007 Legislative session (the repeal of gain-sharing). For measuring the cost of reinstating gain-sharing benefits, we used a reduction in the assumed rate of investment return of 0.40 percent for PERS and TRS Plans 1, 0.04 percent for PERS 2/3, 0.33 percent for TRS 2/3, and 0.44 percent for SERS 2/3. Please see the actuarial fiscal note for EHB 2391 (2007) for a complete description of the data, assumptions and methods we used to determine the liability removed when gain-sharing was repealed.



Office of the State Actuary

"Securing tomorrow's pensions today."

Actuarial Certification Report on Financial Condition

August 30, 2013

This report documents the results of an actuarial assessment of the financial condition of the retirement plans defined under Chapters 41.26 (excluding Plan 2), 41.32, 41.35, 41.37, 41.40, and 43.43 of the Revised Code of Washington. The primary purpose of this assessment is to assist the Pension Funding Council in evaluating whether to adopt changes to the long-term economic assumptions identified in RCW 41.45.035. We understand the report may be used for other purposes, including an identification of risks facing the retirement plans documented above. However, this report does not represent a complete risk analysis of these retirement plans. Please replace this report in the future when the result of a more recent assessment becomes available.

Please see the 2012 Actuarial Valuation Report (AVR) for the data, assumptions, and methods used in determining the actuarial valuation results for this report. Please see the Actuarial Certification in the 2012 AVR for additional information concerning the development, purpose, and use of the 2012 actuarial valuation results. Participant data reflects retirement system census data through June 30, 2012. Asset data reflects returns through June 30, 2013.

The Department of Retirement Systems provided 2012 member and beneficiary data to us. We checked the data for reasonableness as appropriate based on the purpose of this report. The Washington State Investment Board provided asset information as of June 30, 2013. An audit of the financial and participant data was not performed. We relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this assessment.

This report involves the interpretation of many factors and the application of professional judgment. We believe that the data, assumptions, and methods used in the underlying report are reasonable and appropriate for the primary purpose stated above. The use of another set of data, assumptions, and methods, however, could also be reasonable and could produce materially different results. Another actuary may review the results of this analysis and reach different conclusions or decide to use different assumptions and methods.

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Report on Financial Condition
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In our opinion, all methods, assumptions, and calculations are reasonable and are in conformity with generally accepted actuarial principles and applicable standards of practice as of the date of this publication.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA

State Actuary

Lisa Won, ASA, FCA, MAAA

Senior Actuary

Office of the State Actua	ry: 2013 Report on Finan	icial Condition	

Economic Experience Study

General Approach to Setting Economic Assumptions

Actuarial Standard of Practice Number 27 (ASOP 27), titled Selection of Economic Assumptions for Measuring Pension Obligations, identifies the following process for selecting economic assumptions:

- Identify components, if any, of each assumption and evaluate relevant data.
- ♦ Develop a best-estimate range for each economic assumption.
- ♦ Select a specific point estimate within the best-estimate range.
- ♦ Review the set of economic assumptions for consistency.

For each economic assumption, the best-estimate range is "the narrowest range within which the actuary reasonably anticipates that the actual results, compounded over the measurement period, are more likely than not to fall." The measurement period is the time period after the valuation date when a particular economic assumption will apply. Pension funding occurs over long time periods; therefore, the measurement period for economic assumptions can easily exceed fifty years.

The "building block" method is one acceptable method for setting economic assumptions identified in ASOP 27. Using this method, the actuary determines the individual components for each economic assumption. Then the actuary may combine estimates for each applicable component to arrive at a best-estimate range for the given economic assumption. With the exception of annual growth in system membership assumption, we used the building block method to develop each assumption in the 2013 Economic Experience Study.

Experience Study and Recommended Assumptions

We will identify the following for each assumption we studied:

- ♦ How the assumption is used for funding in our model.
- ♦ The single point best-estimate and its best-estimate range.
- ♦ The data we studied and how we analyzed the data.
- ♦ How we developed each assumption.

Total Inflation Assumption

For funding purposes, we primarily use total inflation to model post-retirement Cost-Of-Living-Adjustments (COLAs). Retired members from Plans 2/3, WSPRS, and PERS and TRS 1 (available for members that elected the optional COLA payment form at retirement), and LEOFF, who currently receive a pension from the Washington State retirement systems and receive a COLA based on changes in the Consumer Price Index (CPI). The CPI used is the Seattle, Tacoma, Bremerton (STB) CPI for Urban Wage Earners and Clerical Workers (CPI-W). We also use total inflation or components of total inflation in the development of the salary growth and investment return assumptions.

In developing this assumption, we relied on historical inflation data from the Bureau of Labor and Statistics (BLS) and the Bureau of Economic Analysis (BEA). We also considered estimates on future inflation from third party sources. Additionally, we consulted with the Washington State Investment Board (WSIB) and the Economic and Revenue Forecast Council (ERFC).

During the 2011 Economic Experience Study, we recommended lowering the total inflation assumption from 3.50 percent to 3.00 percent based on historical experience and expectations on future inflation. We compared the 25-year average inflation and expectations on long-term inflation from this experience study and the last study two years ago. We did not observe a material change in total inflation — either historical averages or long-term expectations.

We have observed lower inflation rates over the past five years than the current inflation assumption, which may be a result of the Federal Reserve's targeted inflation rate. However, we believe this monetary policy, combined with "Quantitative Easing" (QE), will not continue indefinitely. Finally, since our inflation assumption is used to project post-retirement COLAs, which are long-term, we put more weight on long-term historical inflation rather than short-term experience or short-term projections.

We studied future broad economic assumptions and National CPI projections from the ERFC, Global Insight (GI), the Social Security Administration (SSA), and the Congressional Budget Office (CBO). These four entities had varying opinions on future inflation, however they all project inflation less than or approximately equal to the average historical inflation over the past 25 years (Please see **Appendix B** for more details).

For the reasons stated above, we are recommending no change in the total inflation assumption from the current assumptions that were adopted by the Pension Funding Council in 2011.

Best Estimate Range

Total Inflation

1.60 percent to 4.20 percent

Recommendation

Total Inflation

3.00 percent*

*Includes 2.40 percent broad economic inflation, 0.30 percent national price inflation differential, and 0.30 percent regional price inflation differential

Current Assumption

Total Inflation

3.00 percent

Data

Historical Inflation Data (Appendix A)

Projected Gross Domestic Product (GDP) Deflator and National CPI (Appendix B)

Methodology

We use the building block method to develop our total inflation assumption, which requires the actuary to determine the components of each assumption and make an estimate for each component. The estimated components for each assumption are then combined to arrive at a best estimate for the assumption.

For the total inflation assumption we used three building block components to create our assumption: broad economic inflation, National CPI-W adjustment (national price differential), and STB CPI-W adjustment (regional price differential). The combination of all three components will be referred to as total inflation in this report. We made a recommendation on total inflation only; however, we studied each inflation component individually and how they compare to each other (please see the **Analysis** section for a detailed discussion).

In addition to using the building block method to develop our total inflation assumption, we also used it to develop our nominal investment return assumption and our general salary growth assumption. Nominal investment return and general salary growth both use total inflation or components of total inflation as one of their building block components.

Analysis

Broad Economic Inflation

Assumption

2.40 percent

Best Estimate Range

1.50 percent to 3.30 percent

The base for our total inflation assumption is the GDP deflator for Personal Consumption Expenditures (PCE). The GDP deflator measures the changes in both price and quantity of the goods produced in a country and provides an indication of whether an economy is growing or shrinking. The GDP deflator was used as our broad economic inflation component because it does not react solely to changes in price like a CPI.

Our annual investment return assumption uses the GDP deflator as one of its two building block components since the GDP deflator measures an economy's growth. Please see the **Investment Return** section for additional details.

We studied the historical GDP deflator produced by the BEA as well as GDP deflator projections from the ERFC, GI, SSA, and the CBO. Our best estimate assumption for broad economic inflation, 2.40 percent per year, corresponds with the average GDP deflator over the past 25 years rounded to the nearest tenth (please see **Appendix A** for more details). Our best estimate broad economic inflation assumption is also equal to SSA's ultimate GDP deflator under intermediate-cost projections. SSA expects their intermediate-cost GDP deflator to reach an ultimate rate of 2.40 percent in 2015. Our best estimate broad economic inflation is greater than CBO and GI's ultimate GDP deflators which reflect the Federal Reserve's inflation target of approximately 2 percent. We don't believe this policy, combined with QE, will continue indefinitely. QE generally consists of increasing the monetary base through large-scale asset purchasing and lending programs by the Federal Reserve to stimulate economic growth and put downward pressure on longer-term interest rates.*

Given the inherent uncertainty of long-term future inflation, we believe it is reasonable to select 2.40 percent as our best estimate.

The low end of the best estimate range corresponds to SSA's low-cost ultimate GDP deflator assumption. SSA projects the low-cost GDP deflator to reach its ultimate rate of 1.50 percent in 2017.

The high end of the best estimate range corresponds to SSA's high-cost ultimate GDP deflator assumption. SSA projects the high-cost GDP deflator to reach its ultimate rate of 3.30 percent in 2019.

*Sources: Board of Governors of the Federal Reserve; Federal Reserve Bank of St. Louis, Four Stories of QE.

National CPI-W Price Differential

Assumption

0.30 percent

Best Estimate Range

0.10 percent to 0.50 percent

The CPI provides another measure of inflation. It measures changes in price for a fixed basket of goods. A CPI strictly measures price inflation. It does not take into account changes in consumption habits. The BLS produced the CPI that we studied. BLS

produces different CPIs based on different baskets of goods, for different regions of the country, or both.

The National CPI-W price differential is the difference between the National CPI-W and the GDP deflator. Our best estimate assumption for National CPI-W price differential, 0.30 percent per year, corresponds with historical and projected price differentials.

We observed the National CPI-W price differential over the past 25 years to be approximately 0.40% (2.84% - 2.42 % = 0.41%). The best estimate National CPI-W price differential is higher than the average GI projected National CPI price differential (0.15 percent) and the average ERFC projected National CPI price differential (0.19 percent). The best estimate National CPI price differential is equal to the projected ultimate CBO National CPI price differential, but lower than the ultimate SSA intermediate-cost price differential (0.40 percent). The average National CPI price differential of these four publications is 0.26 percent; which, rounded to the nearest tenth, corresponds with our best estimate.

The National CPI-W price differential's best estimate range includes all projected National CPI price differentials we studied. The GI National CPI-W price differential and the ultimate SSA high cost National CPI price differential represent the low and high ends of the best estimate range respectively. Please see **Appendix B** for a table illustrating annually projected National-CPI price differentials from each publication.

The addition of our best estimates for broad economic inflation and National CPI-W price differential creates a National CPI-W best estimate of 2.70 percent (2.40 percent plus 0.30 percent). The National CPI-W best estimate corresponds with the 2.70 percent inflation assumed in WSIB's 2013 Capital Market Assumptions (CMAs).

Seattle, Tacoma, Bremerton (STB) CPI-W Price Differential

Assumption

0.30 percent

Best Estimate Range

0.00 percent to 0.40 percent

We based the STB CPI-W regional price differential on the rounded average difference between STB CPI-W and national CPI-W over the last 25 years (3.19% - 2.84% = 0.35%). The lower end of the best estimate range is consistent with the average STB CPI-W adjustment over the last ten years (rounded up), and the higher end of the best estimate range is consistent with the average STB CPI-W adjustment over the last twenty-five years (rounded up).

STB CPI-W has been larger, on average, than the National CPI-W since 1950. However, STB CPI-W may not always be larger than the National CPI-W. For instance, National CPI-W was larger than the STB CPI-W during the 1970s and 1980s. We will continue to monitor this and consider adjusting or potentially removing our STB regional price differential if the historical STB regional price differential begins to narrow considerably over longer-term experience periods.

Total Inflation

We studied both the National CPI-W and the STB CPI-W and reviewed how they compared to the GDP deflator. In general, National CPI-W has a higher inflation than the GDP Deflator and the STB CPI-W has a higher inflation than National CPI-W. We built our total inflation assumption by adding National and regional CPI-W price differentials to our broad economic inflation assumption. We assume the GDP deflator is embedded in CPI so we applied "price inflation differentials" to develop our total inflation best estimate.

The best estimate single-point assumption for total inflation, 3 percent per year, is 19 basis points lower than the average STB CPI-W over the last 25 years.

The average GDP deflator has decreased from 5.06 percent during 1980-1989, to 2.42 percent during 1990-1999, to 2.21 percent during 2000-2009, and was 2.03 percent during 2010-2012. This may be due to a strict United States monetary policy designed to keep inflation low. The Federal Reserve has been attempting to keep the GDP deflator around 2 percent. However, the Federal Reserve cannot control inflation on all items. For example, food and energy prices are independent of the Federal Reserve and may fluctuate depending on external forces. Furthermore, this monetary policy, combined with QE, will not continue indefinitely.

CBO assumes that inflation during 2019-2023 will be determined generally by monetary policy. CBO's projected inflation during 2019-2023 reflects the Federal Reserve's 2 percent target for inflation. While 2 percent is within our broad economic inflation best estimate range, we believe it would be an overly optimistic assumption in the long-run as a single point, best estimate. Furthermore, we believe it creates too large of a decrease from our currently recommended broad economic inflation assumption. However, we will continue to monitor actual inflation experience and revisit the broad economic inflation assumption again in two years.

Our total inflation assumption will be used in the salary growth section to help determine "productivity growth." Productivity growth represents the difference between our general salary growth and total inflation. Please see the **Salary Growth** section for additional detail.

Recommendation

For the reasons stated above, we recommend no change in the total inflation assumption from the currently assumed total inflation assumption of 3 percent.

General Salary Growth

We use this assumption to project salaries to determine future retirement benefits and contribution rates as a percent of payroll. We also use it to determine employer contributions to the Plan 1 UAAL for PERS and TRS as a level percentage of future system payrolls. Generally, a participant's salary will change over the long term in accordance with inflation, productivity growth, merit (or longevity increases), and promotional increases.

In developing this assumption, we relied on data from the Bureau of Labor and Statistics (BLS) for historical inflation. We also reviewed historical salary data from the Department of Retirement Systems.

During the 2011 Economic Experience Study, we recommended lowering the general salary growth assumption from 4.00 percent to 3.75 percent to remain consistent with the recommended lower (and now adopted) rate of future inflation. For this experience study, we compared historical salary experience, based on our recommended study period (1984-2009), to the last study two years ago. We did not observe a material change in general salary growth.

We did observe lower than expected salary growth from 2010 through 2012, which is a result of temporary salary practices that occurred during the 2009-11 and 2011-13 Biennia. We believe these temporary salary practices do not reflect future long-term salary experience so our general salary growth assumptions were developed using historical salary growth data from 1984-2009, rather than from 1984-2012.

We study general salary growth and merit (or longevity) separately. Total inflation and productivity are the two key building block components of the general salary growth assumption. We formed our best estimate for total inflation in the **Inflation** section of this report. We calculated the productivity such that the cumulative observed merit approximately equals cumulative assumed merit. Please see the **Analysis** section for details on how we developed our best estimate for productivity.

For the reasons stated above, we are recommending no change in the general salary growth assumption from the current assumption that was adopted by the Pension Funding Council in 2011.

Best Estimate Range

1.50 percent to 5.20 percent

Recommendation

3.75 percent*

*Includes 3.00 percent total inflation and 0.75 percent productivity.

Current Assumption

3.75 percent

Data

Growth in Salaries for Members Active for Two Consecutive Years (Appendix C)**

**Appendix C was mislabeled in the 2011 Economic Experience Study. We did not change methods in this area.

Methodology

Our actuarial model assumes two separate sources of salary increases: general salary growth and merit (or longevity) increases. We study the general salary growth and merit (or longevity) increases separately because we apply the assumptions in different ways. Actuarial Standards of Practice (ASOP) 27 defines productivity growth as "the rates of change in a group's compensation attributable to the change in real value of goods or services per unit of work." Merit (or longevity) increases are defined as "the rates of change in an individual's compensation attributable to personal performance, promotion, seniority, or other individual factors." In other words, general salary growth applies broadly to many different groups, while merit or longevity increases apply to specific groups and individuals.

We review general salary growth as part of the economic experience study when we look at broad trends. We typically study merit (or longevity) increases as part of the demographic experience study process when we focus more on trends within individual plans. Ideally, the combination of the two assumptions would model total salary growth.

We used the building block method to model general salary growth. Total inflation and productivity growth are general salary growth's two building block components. The total inflation assumption as developed in the **Inflation** section. To develop our productivity growth, we reviewed growth in salaries for active members employed for two consecutive years.

Analysis

We took the following steps to develop our best estimate recommendation.

1. Chose the time period for studying general salary growth. We observed lower than expected general salary growth over the past three valuation reports (2010-2012). This reflects temporary salary practices that we do not believe are representative of future long-term salary experience. Some examples of these temporary salary practices that occurred during the 2009-11 and 2011-13 Biennia include salary reductions and salary freezes. The temporary salary practices primarily impacted state employees, although local employees may have been impacted as well. Furthermore, salary reductions during 2011-13 for state employees were restored during the 2013-15 Biennium and are not included in this analysis (data not yet available for study).

Because 2010-2012 includes short-term salary practices that we believe are not indicative of long-term salary practices, we elected to study the general salary growth assumption during the 1984 through 2009 time period. However, we have provided the calculated

productivity, for each system, when we include the most recent three years of data. Please see Step 4 for more information.

- 2. Assembled historical system salary growth by years of service from 1984 through 2009. We display this data in Appendix C. It represents total salary growth, by years of service, for active members consecutively employed for two or more years during the period 1984 through 2009. For example, for all PERS active members who were employed at least two consecutive years during 1984 through 2009, the average increase in total salary from their first to second year of service was 8.81 percent.
- 3. Identified the portion of historical salary growth attributable to inflation and productivity. Since the data in Step 2 represents total salary growth by year of service, we then determined the portion attributable to general salary growth. Under our building block method, that means increases attributable to inflation and productivity. We input the average increase for the STB CPI-W for the period 1984 through 2009, 3.13 percent, and solved for the observed productivity increase so the cumulative observed merit increases equaled the cumulative assumed merit increases over the period of assumed merit increases. Under this method, the productivity increase represents the change in total salary increase not attributable to inflation and observed merit (or longevity) increases. For example, if all PERS active members who were employed at least two consecutive years during 1984 through 2009 experienced an average 8.81 percent increase in total salary from their first to second year of service, then about 0.89 percent is attributable to productivity since average inflation as 3.13 percent over the experience study period and the observed merit (or longevity) increase was 4.61 percent.
- 4. Reviewed the observed productivity for reasonableness. Overall, we found the results, based on 1984-2009 data (Recommended Study Period), reasonable for each system with observed productivity increases ranging from 0.57 percent for SERS to 0.89, 0.92, and 0.97 percent for PERS, WSPRS, and TRS respectively. We would expect an observed productivity between 0.00 and 1.00 percent and less credible results for smaller systems like SERS and WSPRS.

As we mentioned in Step 1, we elected to omit data from 2010 through 2012 because it includes short-term salary practices that we don't believe are consistent with long-term salary growth expectations. However, for your reference, we provide a comparison of observed productivity rates using data from 1984-2009 (Recommended Study Period) to observed productivity rates using data from 1984-2012 (All Years) in the table at the top of the next page.

Comparison of Productivity Rates									
	Data Time								
	Period	PERS	TRS	SERS	WSPRS				
2011 EES	1984-2010	0.82%	0.83%	0.37%	0.74%				
2013 EES									
All Years	1984-2012	0.51%	0.48%	(0.02%)	0.40%				
Recommended Study Period	1984-2009	0.89%	0.97%	0.57%	0.92%				

As discussed above, the inclusion of temporary salary practices during 2010-12 significantly reduces the observed productivity under the building block approach we used for setting this assumption. Under this approach, inflation and merit increases remain constant during the study so any reduction in salary growth due to short-term salary practices is entirely attributed to decreases in observed productivity. That is why we decided to exclude 2010-12 from the development of our best estimate. However, we did consider this experience when selecting the best estimate range.

- **5. Selected our best estimate.** With the results from Step 4, we now have observed general salary growth rates (total inflation plus productivity) by system for the period 1984 to 2009. Next, we considered expectations for the future. The observed inflation during the study period for general salary growth, 3.13 percent, is consistent with our best estimate recommendation for total inflation of 3.00 percent. The average observed productivity came in around 0.90 percent for the larger (and more credible) systems. The economic forecasts we reviewed for our total inflation assumption, and the capital market assumptions from WSIB, suggest lower economic growth over the next fifteen to twenty years than what occurred in the past. With that in mind, we selected a best estimate productivity assumption of 0.75 percent (0.15 percent below the productivity observed from 1984 to 2009). We will continue to monitor this assumption and may recommend lowering the assumption further when we have additional historical data to support the reduction (or if short-term salary practices continue for extended time periods).
- **6. Selected our best estimate range.** We set the low end of the best estimate range equal to the low end of the best estimate range for total inflation, 1.50 percent, with 0.00 percent productivity. The high end of the best estimate range equals the high end of the best estimate range for total inflation, 4.30 percent, with 1.00 percent productivity.

We did not separately study general salary growth in PSERS due to insufficient data. We also did not separately study general salary increases in TRS from bonuses paid for national board certification due to insufficient historical data. However, we plan to monitor and separately study this form of salary growth in future studies.

Recommendation

For the reasons stated above, we recommend no change in the general salary increase assumption from the currently assumed general salary increase assumption of 3.75 percent.

Annual Rate of Investment Return

The annual rate of investment return assumption is a key input for determining contribution rates for the ongoing retirement systems. We calculate contribution rates by comparing today's value of future benefit pyments to the assets we have on hand at the same point in time. We determine today's value of future benefit pyments and salaries using an assumed rate of future investment returns. In developing this assumption, we consulted with and relied on data provided by WSIB.

We are recommending a decrease in the annual rate of investment return assumption from the assumption currently in statute. This recommendation is consistent with our recommendation during the 2011 Economic Experience Study and is based on WSIB's expectations for future investment returns. We also considered past investment returns and whether the historical conditions that produced the strong investment markets over the past twenty to thirty years will continue in the future. The recommended rate of investment return assumption represents a single rate that applies to all plans invested in the Commingled Trust Fund (CTF). As the membership of the Plans 1 moves to 100 percent retired status and the Plans 1 remain in the CTF, it may become necessary to use separate investment return assumptions for these plans. We considered making this change, but do not recommend plan specific rate of return assumptions at this time.

Best Estimate Range

6.13 percent to 8.62 percent

Recommendation

7.50 percent

Current Assumption

- 7.90 percent during the 2013-15 Biennium
- 7.80 percent during the 2015-17 Biennium
- 7.70 percent beginning in the 2017-19 Biennium

Data

Historical Plan Performance (**Appendix D**)

Historical Investment Data - Current Allocations (Appendix E)

Historical Investment Data - Alternate Allocations (Appendix F)

WSIB Simulated Future Investment Returns (Appendix G)

Methodology

The annual rate of investment return assumption reflects anticipated returns on the retirement plan's current and future assets, net of expenses. ASOP 27 identifies two methods for setting the rate of return assumption. We described the first method, the "building block" method in the **General Approach to Setting Economic Assumptions** section of this report. ASOP 27 also describes the "cash-flow matching" method for setting the annual rate of investment return assumption. Under this method, we

project the expected benefit and expense disbursements for all plans invested in the CTF. We then identify a highly diversified U.S. bond portfolio with interest and principal payments, which approximately match our expected benefit payments in the CTF. However, due to the asset allocation of the CTF, this option is not a reasonable method for setting the annual rate of investment return assumption.

In addition to the items discussed in the **General Approach to Setting Economic Assumptions** section, we consider several key factors when selecting this assumption, namely the:

- Purpose of measurement (i.e. on-going plan valuation, plan termination, etc).
- ♦ Measurement period.
- ♦ Investment or asset allocation policy.

We intend to use this assumption to determine the contribution requirements for the ongoing retirement systems. A different measurement (i.e., plan termination or settlement liability) would require use of a different annual investment return assumption.

The recommended rate of investment return assumption represents a single rate that applies to all plans invested in the CTF. We base that rate on the average future measurement period—referred to as duration—for all plans combined. However, not all plans have the same duration. Plan 1 liabilities have a shorter duration than the liabilities of the Plans 2/3. This occurs because the Plans 1 for all systems, except WSPRS, have been closed to new entrants since 1977 (WSPRS Plan 1 closed in 2002), while the Plans 2/3 are still open to new entrants. This means that all Plan 1 benefits will be paid well before the last Plans 2/3 benefits are paid — hence the shorter future measurement period or duration for the Plans 1.

Ideally, the rate of investment return assumption would be coordinated with WSIB's current asset allocation policy, or targets, for the CTF. We based the recommendation on WSIB's current asset allocation policy. Future changes to the CTF asset allocation policy may require a new recommendation for the rate of investment return assumption.

Analysis

We reviewed the historical experience data provided in **Appendices D through F**, considered the historical conditions that produced past annual investment returns, and relied upon Capital Market Assumptions (CMAs) and simulated expected investment returns provided by the WSIB.

The CMAs include three pieces of information for each class of assets the WSIB might choose to invest in.

- ♦ Expected annual return.
- Standard deviation of the annual return.
- Correlations between the annual returns of each asset class with every other asset class.

WSIB uses the CMAs and their target asset allocation (Please see **Appendix G** for more details) to simulate future investment returns. We used WSIB's simulated returns to set the best estimate range and the recommended rate of investment return assumption.

WSIB provided us with simulated expected investment returns over short and long time horizons ranging from one year to fifty years. WSIB simulated the expected investment returns using a "log stable" distribution.

The log stable distribution approximates future returns based on actual historical data as opposed to assuming a normal distribution or "bell-shaped" curve. Using actual historical data incorporates "fat tails" into the distribution profile. Such fat tails contribute to positive and negative skews (a measure of the extent to which a distribution is distorted from a symmetrical bell-shaped curve), both of which are taken into account under the log stable distribution methodology. WSIB prefers the log stable modeling because it more accurately reflects actual returns. However, the log stable model relies on historical relationships and will not provide accurate estimates of future investment returns if actual future investment returns are vastly different from historical investment returns.

We set the best estimate range equal to the 25th and 75th percentile of the WSIB simulated fifty-year compounded annual rate of investment return distribution: 6.13 percent and 8.62 percent respectively. We selected the best estimate as 7.50 percent — approximately equal to the median of the simulated investment returns, 7.40 percent, but increased slightly to remove WSIB's implicit and small short-term downward adjustment due to assumed mean reversion. WSIB's implicit short-term adjustment, while small and appropriate over a ten- to fifteen-year period, becomes amplified over a fifty-year measurement period. Please see **Appendix G** for additional information regarding simulated future investment returns.

The annual rate of investment return assumption uses broad economic inflation as its base building block. Since the best estimate for the broad economic inflation assumption equals 2.40 percent, the remaining building block, the assumed real rate of investment return, equals 5.10 percent.

Often, the starting point for creating an assumption about the future would be to use historical data. For example, over a thirty- to eighty-year period, typical pension plan asset allocations would have averaged investment returns of 9 to 11 percent per year. However, the implicit assumption being made is that conditions, or in this case the structure of the economy, are the same now as they were in the past. When historical investment return data is used in setting a forward-looking assumption, extra attention is required to determine whether past conditions are likely to repeat in the future.

The following list demonstrates how conditions have changed and their potential impact on future returns:

- ♦ Higher than normal growth is no longer expected. Economies generally move from agricultural, to industrial, to service based. As a country moves along this progression they experience higher than normal growth and innovation. Many developed countries have progressed to the point where higher than normal growth is no longer expected.
- ♦ Stock market returns will likely revert back to the historical average. Price to Earnings ratios (P/E) state the price of stocks relative to their earnings. We looked at the Standard & Poor's 500 (S&P 500) historical P/E ratios. We noticed that S&P 500's P/E ratios grew substantially from 1980-2010, meaning investors were willing to pay more for a stock given an equal amount of earnings. When P/E

ratios increase, this creates extra return for stocks (without actual business growth). No one knows where P/E ratios will go from here, but they are likely to revert back to the historical average. We do not expect to see another thirty-year period of increase as seen from 1980 to 2010.

- ♦ We will likely see lower future dividend yields. Similar to P/E ratios, decreasing or increasing dividend yields add or subtract from investment returns. We looked at the S&P 500 dividend yields and observed that since the early 1980s, dividend yields have steadily decreased from about 5.50 percent to around 2.00 percent in 2013. Lower future dividend yields will mean lower future investment returns.
- ◆ Increasing debt will likely not continue in perpetuity. The level of debt of a private company or the government also affects returns. When debt is taken on, returns generally are better. In the United States, for example, government and private debt has generally increased over the historical period we reviewed. However, increasing debt is not likely to occur forever. As the debt burden stabilizes or gets paid down, it takes away from productivity increases, and therefore negatively impacts returns. The United States has approximately a 100 percent debt to GDP ratio, which has been shown to negatively impact GDP.
- ♦ Inflation could be lower in the future. Under the building block approach, the total investment return is composed of inflation and the real rate of return. Inflation could be lower in the future than over the historical period we reviewed. Given a constant real rate of return and lower inflation, we would expect lower investment returns in the future.

A number of other theories exist as well. The list above is not exhaustive, but rather is meant to illustrate how conditions are different now compared to what has been true in the past and how those different conditions could produce lower future returns.

Recommendation

We recommend lowering the annual rate of investment return assumption from 7.90 to 7.50 percent. This recommendation is consistent with WSIB's expected investment return assumption after we remove WSIB's implicit short-term adjustment for assumed mean reversion.

However, the current legislatively prescribed annual rate of investment return assumptions of 7.90 percent for the 2013-15 Biennium, 7.80 percent for the 2015-17 Biennium, and 7.70 percent beginning in the 2017-19 Biennium fall within the best estimate range and are reasonable.

Growth in System Membership

The growth in system membership assumption impacts the amortization of the Plan 1 UAAL. Under current law, the UAAL in PERS Plan 1 and TRS Plan 1 must be amortized over a rolling ten-year period, as a percentage of projected payrolls. We use the growth in system membership assumption to estimate the payroll for future new members. In developing this assumption, we relied upon system membership data from the Department of Retirement Systems (DRS) and Washington State population data and forecasts from the Office of Financial Management (OFM).

The projected payroll for the PERS Plan 1 UAAL includes pay from current PERS, SERS, and PSERS members as well as projected payroll from future members of PERS Plans 2/3, SERS, and PSERS. Hereafter, for the discussion of growth in system membership, we will use the term "PERS" to apply to the combined system growth of PERS, SERS, and PSERS. The projected payroll for the TRS Plan 1 UAAL includes pay from current TRS members as well as projected payroll from future TRS Plans 2/3 members.

We observed negative average system growth rates over the past five years due to state and local government budget cuts in response to lingering effects of the most recent recession. As a result, we expect the system growth rates will take a few years to recover to assumed long-term levels. OFM projects Washington State population growth rates to moderately increase over the next ten years (Please see **Appendix H** for more details). Since our analysis (see **Analysis** section below) shows a high correlation between system and population growth, we developed a magnitude factor that represents the historical relationship between system growth and Washington State population growth. Applying the magnitude factor and short-term recovery factor to OFM's projected population growth, we arrive at the recommended PERS and TRS system growth assumptions shown below.

We are recommending no change in the PERS and TRS system growth assumptions from the current assumptions that were adopted by the Pension Funding Council in 2011.

Best Estimate Range

0.50 percent to 1.00 percent for TRS

0.50 percent to 1.20 percent for PERS

Recommendation

0.80 percent for TRS

0.95 percent for PERS

Current Assumption

0.80 percent for TRS

0.95 percent for PERS

Data

Growth in Washington State Population - Historical and Projected (**Appendix H**) Historical System Growth (**Appendix I**)

Annual Magnitude of System Growth Relative to State Population Growth (**Appendix J**)

Analysis

We took the following steps to develop our best estimate recommendation.

1. Examined correlation between system growth and state population data. During 1990-2012, we found a strong correlation between same-year retirement system growth and population growth. PERS had a 0.86 correlation to same-year Washington State population growth while TRS had a 0.54 correlation to same-year Washington State ages 5-17 population growth (Please see Appendix I for more details). Our correlations were based on annual growth rates.

Correlation is a statistical technique that allows us to calculate how a pair of data sets moves in proportion to each other. A correlation will range from -1 to 1 where each reflects a strong negative correlation and strong positive correlation, respectively. In general, a strong relationship, whether positive or negative, tells us that the two data sets we are studying are moving in the same direction for each database year and move proportionately with each other. Based on the observed correlations, we felt confident setting our system growth assumption as a function of population growth in a year.

- 2. Reviewed the annual magnitude of system growth relative to state population growth. Using historical data we calculated system growth as a percent of population growth. The system growth as a percent of population growth represents our magnitude factor over a designated time period. In this approach the magnitude factor tells us how the system growth moves in a relation to the population growth. We divided the 1990-2012 average system growth for PERS and TRS by the applicable average population growth for the same period. PERS grew at an annual rate of 107.79 percent of general Washington State population growth. TRS grew at an annual rate of 103.30 percent of Washington State ages 5-17 population growth. Please see Appendix J for more details.
- **3. Used OFM's population projections to determine future system growth by year.** We relied on OFM's state population forecasts for our assumed 2013-2022 population growth. Our method for calculating our projected annual system growth is as follows: We used OFM's 2013-2022 projected population growth by year and multiplied it by our assumed long-term ratio of system growth as a percent of state population growth (Step 2). We used general Washington State population growth (for PERS) and Washington State ages 5-17 population growth (for TRS) due to their high correlations (Step 1).
- **4. Took the average annual system growth from 2013 to 2022 to determine our best-estimate**. We now had projected system growth through 2022 based on the long-term magnitude of system growth relative to state population growth. We decided to create a

single assumption that applies in each year of our valuation rather than creating an assumption that varies by year.

For our best estimate assumption for PERS, we reduced the magnitude of long-term system growth relative to state population growth (Step 3) for the next four years to reflect our expectation that 2013-2016 system growth will be lower than our projected system growth. For PERS, we lowered the 2013-2016 annual projected system growth due to state and local government budget cuts in response to the most recent recession. We selected half of the projected PERS growth in the next two years and three quarters of the projected PERS growth in the following two years. We assumed the full projected system growth calculated in Step 3 for 2017-2022.

In light of increased state funding for basic education in response to the *McCleary*, et al. v. State of Washington, we expect system growth in TRS to return to longer term levels in 2013-2016. As such, we did not reduce the magnitude factor in Step 3 for TRS.

Lastly, we took the average of the 2013-2022 best estimate system growth path to approximate our best estimate.

We provide the following tables to display how we developed our best estimate for PERS and TRS.

Year	WA Population Growth	Projected PERS System Growth*	PERS Best Estimate System Growth
2013	0.93%	1.01%	0.50%
2014	1.06%	1.15%	0.57%
2015	1.08%	1.16%	0.87%
2016	1.08%	1.16%	0.87%
2017	1.08%	1.16%	1.16%
2018	1.07%	1.16%	1.16%
2019	1.06%	1.15%	1.15%
2020	1.06%	1.14%	1.14%
2021	1.05%	1.13%	1.13%
2022	1.04%	1.12%	1.12%
	2013	-2022 Average	e 0.97%

^{*}Projected PERS system growth equals projected general WA state population growth multiplied by long-term PERS growth magnitude factor of 107.79%.

Year	WA 5-17 Population Growth	Projected TRS* System Growth	TRS Best Estimate System Growth
2013	0.49%	0.50%	0.50%
2014	0.64%	0.66%	0.66%
2015	0.67%	0.69%	0.69%
2016	0.62%	0.64%	0.64%
2017	0.65%	0.67%	0.67%
2018	0.65%	0.67%	0.67%
2019	0.72%	0.74%	0.74%
2020	0.94%	0.97%	0.97%
2021	0.95%	0.98%	0.98%
2022	0.94%	0.98%	0.98%
	20	13-2022 Average	0.75%

^{*}Projected TRS system growth equals projected WA state ages 5-17 population growth multiplied by long-term TRS growth magnitude factor of 103.30%.

5. Determined best estimate range. For the lower end of the best estimate range, we selected the lowest single-year projected annual best estimate system growth during 2013-2022. The lowest projected best estimate system growth for PERS and TRS was 0.5 percent. For the upper end of the best estimate range, we selected the highest single-year projected annual best estimate system growth during 2013-2022. The highest projected best estimate system growth for PERS and TRS was 1.16 percent, which we rounded to 1.2 percent. The highest projected best estimate system growth for TRS was 0.98 percent, which we rounded to 1.0 percent.

Recommendation

We recommend no change in the growth in system membership assumption of 0.95 percent in PERS and 0.80 percent in TRS.

Risk Analysis

We chose not to update the Risk Analysis from the 2011 Economic Experience Study (EES) because we expect the results would not be materially different. Had we updated the risk analysis in this EES, we would have studied the impact on the Washington state pension systems resulting from lowering the annual investment return assumption from 7.90 percent to 7.50 percent. In comparison, for the 2011 EES we studied the impact from lowering the assumption from 8.00 percent to 7.50 percent.

Below we show the Pension Score Card results from the 2011 EES followed by a brief description of some of the high-level takeaways.

Pension Score Card	8.0	0%	7.50%	
Category (Dollars in Billions)	Value	Score	Value	Score
Affordability				
Chance Pensions will Consume More than 8% of GF-S ¹	18.0%	37	18.0%	35
5% Chance GF-S ¹ Consumption will Exceed	9.9%	39	10.0%	38
5% Chance Employer Contribution Rate will Exceed	20.1%	44	20.3%	43
Risk				
Chance of PERS 1, TRS 1 in Pay-Go ²	41%	19	39%	21
Chance of Open Plan in Pay-Go ²	13%	47	11%	49
5% Chance Annual Pay-Go Cost ³ in PERS 1, TRS 1 Exceed	\$1.70	38	\$1.70	38
5% Chance Annual Pay-Go Cost ³ in Open Plans Exceed	\$4.00	11	\$3.60	16
Chance of Total Funded Status Below 60%	34%	24	31%	29
Total Weighted Score		33		34

¹ Currently 2.7% of GF-S.

Note: The score card above is based on data from our 2009 projections, which includes the UCOLA benefit. If the UCOLA were removed from our risk analysis, and we included recent asset returns, the risk and affordability scores would improve. However, we don't expect the relative differences between the two assumption scenarios and resulting findings to change.

Affordability

Affordability compares the single most unaffordable points over the projected fifty-year period between the two annual rate of investment return assumptions. We found that lowering the rate of investment return assumption will increase affordability risk (less affordable), in the short-term, due to increased contribution requirements. However, we would expect an assumed increase in overall assets to help pay for benefits as a result of collecting higher contribution rates, which improves the long-term affordability of the plans under the recommended annual investment return of 7.50 percent. In other words, contributing higher contribution rates in the short-term will lead to more assets, which would lead to less required future contributions relative to the current annual rate of investment return assumption.

Contribution rates become less volatile under the recommended 7.50 percent annual rate of investment return assumption than under the current assumption. The long-term annual change in effective employer contribution rates, for all systems, become narrower in the long-term for the 7.50 percent annual rate of investment return assumption. In other words, the contribution rates become more stable over the long-term with the

² When today's value of annual cost exceeds \$50 million.

³ Pay-Go costs on top of normal pension costs.

Office of the State Actuary: 2013 Economic Experience Study

lower assumption. This occurs because under the current annual investment return assumption, actuarial losses (returns below the assumption) are expected to occur more often than actuarial gains (returns above the assumption). If more actuarial losses occur than gains then this puts upward pressure on contribution rates over time as the actuarial losses are recognized. In addition, the additional contributions made under the 7.50 percent assumption help offset increasing contribution rates due to either assumed future funding shortfalls or assumed future benefit improvements.

Risk

Lowering the rate of return assumption will decrease "pay-go"(or chance of the plan running out of money) and "low funded status" risks as measured under the Pension Score Card. As we discussed in the **Affordability** section, this occurs because funding at a 7.50 percent assumed rate of investment return increases required contributions in the short-term and increases the overall assets available to pay for plan benefits. Having additional assets on hand improves funded status and therefore lowers pay-go and low funded status risks.

Please see the 2011 Economic Experience Study for additional analysis and a more in depth discussion of the Risk Analysis measures and Pension Score Card results.



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Actuarial Certification Letter Report on Long-Term Economic Experience Study

August 30, 2013

This report documents the results of an economic experience study of the retirement plans defined under Chapters 41.26 (excluding Plan 2), 41.32, 41.35, 41.37, 41.40, and 43.43 of the Revised Code of Washington. The primary purpose of this report is to assist the Pension Funding Council in evaluating whether to adopt changes to the long-term economic assumptions identified in RCW 41.45.035. This report should not be used for other purposes.

An economic experience study involves comparing actual economic experience with the assumptions we made for applicable experience study periods. We also review other relevant data to form expectations for the future. The analysis concludes with the selection of a recommended set of economic assumptions. We use Actuarial Standard of Practice Number 27 (ASOP 27), titled Selection of Economic Assumptions for Measuring Pension Obligations, to guide our work in this area.

This economic experience study includes the most recent and available plan provisions and participant and asset data. Participant data reflects retirement system census data through June 30, 2012. Asset data reflects returns through June 30, 2013.

The Department of Retirement Systems provided 2012 member and beneficiary data to us. We checked the data for reasonableness as appropriate based on the purpose of this experience study. The Washington State Investment Board (WSIB) provided asset information as of June 30, 2013. An audit of the financial and participant data was not performed. We relied on all the information provided as complete and accurate. In our opinion, this information is adequate and substantially complete for purposes of this experience study.

We relied on the Capital Market Assumptions (CMAs) from the WSIB to formulate expectations for future rates of annual investment return. We reviewed the CMAs for reasonableness as appropriate based on the purpose of this experience study.

The recommendations in this experience study involve the interpretation of many factors and the application of professional judgment. We believe that the data, assumptions, and methods used in the underlying experience study are reasonable and appropriate for the primary purpose stated above. The use of another set of data,

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Report on Long-Term Economic Experience Study Page 2 of 2

assumptions, and methods, however, could also be reasonable and could produce materially different results. Another actuary may review the results of this analysis and reach different conclusions.

In our opinion, all methods, assumptions, and calculations are reasonable and are in conformity with generally accepted actuarial principles and applicable standards of practice as of the date of this publication.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Sincerely,

Matthew M. Smith, FCA, EA, MAAA

State Actuary

Lisa A. Won, ASA, FCA, MAAA

Senior Actuary

Appendices



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Office of the State Actuary: 2013 Economic Experience Study

Appendix A

		Historica	I Inflation Data*	÷		
				Annı	ıal % Cha	nge
	Seattle-		GDP Deflator			
	Tacoma-	U.S. City	for Personal			
	Bremerton,	Average	Consumption	Seattle	U.S.	GDP
Year	WA CPI-W	CPI-W	Expenditures	CPI-W	CPI-W	PCE
1983	293.2	297.4	55.868	(0.27%)	3.05%	4.30%
1984	302.8	307.6	57.981	3.27%	3.43%	3.78%
1985	309.1	318.5	59.882	2.08%	3.54%	3.28%
1986	311.3	323.4	61.341	0.71%	1.54%	2.44%
1987	318.6	335.0	63.618	2.35%	3.59%	3.71%
1988	329.1	348.4	66.151	3.30%	4.00%	3.98%
1989	344.5	365.2	69.025	4.68%	4.82%	4.34%
1990	369.0	384.4	72.180	7.11%	5.26%	4.57%
1991	389.4	399.9	74.789	5.53%	4.03%	3.61%
1992	403.2	411.5	76.989	3.54%	2.90%	2.94%
1993	415.2	423.1	78.679	2.98%	2.82%	2.20%
1994	430.4	433.8	80.302	3.66%	2.53%	2.06%
1995	442.9	446.1	82.078	2.90%	2.84%	2.21%
1996	457.5	459.1	83.864	3.30%	2.91%	2.18%
1997	471.7	469.3	85.433	3.10%	2.22%	1.87%
1998	484.1	475.6	86.246	2.63%	1.34%	0.95%
1999	499.1	486.2	87.636	3.10%	2.23%	1.61%
2000	517.8	503.1	89.818	3.75%	3.48%	2.49%
2001	536.2	516.8	91.530	3.55%	2.72%	1.91%
2002	545.9	523.9	92.778	1.81%	1.37%	1.36%
2003	553.6	535.6	94.659	1.41%	2.23%	2.03%
2004	562.3	549.5	97.121	1.57%	2.60%	2.60%
2005	579.3	568.9	100.000	3.02%	3.53%	2.96%
2006	600.9	587.2	102.723	3.73%	3.22%	2.72%
2007	623.7	604.0	105.499	3.79%	2.86%	2.70%
2008	651.6	628.7	108.943	4.48%	4.09%	3.26%
2009	654.5	624.4	109.004	0.44%	(0.67%)	0.06%
2010	659.6	637.3	111.087	0.78%	2.07%	1.91%
2011	680.5	660.0	113.790	3.17%	3.56%	2.43%
2012	697.8	673.9	115.789	2.54%	2.10%	1.76%

Geometric Averages*							
	2	2013 EES					
	Seattle	U.S.	GDP				
	CPI-W	CPI-W	PCE				
1950-2012	3.77%	3.67%	3.35%				
Last 30 years	2.92%	2.87%	2.60%				
Last 25 years	3.19%	2.84%	2.42%				
Last 20 years	2.78%	2.50%	2.06%				
Last 10 years	2.49%	2.55%	2.24%				
Last 5 years	2.27%	2.21%	1.88%				

^{*}Data sources: Department of Labor, Bureau of Labor Statistics (BLS) and Department of Commerce, Bureau of Economic Analysis (BEA).

Appendix B

	An	nual Pro	ojected	National C	PI Increase)
	СВО	ERFC	GI	SSA Int [*]	SSA Low*	SSA High*
2013	1.70%	1.42%	1.37%	1.80%	1.70%	1.90%
2014	1.70%	1.76%	1.64%	2.20%	1.70%	2.22%
2015	2.10%	1.52%	1.69%	2.35%	1.70%	2.53%
2016	2.10%	1.56%	1.87%	2.50%	1.70%	2.85%
2017	2.20%	1.53%	1.85%	2.65%	1.80%	3.17%
2018	2.30%		1.82%	2.80%	1.80%	3.48%
2019	2.30%		1.88%	2.80%	1.80%	3.80%
2020	2.30%		1.97%	2.80%	1.80%	3.80%
2021	2.30%		1.94%	2.80%	1.80%	3.80%
2022	2.30%		1.94%	2.80%	1.80%	3.80%
2023	2.30%		1.97%	2.80%	1.80%	3.80%
2024			1.98%	2.80%	1.80%	3.80%
2025			1.99%	2.80%	1.80%	3.80%
2026			2.02%	2.80%	1.80%	3.80%
2027			2.02%	2.80%	1.80%	3.80%
2028			1.95%	2.80%	1.80%	3.80%
2029			1.94%	2.80%	1.80%	3.80%
2030			1.95%	2.80%	1.80%	3.80%
2031			2.04%	2.80%	1.80%	3.80%
2032			2.05%	2.80%	1.80%	3.80%
2033			2.09%	2.80%	1.80%	3.80%
2034			2.13%	2.80%	1.80%	3.80%
2035			2.10%	2.80%	1.80%	3.80%
2036			2.11%	2.80%	1.80%	3.80%
2037			2.13%	2.80%	1.80%	3.80%
2038			2.14%	2.80%	1.80%	3.80%
2039			2.15%	2.80%	1.80%	3.80%
2040			2.16%	2.80%	1.80%	3.80%
2041			2.17%	2.80%	1.80%	3.80%
2042			2.17%	2.80%	1.80%	3.80%
2043			2.18%	2.80%	1.80%	3.80%

^{*}SSA did not provide an annual national forecast. We linearly interpolated the years between 2013 and the ultimate rate year when the annual rate change was not provided.

	Annual Projected GDP Deflator Increase									
	СВО	ERFC	GI	SSA Int [*]	SSA Low*	SSA High*				
2013	1.30%	1.03%	0.99%	1.83%	1.73%	1.93%				
2014	1.50%	1.50%	1.42%	1.70%	1.20%	1.72%				
2015	1.90%	1.42%	1.53%	1.95%	1.40%	2.03%				
2016	1.90%	1.46%	1.67%	2.10%	1.40%	2.35%				
2017	1.90%	1.44%	1.68%	2.25%	1.50%	2.67%				
2018	2.00%		1.68%	2.40%	1.50%	2.98%				
2019	2.00%		1.70%	2.40%	1.50%	3.30%				
2020	2.00%		1.81%	2.40%	1.50%	3.30%				
2021	2.00%		1.82%	2.40%	1.50%	3.30%				
2022	2.00%		1.84%	2.40%	1.50%	3.30%				
2023	2.00%		1.86%	2.40%	1.50%	3.30%				
2024			1.85%	2.40%	1.50%	3.30%				
2025			1.84%	2.40%	1.50%	3.30%				
2026			1.86%	2.40%	1.50%	3.30%				
2027			1.87%	2.40%	1.50%	3.30%				
2028			1.83%	2.40%	1.50%	3.30%				
2029			1.83%	2.40%	1.50%	3.30%				
2030			1.83%	2.40%	1.50%	3.30%				
2031			1.90%	2.40%	1.50%	3.30%				
2032			1.91%	2.40%	1.50%	3.30%				
2033			1.95%	2.40%	1.50%	3.30%				
2034			1.98%	2.40%	1.50%	3.30%				
2035			1.96%	2.40%	1.50%	3.30%				
2036			1.97%	2.40%	1.50%	3.30%				
2037			2.00%	2.40%	1.50%	3.30%				
2038			2.02%	2.40%	1.50%	3.30%				
2039			2.03%	2.40%	1.50%	3.30%				
2040			2.03%	2.40%	1.50%	3.30%				
2041			2.04%	2.40%	1.50%	3.30%				
2042			2.05%	2.40%	1.50%	3.30%				
2043			2.07%	2.40%	1.50%	3.30%				

^{*}The SSA-intermediate price differential (National CPI – GDP Deflator) is projected to be -.03% for 2013, .50% for 2014, and .40% price differential for 2015 and later. We assumed SSA used the same method for low cost and high cost GDP Deflator approximations using a .30% and .50% price differential respectively.

The national SSA forecasts are produced using a different basket of goods from the CBO, ERFC, and GI national projections. SSA uses Urban Wage Earners and Clerical Workers while the other forecasts use All Urban Consumers. However, we did not find a significant enough difference between the last 20 years average national CPI between the two baskets of goods to require an adjustment for difference in baskets of goods used (less than one basis point difference).

Appendix C

	Growth in Salaries for Members Active for Two Consecutive Years									
	PERS - 1984 to 2009									
Average										
	Average	Average	Average	Observed	Currently	Cumulative	Cumulative			
Year of	Increase in	Observed	Observed	Merit		Observed Merit				
Service	Salary	Inflation*	Productivity	Increase	Increase	Increase	Increase			
0	outur y	mination	Troductivity	morcusc	morease	moreuse	morease			
1	10.27%	3.13%	0.89%	6.01%	6.10%	106.01%	106.10%			
2	8.81%	3.13%	0.89%	4.61%	4.80%	110.89%	111.19%			
3	7.73%	3.13%	0.89%	3.57%	3.80%	114.85%	115.42%			
4	6.98%	3.13%	0.89%	2.84%	2.90%	118.11%	118.77%			
5	6.32%	3.13%	0.89%	2.21%	2.20%	120.72%	121.38%			
6	5.65%	3.13%	0.89%	1.57%	1.50%	122.62%	123.20%			
7	5.27%	3.13%	0.89%	1.20%	1.10%	124.09%	124.55%			
8	5.04%	3.13%	0.89%	0.98%	0.90%	125.30%	125.67%			
9	4.81%	3.13%	0.89%	0.76%	0.70%	126.25%	126.55%			
10	4.61%	3.13%	0.89%	0.70%	0.50%	126.97%	127.19%			
11	4.51%	3.13%	0.89%	0.47%	0.40%	127.56%	127.79%			
12	4.41%	3.13%	0.89%	0.47 %	0.30%	128.05%	128.08%			
13	4.41%	3.13%	0.89%	0.24%	0.20%	128.36%	128.34%			
14	4.23%	3.13%	0.89%	0.24 %	0.20%	128.62%	128.59%			
15	4.23%	3.13%	0.89%	0.20%	0.20%	128.88%	128.85%			
16	4.24%	3.13%	0.89%	0.21%	0.20%	129.13%	129.11%			
10	4.2270	3.13%				129.13%	129.1170			
			TR	S - 1984 to 20	09					
0										
1	9.27%	3.13%	0.97%	4.97%	5.80%	104.97%	105.80%			
2	8.01%	3.13%	0.97%	3.76%	4.30%	108.92%	110.35%			
3	7.95%	3.13%	0.97%	3.70%	4.10%	112.95%	114.87%			
4	7.64%	3.13%	0.97%	3.41%	3.50%	116.80%	118.89%			
5	7.19%	3.13%	0.97%	2.97%	3.10%	120.27%	122.58%			
6	6.99%	3.13%	0.97%	2.78%	2.80%	123.61%	126.01%			
7	6.94%	3.13%	0.97%	2.73%	2.60%	126.99%	129.29%			
8	6.89%	3.13%	0.97%	2.68%	2.40%	130.39%	132.39%			
9	6.65%	3.13%	0.97%	2.45%	2.20%	133.58%	135.30%			
10	6.46%	3.13%	0.97%	2.27%	2.00%	136.61%	138.01%			
11	6.25%	3.13%	0.97%	2.07%	1.90%	139.44%	140.63%			
12	6.02%	3.13%	0.97%	1.85%	1.70%	142.01%	143.02%			
13	5.71%	3.13%	0.97%	1.55%	1.50%	144.21%	145.17%			
14	5.24%	3.13%	0.97%	1.09%	1.00%	145.79%	146.62%			
15	5.04%	3.13%	0.97%	0.90%	0.80%	147.11%	147.79%			
16	4.68%	3.13%	0.97%	0.56%	0.40%	147.93%	148.38%			
17	4.35%	3.13%	0.97%	0.25%	0.10%	148.30%	148.53%			
18	4.24%	3.13%	0.97%	0.14%	0.10%	148.50%	148.68%			
19	4.22%	3.13%	0.97%	0.12%	0.10%	148.68%	148.83%			
20	4.20%	3.13%	0.97%	0.10%	0.10%	148.83%	148.98%			
21	4.17%	3.13%	0.97%	0.07%	0.10%	148.93%	149.13%			
22	4.20%	3.13%	0.97%	0.10%	0.10%	149.08%	149.28%			
23	4.31%	3.13%	0.97%	0.20%	0.10%	149.39%	149.43%			
24	4.35%	3.13%	0.97%	0.24%	0.10%	149.75%	149.58%			
25	4.11%	3.13%	0.97%	0.01%	0.10%	149.77%	149.73%			
	•		tla Tacama Pra			1 10.11 /0	1 70.7 0 70			

^{*}Average change in the CPI-W, Seattle, Tacoma, Bremerton, from 1984 to 2009.

Increase in salary = (1 + observed inflation + observed productivity) * (1 + observed merit) - 1

	Growth in Salaries for Members Active for Two Consecutive Years								
SERS - 1984 to 2009									
				Average	0	O consideration	O constanting		
V	Average	Average	Average	Observed	Currently	Cumulative	Cumulative		
Year of	Increase in	Observed	Observed	Merit	Assumed Merit	Observed	Assumed Merit		
Service	Salary	Inflation*	Productivity	Increase	Increase	Merit Increase	Increase		
0	10 200/	2 420/	0.570/	6 240/	6.000/	106 240/	106.000/		
2	10.28% 7.65%	3.13% 3.13%	0.57%	6.34%	6.90% 3.90%	106.34%	106.90%		
			0.57%	3.81%		110.39%	111.07%		
3	6.54%	3.13%	0.57%	2.74%	2.90%	113.41%	114.29%		
4	5.99%	3.13%	0.57%	2.21%	2.30%	115.91%	116.92%		
5	5.73%	3.13%	0.57%	1.96%	2.20%	118.18%	119.49%		
6 7	5.32% 4.98%	3.13% 3.13%	0.57% 0.57%	1.56% 1.23%	1.60% 1.30%	120.02% 121.50%	121.40% 122.98%		
8	5.01%	3.13%	0.57%	1.25%	1.20%	123.02%	124.46%		
9	4.69%	3.13%	0.57%	0.95%	0.90%	124.20%	125.58%		
10	4.64%	3.13%	0.57%	0.90%	0.80%	125.32%	126.58%		
11	4.42%	3.13%	0.57%	0.69%	0.70%	126.19%	127.47%		
12	4.22%	3.13%	0.57%	0.49%	0.40%	126.81%	127.98%		
13	4.09%	3.13%	0.57%	0.37%	0.40%	127.29%	128.49%		
14	4.08%	3.13%	0.57%	0.36%	0.30%	127.75%	128.87%		
15	4.08%	3.13%	0.57%	0.36%	0.10%	128.20%	129.00%		
16	3.80%	3.13%	0.57%	0.09%	0.10%	128.31%	129.13%		
17	4.01%	3.13%	0.57%	0.30%	0.10%	128.70%	129.26%		
18	3.94%	3.13%	0.57%	0.23%	0.10%	128.99%	129.39%		
19	4.13%	3.13%	0.57%	0.41%	0.10%	129.53%	129.52%		
				RS - 1984 to 2					
0									
1	13.57%	3.13%	0.92%	9.14%	7.10%	109.14%	107.10%		
2	10.72%	3.13%	0.92%	6.41%	5.90%	116.13%	113.42%		
3	9.54%	3.13%	0.92%	5.27%	5.20%	122.25%	119.32%		
4	9.01%	3.13%	0.92%	4.77%	5.20%	128.08%	125.52%		
5	8.91%	3.13%	0.92%	4.67%	5.20%	134.05%	132.05%		
6	7.31%	3.13%	0.92%	3.13%	4.50%	138.26%	137.99%		
7	5.17%	3.13%	0.92%	1.07%	0.80%	139.74%	139.09%		
8	4.11%	3.13%	0.92%	0.06%	0.80%	139.82%	140.21%		
9	4.28%	3.13%	0.92%	0.22%	0.80%	140.12%	141.33%		
10	5.13%	3.13%	0.92%	1.03%	0.80%	141.56%	142.46%		
11	4.64%	3.13%	0.92%	0.56%	0.80%	142.36%	143.60%		
12	4.20%	3.13%	0.92%	0.14%	0.40%	142.56%	144.17%		
13	4.21%	3.13%	0.92%	0.15%	0.40%	142.77%	144.75%		
14	3.60%	3.13%	0.92%	-0.43%	0.40%	142.15%	145.33%		
15	4.44%	3.13%	0.92%	0.38%	0.40%	142.68%	145.91%		
16	5.02%	3.13%	0.92%	0.92%	0.40%	144.00%	146.49%		
17	4.16%	3.13%	0.92%	0.10%	0.40%	144.15%	147.08%		
18	4.15%	3.13%	0.92%	0.10%	0.40%	144.29%	147.67%		
19	4.44%	3.13%	0.92%	0.37%	0.40%	144.83%	148.26%		
20	4.94%	3.13%	0.92%	0.86%	0.40%	146.06%	148.85%		
21	4.78%	3.13%	0.92%	0.70%	0.40%	147.09%	149.45%		
22	5.30%	3.13%	0.92%	1.20%	0.40%	148.85%	150.05%		
23	4.64%	3.13%	0.92%	0.56%	0.40%	149.69%	150.65%		
24	4.96%	3.13%	0.92%	0.87%	0.40%	150.99%	151.25%		
25	4.68%	3.13%	0.92%	0.60%	0.40%	151.89%	151.85%		

^{*}Average change in the CPI-W, Seattle, Tacoma, Bremerton, from 1984 to 2009.

Increase in salary = (1 + observed inflation + observed productivity) * (1 + observed merit) - 1

Appendix D

Historical Plan Performance			
Fiscal Year			
Ending	Investment		
June 30	Return		
1982	2.50%		
1983	47.30%		
1984	(0.03)		
1985	29.80%		
1986	26.90%		
1987	16.90%		
1988	4.20%		
1989	13.50%		
1990	8.30%		
1991	9.50%		
1992	8.20%		
1993	13.07%		
1994	2.10%		
1995	16.24%		
1996	16.49%		
1997	20.18%		
1998	17.12%		
1999	11.76%		
2000	13.56%		
2001	(6.75%)		
2002	(5.15%)		
2003	3.02%		
2004	16.72%		
2005	13.05%		
2006	16.69%		
2007	21.33%		
2008	(1.24%)		
2009	(22.84%)		
2010	13.22%		
2011	21.14%		
2012	1.40%		
2013	12.36%		

Geometric Averages	2011	2013
Total Period	10.84%	10.58%
Last 20 Years	8.77%	8.39%
Last 10 Years	6.68%	8.32%

Data Source: Washington State Investment Board Returns restated for 1993 and beyond.

Appendix E

	Historical Investment Data - Current Allocations								
Vasu	Investment	Vest	Investment	Vasa	Investment	Vern	Investment	Vasu	Investment
Year	Return	Year	Return	Year	Return	Year	Return	Year	Return
1926	6.87%	1947	1.53%	1968	13.47%	1989	13.50%	2010	13.22%
1927	22.10%	1948	2.75%	1969	(11.58%)	1990	8.30%	2011	21.14%
1928	26.54%	1949	13.51%	1970	2.16%	1991	9.50%	2012	1.40%
1929	(14.85%)	1950	21.78%	1971	13.42%	1992	8.20%	2013	12.36%
1930	(16.67%)	1951	9.75%	1972	10.27%	1993	13.07%		
1931	(29.66%)	1952	8.33%	1973	(13.14%)	1994	2.10%		
1932	0.19%	1953	(0.82%)	1974	(14.56%)	1995	16.24%		
1933	57.40%	1954	36.69%	1975	30.91%	1996	16.49%		
1934	9.46%	1955	16.66%	1976	29.01%	1997	20.18%		
1935	30.10%	1956	1.45%	1977	3.86%	1998	17.12%		
1936	31.10%	1957	(4.96%)	1978	8.09%	1999	11.76%		
1937	(26.97%)	1958	30.90%	1979	16.80%	2000	13.56%		
1938	21.64%	1959	7.99%	1980	20.86%	2001	(6.75%)		
1939	1.57%	1960	3.12%	1981	1.76%	2002	(5.15%)		
1940	(3.34%)	1961	18.93%	1982	2.50%	2003	3.02%		
1941	(5.93%)	1962	(3.75%)	1983	47.30%	2004	16.72%		
1942	19.62%	1963	14.89%	1984	(0.03%)	2005	13.05%		
1943	32.49%	1964	13.35%	1985	29.80%	2006	16.69%		
1944	21.99%	1965	15.09%	1986	26.90%	2007	21.33%		
1945	34.34%	1966	(4.84%)	1987	16.90%	2008	(1.24%)		
1946	(5.62%)	1967	27.44%	1988	4.20%	2009	(22.84%)		

Actual investment return for fiscal years ending June 30, 1982 and thereafter. Returns restated for 1993 and beyond. Estimated investment return prior to 1982.

Geometric Averages					
2011 2013					
Total Period	9.36%	9.30%			
Last 60 years	9.88%	9.98%			
Last 50 years	9.63%	9.70%			
Last 40 years	10.21%	10.69%			
Last 30 years	10.84%	9.80%			

Rolling 30-year Averages*				
Minimum	7.72%			
Maximum	12.65%			
Average	10.19%			

^{*} Starting in 1926. Last period ending 2013.

Assumptions*	Allocation		Return
Asset Class	2011	2013	
Global Equity	37%	37%	S&P 500
Fixed Income	20%	20%	Average of long-term corporate and government bond index
Private Equity	25%	25%	U.S. small cap stock index
Real Estate	13%	13%	Average of long-term corporate and government bond index
Tangible	5%	5%	CPI + 200 basis points

^{*}Constant asset allocation from 1926 through 1981. Based on WSIB's asset allocation for the given year. For the 2013 Economic Experience Study, we used WSIB's 2012 target asset allocation.

Appendix F

	Historical Investment Data - Alternate Allocations								
	Investment		Investment		Investment		Investment		Investment
Year	Return	Year	Return	Year	Return	Year	Return	Year	Return
1926	10.00%	1947	2.43%	1968	7.10%	1989	13.50%	2010	13.22%
1927	25.77%	1948	4.81%	1969	-7.73%	1990	8.30%	2011	21.14%
1928	26.75%	1949	13.23%	1970	8.50%	1991	9.50%	2012	1.40%
1929	-3.71%	1950	19.46%	1971	13.43%	1992	8.20%	2013	12.36%
1930	-12.41%	1951	13.09%	1972	13.98%	1993	13.07%		
1931	-27.44%	1952	11.96%	1973	-8.79%	1994	2.10%		
1932	0.62%	1953	0.82%	1974	-15.62%	1995	16.24%		
1933	34.46%	1954	34.09%	1975	27.09%	1996	16.49%		
1934	3.91%	1955	18.77%	1976	21.38%	1997	20.18%		
1935	31.52%	1956	1.46%	1977	-4.10%	1998	17.12%		
1936	23.20%	1957	-3.23%	1978	3.69%	1999	11.76%		
1937	-20.42%	1958	24.35%	1979	9.98%	2000	13.56%		
1938	21.00%	1959	6.53%	1980	18.11%	2001	-6.75%		
1939	1.74%	1960	4.85%	1981	-2.82%	2002	-5.15%		
1940	-3.97%	1961	17.29%	1982	2.50%	2003	3.02%		
1941	-6.22%	1962	-2.27%	1983	47.30%	2004	16.72%		
1942	13.37%	1963	14.36%	1984	-0.03%	2005	13.05%		
1943	16.52%	1964	11.54%	1985	29.80%	2006	16.69%		
1944	13.36%	1965	7.52%	1986	26.90%	2007	21.33%		
1945	24.83%	1966	-5.27%	1987	16.90%	2008	-1.24%		
1946	-4.52%	1967	11.56%	1988	4.20%	2009	-22.84%		

Actual investment return for fiscal years ending June 30, 1982, and thereafter. Returns restated for 1993 and beyond. Estimated investment return prior to 1982.

Geometric Averages					
2011 2013					
Total Period	8.56%	8.51%			
Last 60 years	9.08%	9.10%			
Last 50 years	8.68%	8.72%			
Last 40 years	9.46%	9.71%			
Last 30 years	10.84%	9.80%			

Rolling 30-year Averages*				
Minimum	7.04%			
Maximum	11.67%			
Average	9.05%			

^{*}Starting in 1926. Last period ending 2013.

Assumptions*				
Asset Class	Allocation	Return		
Equity	60%	S&P 500		
Fixed Income	40%	Average of long-term corporate and government bond index.		

^{*}Constant asset allocation from 1926 through 1981. Based on Washington State Investment Board's 2004 asset allocation.

Appendix G

WSIB Simulated Future Investment Returns					
Portfolio Statistics & Capital Market Assumptions					
	Target Expected Standard				
2013 Asset Class	Allocation	1-Year Return	Deviation		
Global Equity	37%	8.75%	18.50%		
Tangible Assets	5%	6.80%	7.30%		
Fixed Income	20%	3.50%	5.75%		
Private Equity	25%	11.75%	28.00%		
Real Estate	13%	8.00%	15.50%		
Cash	0%	2.50%	2.00%		
Total 2013 Target CTF	100%				
2011 Asset Class					
Global Equity	37%	8.65%	17.62%		
Tangible Assets	5%	6.50%	8.00%		
Fixed Income	20%	4.25%	5.00%		
Private Equity	25%	11.50%	27.00%		
Real Estate	13%	8.00%	15.00%		
Cash	0%	3.00%	2.00%		
Total 2011 Target CTF	100%				

Simulated Future Investment Returns*				
	Measurem	ent Period		
2013	15 Years	50 Years		
75th percentile	9.65%	8.62%		
60th percentile	8.31%	7.86%		
55th percentile	7.90%	7.63%		
Expected Return	7.49%	7.40%		
45th percentile	7.08%	7.17%		
40th percentile	6.67%	6.93%		
25th percentile	5.27%	6.13%		
	Measurem	ent Period		
2011	15 Years	50 Years		
75th percentile	10.14%	8.95%		
60th percentile	8.50%	8.04%		
55th percentile	8.01%	7.76%		
Expected Return	7.52%	7.49%		
45th percentile	7.04%	7.22%		
40th percentile	6.55%	6.94%		
25th percentile	4.94%	6.03%		

^{*}Source: Washington State Investment Board.

Appendix H

	Growth in Washington State Population - Historical and Projected*											
	Historical Growth		Projected Growth									
Year	Count	Annual Growth	Year	Count	Annual Growth	Geometric Averages	2011	2013				
1982	4,276,549		2013	6,881,504	0.93%	Last 25 years	1.71%	1.65%				
1983	4,307,247	0.72%	2014	6,954,668	1.06%	Last 20 years	1.65%	1.42%				
1984	4,354,067	1.09%	2015	7,029,758	1.08%	Last 15 years	1.41%	1.24%				
1985	4,415,785	1.42%	2016	7,105,670	1.08%	Last 10 years	1.37%	1.19%				
1986	4,462,212	1.05%	2017	7,182,231	1.08%	Last 5 years	1.53%	0.88%				
1987	4,527,098	1.45%	2018	7,259,406	1.07%	Next 5 years	1.19%	1.05%				
1988	4,616,886	1.98%	2019	7,336,680	1.06%	Next 10 years	1.19%	1.05%				
1989	4,728,077	2.41%	2020	7,414,437	1.06%	Next 15 years	1.15%	1.03%				
1990	4,866,692	2.93%	2021	7,492,433	1.05%	Next 20 years	1.10%	0.99%				
1991	5,021,339	3.18%	2022	7,570,617	1.04%							
1992	5,141,178	2.39%	2023	7,648,943	1.03%							
1993	5,265,691	2.42%	2024	7,726,324	1.01%							
1994	5,364,342	1.87%	2025	7,802,649	0.99%							
1995	5,470,108	1.97%	2026	7,877,749	0.96%							
1996	5,567,764	1.79%	2027	7,951,595	0.94%							
1997	5,663,763	1.72%	2028	8,024,209	0.91%							
1998	5,750,030	1.52%	2029	8,095,464	0.89%							
1999	5,830,833	1.41%	2030	8,165,376	0.86%							
2000	5,894,143	1.09%	2031	8,234,011	0.84%							
2001	5,970,330	1.29%	2032	8,301,548	0.82%							
2002	6,059,316	1.49%										
2003	6,126,885	1.12%										
2004	6,208,515	1.33%										
2005	6,298,816	1.45%										
2006	6,420,258	1.93%										
2007	6,525,086	1.63%										
2008	6,608,245	1.27%										
2009	6,672,159	0.97%										
2010	6,724,540	0.79%										
2011	6,767,900	0.64%										
2012	6,817,770	0.74%										

^{*}Source: Office of Financial Management. Additional computations have been performed to summarize data.

Appendix I

Historical System Growth*										
						WA Populat	ion Ages			
	PER	RS	WA Popi	ulation	TRS		5-17			
					# of					
	# of Active	Annual		Annual	Active	Annual		Annual		
Year	Members	Growth	# of People	Growth	Members	Growth	# of People	Growth		
1990	150,241	7.97%	4,866,692	2.93%	51,323	4.34%	893,252	3.54%		
1991	165,008	9.83%	5,021,339	3.18%	52,779	2.84%	930,866	4.21%		
1992	171,947	4.21%	5,141,178	2.39%	55,276	4.73%	960,367	3.17%		
1993	174,576	1.53%	5,265,691	2.42%	56,571	2.34%	992,179	3.31%		
1994	177,456	1.65%	5,364,342	1.87%	57,731	2.05%	1,020,268	2.83%		
1995	178,833	0.78%	5,470,108	1.97%	59,103	2.38%	1,050,730	2.99%		
1996	182,603	2.11%	5,567,764	1.79%	59,425	0.54%	1,077,440	2.54%		
1997	186,440	2.10%	5,663,763	1.72%	60,815	2.34%	1,101,252	2.21%		
1998	191,850	2.90%	5,750,030	1.52%	61,828	1.67%	1,113,531	1.12%		
1999	196,382	2.36%	5,830,833	1.41%	62,684	1.38%	1,119,908	0.57%		
2000	199,986	1.84%	5,894,143	1.09%	63,858	1.87%	1,119,533	(0.033%)		
2001	201,283	0.65%	5,970,330	1.29%	66,220	3.70%	1,121,086	0.14%		
2002	203,976	1.34%	6,059,316	1.49%	66,063	(0.24%)	1,125,692	0.41%		
2003	203,764	(0.10%)	6,126,885	1.12%	66,075	0.02%	1,125,535	(0.01%)		
2004	206,110	1.15%	6,208,515	1.33%	66,634	0.85%	1,127,775	0.20%		
2005	205,928	(0.09%)	6,298,816	1.45%	67,270	0.95%	1,132,190	0.39%		
2006	207,918	0.97%	6,420,258	1.93%	67,736	0.69%	1,143,545	1.00%		
2007	211,602	1.77%	6,525,086	1.63%	64,939	(4.13%)	1,148,590	0.44%		
2008	217,423	2.75%	6,608,245	1.27%	66,524	2.44%	1,145,629	(0.26%)		
2009	216,049	(0.63%)	6,672,159	0.97%	67,388	1.30%	1,140,370	(0.46%)		
2010	213,075	(1.38%)	6,724,540	0.79%	66,325	(1.58%)	1,141,697	0.12%		
2011	208,936	(1.94%)	6,767,900	0.64%	66,203	(0.18%)	1,135,372	(0.55%)		
2012	206,398	(1.21%)	6,817,770	0.74%	65,357	(1.28%)	1,135,966	0.05%		
Geometric Averages										
	1990-2012 1.73%			1.60%		1.24%		1.20%		
	Last 20 Years 0.92%			1.42%		0.84%		0.84%		
Last 10 Years 0.12%			1.19%		(0.11%)		0.09%			
Last 5 Years (0.50%)			0.88%		0.13%		(0.22%)			
Correlations										
1990-2012 PERS Annual Growth and WA Population Growth 86% and WA Population Ages 5-17 54°										
Popul	ation Growth			86%	86% and WA Population Ages 5-17					

^{*}Source: Department of Retirement Systems and Office of Financial Management. Additional computations have been performed to summarize data.

Appendix J

Annual Magnitude of System Growth Relative to State Population Growth						
	PERS System Growth	WA Population Growth	TRS System Growth	WA 5-17 Population Growth		
1990	7.97%	2.93%	4.34%	3.54%		
1991	9.83%	3.18%	2.84%	4.21%		
1992	4.21%	2.39%	4.73%	3.17%		
1993	1.53%	2.42%	2.34%	3.31%		
1994	1.65%	1.87%	2.05%	2.83%		
1995	0.78%	1.97%	2.38%	2.99%		
1996	2.11%	1.79%	0.54%	2.54%		
1997	2.10%	1.72%	2.34%	2.21%		
1998	2.90%	1.52%	1.67%	1.12%		
1999	2.36%	1.41%	1.38%	0.57%		
2000	1.84%	1.09%	1.87%	(0.03%)		
2001	0.65%	1.29%	3.70%	0.14%		
2002	1.34%	1.49%	(0.24%)	0.41%		
2003	(0.10%)	1.12%	0.02%	(0.01%)		
2004	1.15%	1.33%	0.85%	0.20%		
2005	(0.089%)	1.45%	0.95%	0.39%		
2006	0.97%	1.93%	0.69%	1.00%		
2007	1.77%	1.63%	(4.13%)	0.44%		
2008	2.75%	1.27%	2.44%	(0.26%)		
2009	(0.63%)	0.97%	1.30%	(0.46%)		
2010	(1.38%)	0.79%	(1.58%)	0.12%		
2011	(1.94%)	0.64%	(0.18%)	(0.55%)		
2012	(1.21%)	0.74%	(1.28%)	0.05%		
Geometric Average	1.73%	1.60%	1.24%	1.20%		
Magnitude Fa	actor	107.79% = 1.73% / 1.60%		103.30% = 1.24% / 1.20%		



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Promoting Individual Savings for Retirement - Comprehensive Report

Report Type:

Comprehensive Report

Date Presented:

9/25/2013

Presenter Name and Title:

Paul Neal, Senior Legal Counsel

Summary:

Members are not able to take advantage of a recent IRS ruling which provides new options for managing savings in retirement.

The initial report presented at the August meeting examined federal laws encouraging retirement savings, the costs of saving for retirement, different mechanisms for annuitizing retirement savings, and a recent IRS ruling authorizing annuitizing retirement savings through LEOFF Plan 2.

This report presents the Board with options for possible further action.

Strategic Linkage:

This item supports the following Strategic Priority Goals:

Goal 1 – Enhance the benefits for the members.

ATTACHMENTS:

	Description	Type
	Promoting Individual Savings For Retirement	Report
	Promoting Individual Savings for Retirement - Appendix D	Report
D	Promoting Individual Savings for Retirement	Presentation



Promoting Individual Savings for Retirement

Comprehensive Report September 25, 2013

Issue

Members are not able to take advantage of a recent IRS ruling which provides new options for managing savings in retirement.



2012 IRS Ruling

- Internal Revenue Bulletin 2012-8 issued February 21, 2012.
 - Allows a member of a 401(a) defined benefit plan to annuitize tax deferred retirement savings.
 - Allow employees to maintain a "sidecar" savings account within defined benefit trust fund.



Different Administrator Different Outcomes

Comparative Annuity Purchases Private Administrator & Private Annuity Purchase ■ DRS Administered & private annuity purchase ■ Private administrator & LEOFF 2 annuity purchase ■ DRS adminstered & LEOFF 2 annuity purchase \$578.14 \$523.12 \$403.60 \$365.19



Board Option 1

Authorize LEOFF Plan 2 to annuitize rollovers of tax deferred savings.

- Allows members to leverage existing LEOFF Plan 2 infrastructure;
- Requires legislation;
- Requires consultation with Ice Miller.



Board Option 2

Establish a 401(a) savings plan within LEOFF 2.

- Would likely have administrative costs similar to the DRS Deferred Compensation Program.
- Preliminary research indicates it may be more restricted than 457 plan – similar to the Plan 3 DC component.
- Requires consultation with Ice Miller.
- Requires legislation.

Board Option 3

Require LEOFF Employers to Offer DRS's Deferred Compensation Program to LEOFF Members.

- Combines 457 flexibility with low administrative fee;
- May need to account for existing local government contracts with private providers;
- Requires legislation.

Any Questions?

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PROMOTING INDIVIDUAL SAVINGS FOR RETIREMENT

COMPREHENSIVE REPORT

By Paul Neal Senior Legal Counsel 360-586-2327 paul.neal@leoff.wa.gov

ISSUE

Members are not able to take advantage of a recent IRS ruling which provides new options for managing savings in retirement.

MEMBERS IMPACTED

New options encouraging member's retirement savings as part of LEOFF Plan 2 would be available to all 16,805 active LEOFF Plan 2 members¹.

OVERVIEW

The LEOFF Plan 2 defined benefit Plan, the first leg of the three-legged retirement stool, provides a defined lifetime payout that does not vary with investment return. Retirees must devise their own distribution strategy for the second leg of the stool, individual retirement savings. Members can reduce the risk of outliving their assets if they convert at least some of those assets into a lifetime annuity.

LEOFF Plan 2 members may purchase an additional monthly benefit through the LEOFF Plan 2 trust fund by buying up to 5 years of additional service credit at the time retirement. Under current law, only Plan 3 members (TRS, PERS & SERS²) can convert contributions to an annuity from their retirement system.

Leveraging the existing LEOFF Plan 2 infrastructure to authorize accumulation of savings and/or converting that account to a monthly benefit through the LEOFF Plan 2 trust fund would provide a cost-effective mechanism to encourage retirement savings. This can be particularly important for LEOFF Plan 2 members since many do not participate in social security through their employer.

This report examines federal laws encouraging retirement savings, the costs of savings for retirement, different mechanisms for annuitizing retirement savings, a recent IRS ruling authorizing annuitizing retirement savings through LEOFF Plan 2, and provides options for further action.

¹ Membership number as of June 30, 2011; Office of the State Actuary 2011 LEOFF Plan 2 Valuation Report.

² Teachers' Retirement System (TRS); Public Employees' Retirement System (PERS); School Employees' Retirement System (SERS).



BACKGROUND INFORMATION & POLICY ISSUES

The LEOFF Plan 2 Retirement Board began studying ways to encourage increased retirement savings during the 2004 Interim. The Board recommended legislation allowing purchase of up to five years of service credit at retirement. The Legislature passed that recommendation in 2005 (HB 1269). That same year the Department of Retirement Systems (DRS) began offering the annuities through the Plan 3 programs. The Purchase of Annuity topic was studied by the Board during the 2006, 2007, 2008 and 2009 Interims reaching the Final Proposal stage in 2006, 2008 and 2009, but no legislation was recommended. The topic was deferred for joint consideration with the Select Committee on Pension Policy (SCPP) for the 2009 Interim. No further action was taken.

The paradox is that investors recognize that their retirement savings will need to last longer than ever before but they aren't making plans to ensure they will actually have the money they need. There tends to be a false sense of security when it comes to Planning for retirement. We hope that the money will somehow be there when we need it but we're not taking the action required to ensure it is. This is a serious problem, and addressing it must become an urgent priority.

Noel Archard, Head of BlackRock Canada. July 2013

SAVING FOR RETIREMENT

Federal Law Encouraging Retirement Savings

The federal tax code encourages individuals to save for, and invest in, retirement:

- Qualified deferred compensation plans, such as the IRS §457 plan offered through the
 Department of Retirement Systems (DRS) deferred compensation program, permit an
 individual to authorize pre-tax salary deductions for deposit into a personal investment
 account. Many LEOFF Plan 2 employers offer these types of plans to employees. Upon
 separation from employment a member may leave the funds invested or select a
 distribution option.
- Members may transfer funds between government defined benefit pension Plans like LEOFF Plan 2 and deferred compensation accounts such as 457, 403(b), and 401(k) Plans. This helps members manage retirement savings as they change employers.
- Purchase of up to five years of service credit or "air-time" was authorized in the Federal Pension Protection Act.



• A recent IRS revenue ruling³ allows members with funds in a deferred compensation account maintained by an employer to roll the funds over into their defined benefit plan and convert those funds to an annuity from the defined benefit Plan.

Using these federal provisions, some state and local government pension plans allow member fund transfers, including funds from tax-deferred accounts, into the primary defined benefit plans to purchase additional service credit or an annuity.

THE COST OF SAVING - DEFERRED COMPENSATION FEES

DRS operates a deferred compensation program under 26 U.S.C. §457, commonly called a "457 Plan". Washington's political subdivisions may participate in DRS's 457 Plan, or use another administrator, such as ICMA-RC. Administrative fees vary significantly. Comparing private administrator fees to DRS's annual .13% fee can be challenging since private administrators tend to use variable fee schedules rather than the flat fee charged by DRS, as demonstrated by the fee comparison table included as Appendix A.

The average net annual fee of the private 457 plan administrators examined in Appendix A is 1.29%, nearly 10 times the .13% charged by DRS. DRS's lower fees facilitate a larger accumulation from the same member contributions⁴:

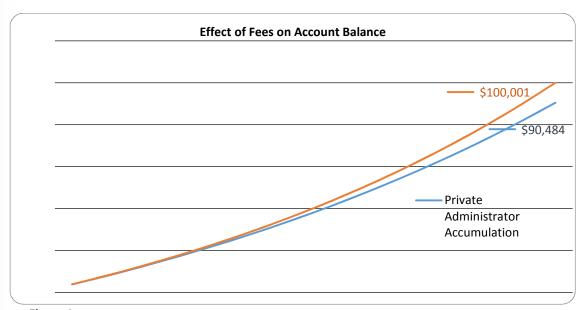


Figure 1

³ Internal Revenue Bulletin 2012-8; issued February 21, 2012.

⁴ The comparison assumes \$3,602 per year contribution for 15 years, earning interest at LEOFF PLAN 2's assumed rate of 7.5%, less annual fees.



ANNUITIZING ASSETS

Annuities can convert retirement savings into a guaranteed monthly income (this process is called annuitization) for a specified period of time. A life annuity provides that income for the member's lifespan in exchange for a lump-sum dollar amount paid up front. Deferred compensation plans do not normally allow for the distribution of assets in the form of an annuity directly from the fund. LEOFF Plan 2 members wishing to annuitize their retirement savings must purchase the annuity through an insurance company.

The price/value of the annuity depends in part upon the features selected by the purchaser. The terms and conditions of an annuity contract specify features such as whether the annuity will be for a single life or a joint annuity (like a survivor benefit feature), the payment frequency, adjustments for cost of living, and death provisions. Different methods for annuitizing assets are listed below, though not all are currently available to LEOFF Plan 2 members.

Trust Fund Annuity Purchase

TRS Plan 3, SERS Plan 3, and PERS Plan 3 members and survivors may convert some or all of the funds from their Plan 3 member account to a life annuity, RCW 41.50.088. The features and options of the Plan 3 annuities administered by DRS are detailed in Appendix B. This option is not available to LEOFF Plan 2 members.

DRS calculates the annuity that can be purchased for a given lump sum using an age based actuarial table to compute the monthly benefit per \$1.00 of accumulation for defined benefits. There is no limit on the amount of funds in the member account that can be converted to an annuity.

RCW 41.32.067 also allows TRS Plan 1, 2 and 3 members to purchase additional benefits through a member reserve contribution which is actuarially converted to a monthly benefit at the time of retirement. The statute was passed to provide teachers with out-of-state service credit a mechanism for transferring contributions from a prior system into TRS⁵.

Service Credit Purchase

LEOFF Plan 2 members can annuitize retirement savings by purchasing up to five years of additional service credit at the time of retirement. To purchase service credit under this option the member pays the actuarial present value of the resulting increase in the member's benefit. A member may pay all or part of the cost of the additional service credit with an eligible transfer from a qualified retirement plan. For more information on the history and methodology for calculating service credit purchases, see Appendix C.

⁵ See Laws of 1991 c 278 § 2.]



The federal 5-year "air time" limit works out to a maximum of \$86,484 that could be converted to a monthly benefit by the average LEOFF Plan 2 member⁶, see Appendix C. This is a key difference between a Plan 3 annuity conversion and a service credit purchase: the Plan 3 conversion does not have a maximum amount limit.

Commercial Market Annuity

Retirement savings can be annuitized by purchasing an annuity policy through insurance agents, financial planners, banks and life insurance carriers. However, only life insurance companies issue policies. Generally, commercial market annuities do not offer all the same features as the Plan 3 trust fund annuity and do not provide as favorable a payout. A primary reason for the payout difference is the different interest rate used to calculate the value of the annuity. Private insurers use a lower interest rate, due in part to the inclusion of a reasonable profit:

[A] private insurer will provide the annuity based on an interest rate of about 4 percent, whereas DRS will provide the annuity based on an interest rate of about 8%.⁷.

The interest rate differential drives a significant difference in payout amounts between private annuity contracts and contributions annuitized through the trust fund. Five different insurance companies quoted the monthly annuity with a 3% annual COLA they would provide the average LEOFF Plan 2 retiree⁶ for \$100,000:

Insurance Company	Quote
American General	\$389
Aviva	\$402
Fidelity & Guaranty Life	\$421
Genworth Life Insurance	\$406
Integrity Life Insurance	\$400
Average	\$404

If that same average LEOFF Plan 2 member were able to leverage the institutional advantages of the retirement system by annuitizing \$100,000 within the LEOFF Plan 2 system, the payout would be \$578.14⁸. That's a 43% increase over the average commercial quote, or \$174 more per month for life.

⁶ Age 56 with 17 years of service credit and a final average salary of \$5000 per month.

⁷ 2010 State Actuary 2010 fiscal note on the Board's purchase of annuity proposal.

 $^{^{8}}$ \$100,000 x .0057814 (conversion factor from DRS table for 56 year-old LEOFF member) = \$578.14 monthly life annuity



The chart below uses the 15 year accumulations calculated in figure 1 and estimates the annuity those accumulations would purchase from either an insurance company or the LEOFF Plan 2 trust fund.

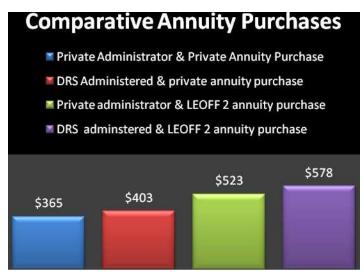


Figure 2

Current state law does not allow annuitization of retirement savings through the LEOFF Plan 2 trust fund. A recent IRS ruling gives the green light to such a program.

NEWLY AVAILABLE ALTERNATIVE: ANNUITIZATION THROUGH 401(A) PLAN

Federal tax law allows public defined benefit plans to add a member savings account within the plan, sometimes referred to as a companion account or "sidecar". Contributions to the employee savings account may be made by the employer or the employee and may be either pre-tax or after tax depending on plan design.

Under the recent IRS ruling cited above, a retirement savings account can be annuitized within the 401(a) defined benefit plan to obtain an additional monthly benefit paid through the trust fund. This can be done either through a employee savings account administered within the 401(a) plan or by rolling over retirement savings from another plan such as a 457 plan.

A "sidecar" plan administered through LEOFF Plan 2 could leverage the institutional advantages available to active members as participants in an existing state-administered Plan. Those advantages include the lower fees charged by DRS to administer the savings plan, and the more favorable annuity payout when purchased through the existing LEOFF Plan 2 trust fund.



Potential Risks

The purchase of an annuity through the LEOFF Plan 2 trust fund would not have a cost to the system⁹ under current actuarial assumptions. There is, however, a potential risk to the fund if those assumptions change or actual experience falls below assumed levels. When an annuity is purchased, the member locks in the actuarial assumptions in place at that time. A subsequent change in assumptions may knock the annuity out of actuarial equivalency.

For instance, the Actuary's 2010 fiscal note assumed a trust fund annuity would be calculated using the fund's 8% interest assumption. The Board has since reduced that assumption to 7.5%. An annuity locked in with an 8% interest assumption would be "too high" under a 7.5% assumption, causing a \$12,980 actuarial loss to the fund⁹.

POLICY OPTIONS

The specifics of options available to the Board are in many ways a function of federal tax laws. DRS has received some guidance from the law firm of Ice Miller as of this writing. The LEOFF Plan 2 Board staff had additional questions which are still pending at this time. The options presented below, while accurate in broad strokes, may have to be modified in subsequent presentations depending on future tax law guidance. Additionally, option 1 could be combined with either option 2 or option 3.

Option 1: Propose Legislation authorizing LEOFF Plan 2 to accept roll-overs of tax deferred savings and annuitize those amounts through the plan upon retirement.

Under this option the Board would direct staff to develop legislation authorizing DRS to accept roll-overs from LEOFF Plan 2 members for annuitization at the time of retirement. Further guidance is required to determine what types of roll-overs are allowable under federal tax laws and what limitations, if any, there are on annuitization of rolled over amounts.

Option 2: Propose Legislation establishing a 410(a) savings plan within LEOFF 2 to accept contributions from LEOFF Plan 2 members.

Under this option the Board would direct staff to develop legislation establishing a "sidecar" savings plan within LEOFF Plan 2 that could accept member contributions for distribution following retirement. Preliminary research indicates that this vehicle would be less flexible that a 457 plan such as that administered by DRS's Deferred Compensation Program. Member contributions may be required to follow the same rules as Plan 3 contributions. A member could be required to select a rate upon enrollment. Like the Plan 3 contribution rates, once selected the rate could not be changed except upon change of employment. Voluntary member contributions, which could apparently fluctuate, would be after-tax.

-

⁹ See OSA fiscal note on 2010 annuity purchase proposal, Appendix C.



Option 3: Require LEOFF Employers to Offer DRS's Deferred Compensation Program to LEOFF Members.

This option provides a more flexible plan than the 401(a) option. The Board would propose legislation requiring all LEOFF Plan 2 employers to offer the state administered 457 plan. This would ensure that LEOFF 2 members can avail themselves of a plan with the lowest possible administrative fees.

SUPPORTING INFORMATION

Appendix A: Deferred Compensation Fee Comparison

Appendix B: Plan 3 annuity purchase option features

Appendix C: Service Credit Purchase history and example

Appendix D: OSA draft fiscal note



Appendix A

DEFERRED COMPENSATION FEE ANALYSIS

An approximation of annual fees for private administration of a 457 deferred compensation plan was derived by working from a table developed by The City of Duluth in 2013 to allow employees to compare costs of 4 different 457 Plan administrator. Fees were highly variable. Board staff averaged the fees of each provider and then averaged those to derive a net average estimated annual fee. Given the small sample and the assumptions that had to be made in averaging, this is a "ball park" figure provided solely for purposes of comparison.

	Hartford Life I Compensation		ICMA Retireme Corporation De Compensation	eferred			NationwideDeferred Compensation Program		
	Original data	Average fee	_	Average fee	Original data	Average fee	_	Average fee	
Annual	No	0 %	No.	0%	No	0%	No.	0%	
Account									
Fees									
Daily	75 - 90 bps	.825 %	0.55%	.55%	0.10% annual	.1%	0.50% annual	.375%	
Asset-			administration		administrative		administrative		
Based			fees on all		fee, charged		fee on all		
Charges			assets;		only on the		variable fund		
			additional		first \$100,000		assets. 0.25%		
			0.15% fee on		in an individual		annual		
			assets in non-		account.		administrative		
			proprietary				fee on fixed		
			funds.				account option.		
Fund	Varies by	1.21%	Fund expenses	.93%	Fund expenses		Fund expenses	.7%	
Operating	investment		range from		range from		range from		
	option, from		0.46% to		0.01% to		0.00% to 1.40%.		
·	0.0% to 2.42%		1.40%		0.93%.				
Net fee	2.035% 1.48% .57% 1.075%						6		
estimate									
Average									
for all									
plans		1.29%							



APPENDIX B CURRENT ANNUITY PURCHASE FEATURES

The purchase of annuity currently administered by DRS through the Plan 3 programs includes the following features:

WSIB	WSIB Investment Program Annuity Features and Options						
Contract Provider	Washington State						
Minimum Purchase Price	\$25,000						
Annuity Payment Frequency	Monthly						
Rescission Period	15 calendar days from date of purchase						
Single Life Annuity	Provides regular payment for as long as annuitant lives.						
	Automatic 3% Annual Cost of Living Adjustment (COLA)						
	Conversion option to Joint Life Annuity						
	Balance Refund						
Joint Life Annuity	Provides regular payment for as long as member or joint annuitant is alive.						
	Joint annuitant survivorship options: 100%, 66 2/3%, or 50%						
	Automatic 3% Annual COLA						
	Monthly payment pops-up to Single Life Annuity amount if joint annuitant						
	predeceases member.						
	Balance Refund						

Annuitant – The member/owner who purchases the annuity; the payee who receives lifetime monthly payments.

Balance Refund – Any remaining balance equal to the original purchase price minus the total of all annuity payments made to the single or joint annuitants, may be refunded to the specified beneficiary.

Conversion Option – If a single life annuity is purchased and then a subsequent marriage occurs, a one-time opportunity is available to convert to a joint life annuity with the new spouse as the joint annuitant. If a joint annuity is purchased with someone other than a spouse named as the joint annuitant, the annuity may be converted to a single life annuity after payments have begun.

Joint Annuitant – The person designated to receive an ongoing payment in the event of the annuitant's death.

Pop-up – An increase from a joint annuity payment amount to the full single life annuity amount if the annuitant outlives the joint annuitant.

Rescission Period – A period of time (typically 7 to 15 days) during which the terms of the contract may be canceled or altered



APPENDIX C SERVICE CREDIT PURCHASE

Since 2005 the inception of the service credit purchase of "air time" benefit through August of 2007, 15 service credit purchase billings have been requested from DRS and paid in full. The average cost of all fifteen billings was \$103,045. The average benefit increase from the fifteen billings was \$597 per month. The average break-even point is just over 14 years, or age 69.

LEOFF Plan 2 SC Purchases at Time of Retirement									
Year Paid	2006	2007	2008	2009	2010	2011	2012	2013	Grand Total
Number of PSC Bills Paid	6	10	11	15	30	42	57	43	214
Average Cost of PSC Bill	\$106,853	\$102,102	\$85,391	\$99,161	\$119,527	\$123,924	\$120,245	\$132,699	\$118,876
Average SC Months of PSC Bill	55	53	44	48.5	54.6	51.8	48.4	54.3	51.3

A five year service credit purchase by an average LEOFF Plan 2 retiree who, at the time of retirement, is 56 with 17 years of service, and a monthly final average salary of \$5,000 is detailed below:

Service Credit Purchase Calculation

1. Calculate Base Benefit: $2\% \times 17 \text{ YOS} \times \$5,000 = \$1,700 \text{ per month}$

2. Add 5 Years Of "Air Time": 2% × 22 YOS × \$5,000 = \$2,200 per month

3. Calculate Increase in Monthly Benefit from Additional Service Credit: \$2,200 - \$1,700 = \$500 increase per month

4. Calculate Service Credit Purchase Cost: \$500 ÷ 0. 0057814 ¹⁰ = \$86,484

¹⁰ The factor for the "Monthly benefit per \$1.00 of accumulation for defined benefit Plans" for an age 56 LEOFF Plan 2 member from WAC 415-02-340.



APPENDIX D OSA FISCAL NOTE OF 2010 ANNUITY PURCHASE PROPOSAL

Attached Separately

DRAFT ACTUARY'S FISCAL NOTE

RESPONDING AGENCY:	CODE:	DATE:	PROPOSAL [NAME or Z-NUMBER]:
Office of the State Actuary	035	12/07/09	LEOFF 2 Annuity Purchase

WHAT THE READER SHOULD KNOW

The Office of the State Actuary ("we") prepared this draft fiscal note based on our understanding of the proposal as of the date shown above. We intend this draft fiscal note to be used by the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 2 Board throughout the 2009 Interim only. If a legislator introduces this proposal as a bill during the next Legislative Session, we will prepare a final fiscal note based on that bill language. The actuarial results shown in this draft fiscal note may change when we prepare our final version for the Legislature.

We advise readers of this draft fiscal note to seek professional guidance as to its content and interpretation, and not to rely upon this communication without such guidance. Please read the analysis shown in this draft fiscal note as a whole. Distribution of, or reliance on, only parts of this draft fiscal note could result in its misuse, and may mislead others.

SUMMARY OF RESULTS

This proposal would authorize the Department of Retirement Systems (DRS) to provide optional actuarially equivalent annuity purchases from the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 retirement fund to LEOFF Plan 2 members and survivors.

This proposal does not impact the expected actuarial funding of the system. Please see the body of this draft fiscal note for a detailed explanation.

WHAT IS THE PROPOSED CHANGE?

Summary Of Change

This proposal impacts the LEOFF Plan 2 by authorizing DRS to provide optional actuarially equivalent annuity purchases from the LEOFF Plan 2 retirement fund to LEOFF Plan 2 members and survivors. The proposal allows members to purchase annuities prior to retirement. DRS would develop the life annuity benefit schedules no later than December 31, 2010.

Assumed Effective Date: 90 days after session.

What Is The Current Situation?

Plan 3 members may purchase a similar annuity with contributions invested in the Total Allocation Portfolio of the Washington State Investment Board (WSIB) investment program, but only at the time of retirement. LEOFF Plan 2 members may purchase up to five years of additional service by paying the full actuarial value of the service at the time of retirement.

Who Is Impacted And How?

We estimate this proposal could affect all 16,626 active members of LEOFF Plan 2 with the option of improved benefits.

We estimate this proposal will increase the benefits for a typical member by providing the option to annuitize their retirement savings. Annuitizing their money provides a member security against outliving their assets. In addition, the annuity offered to them through DRS will cost far less than an annuity bought from a private insurer. A private insurer calculates annuities based on a lower interest rate to account for risk and profit.

For example, a private insurer will provide the annuity based on an interest rate of about 4 percent, whereas DRS will provide the annuity based on an interest rate of about 8 percent. For a member age 55 buying a \$10,000 life annuity, this would mean they would pay a private company about \$165,000, whereas they would pay DRS about \$110,000.

WHY THIS PROPOSAL DOES NOT HAVE A COST

Why This Proposal Does Not Have A Cost

This proposal does not have an expected cost because the member is paying the full actuarial value.

Who Will Pay For These Costs/Savings If They Arise?

The member will pay the actuarially equivalent value of the annuity.

However, as the experience of the system emerges, if the payment is more or less than the actual value of the annuity, then LEOFF Plan 2 contribution rates will increase or decrease accordingly.

HOW WE VALUED THESE COSTS

Assumptions We Made

We assumed that the payments made by the members will equal the full actuarial value of the annuity. We would need to make several assumptions to determine the purchase price of the annuity:

- Expected rate of investment return.
- Expected rate of mortality for the annuitant.
- The annuity start date the member's retirement date (if purchased prior to retirement).

As with any actuarial calculation that involves estimating future events, actual experience may differ from the underlying assumptions made. When actual experience differs from what we assumed would occur, the system experiences an actuarial gain or loss. An actuarial gain would decrease plan liabilities (or increase assets); whereas, an actuarial loss would increase plan liabilities (or decrease assets). Therefore, we cannot say with certainty that this proposal will not impact plan liabilities in the future.

If the members who purchase annuities, on average, live shorter/longer than assumed, the system will experience actuarial gains/losses in the future. If the actual rate of investment return is more/less than the assumed rate, the system will experience actuarial gains/losses from this assumption as well. For these two assumptions, we will not know whether a gain or loss has occurred until DRS has made all payments under the annuity contract.

The assumed annuity start date, or member's retirement date, will also produce a source of actuarial gain or loss for members who purchase annuities prior to their retirement date. For this particular assumption, we can determine whether an actuarial gain or loss has occurred at the time of retirement. DRS may have the option to adjust the purchase price or adjust the annuity amount (a "true up") at the time of retirement to eliminate this source of gain/loss. Without such an adjustment, the potential for significant actuarial gain/loss, on an individual member basis, exists for this particular assumption.

Otherwise, we developed these costs using the same assumptions as disclosed in the 2008 Actuarial Valuation Report.

HOW THE RESULTS CHANGE WHEN THE ASSUMPTIONS CHANGE

To determine the sensitivity of the actuarial results to the best-estimate assumptions selected for this pricing we varied the following assumptions:

- Mortality rate We determined the cost to the system if the annuity amount was calculated based on higher mortality rates than what actually occurs over time (people lived longer than assumed). For this sensitivity we used 100 percent of scale AA mortality improvement rather than the assumed 50 percent.
- **Investment returns** We determined the cost to the system if the annuity amount was calculated based on a higher investment returns than what actually occurs over time (investments pay less than assumed). For this sensitivity we used a 7.5 percent investment return rather than the assumed 8 percent.
- **Annuity start date** We determined the cost to the system if the annuity amount was calculated based on a later retirement date than what actually occurs over time (people start collecting the annuity earlier than assumed). For this sensitivity we used a start age of 53 rather than an assumed age of 55.
- **All of the above** We determined the cost to the system if all three of the assumptions are incorrect, as described above, at the same time.

The table below shows the expected results versus the four sensitivity runs outlined above. The example outlines the impact due to one member currently age 40 who purchases an annuity with \$100,000. When all three occur at once, the liability is larger than the sum of each of the three individually because of the interaction of these assumptions.

Sensitivity Example – 40-Year- Old Male Purchases Retirement Annuity With \$100,000							
Scenario	Cash Paid From Member To Plan	Present Value of Plan Annuity	Cost to the System				
1) Expected	\$100,000	\$100,000	\$0				
2) Lower Mortality Than Expected	\$100,000	\$102,549	\$2,549				
3) Lower Asset Returns Than Expected	\$100,000	\$112,980	\$12,980				
4) Earlier Retirement Age Than Expected	\$100,000	\$120,794	\$20,794				
5) Scenarios 2, 3, and 4	\$100,000	\$138,777	\$38,777				

Assumes annuity calculation based on 3% COLA, and 90%/10% male/female mortality blend.

ACTUARY'S CERTIFICATION

The undersigned hereby certifies that:

- 1. The actuarial cost methods are appropriate for the purposes of this pricing exercise.
- 2. The actuarial assumptions used are appropriate for the purposes of this pricing exercise.
- 3. The data on which this draft fiscal note is based are sufficient and reliable for the purposes of this pricing exercise.
- 4. Use of another set of methods and assumptions may also be reasonable, and might produce different results.
- 5. This draft fiscal note has been prepared for the Law Enforcement Officers' and Fire Fighters' Retirement System Plan 2 Board.
- 6. This draft fiscal note has been prepared, and opinions given, in accordance with Washington State law and accepted actuarial standards of practice as of the date shown on page one of this draft fiscal note.

This draft fiscal note is a preliminary actuarial communication and the results shown may change. While this draft fiscal note is meant to be complete, the undersigned is available to provide extra advice and explanations as needed.

Matthew M. Smith, FCA, EA, MAAA

State Actuary

GLOSSARY OF ACTUARIAL TERMS

Actuarial Accrued Liability: Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the present value of fully projected benefits attributable to service credit that has been earned (or accrued) as of the valuation date.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions (i.e. interest rate, rate of salary increases, mortality, etc.).

Aggregate Funding Method: The Aggregate Funding Method is a standard actuarial funding method. The annual cost of benefits under the Aggregate Method is equal to the normal cost. The method does not produce an unfunded liability. The normal cost is determined for the entire group rather than on an individual basis.

Entry Age Normal Cost Method (EANC): The EANC method is a standard actuarial funding method. The annual cost of benefits under EANC is comprised of two components:

- Normal cost.
- Amortization of the unfunded liability.

The normal cost is determined on an individual basis, from a member's age at plan entry, and is designed to be a level percentage of pay throughout a member's career.

Normal Cost: Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year.

Projected Unit Credit (PUC) Liability: The portion of the Actuarial Present Value of future benefits attributable to service credit that has been earned to date (past service).

Projected Benefits: Pension benefit amounts which are expected to be paid in the future taking into account such items as the effect of advancement in age as well as past and anticipated future compensation and service credits.

Unfunded PUC Liability: The excess, if any, of the Present Value of Benefits calculated under the PUC cost method over the Valuation Assets. This is the portion of all benefits earned to date that are not covered by plan assets.

Unfunded Actuarial Accrued Liability (UAAL): The excess, if any, of the actuarial accrued liability over the actuarial value of assets. In other words, the present value of benefits earned to date that are not covered by plan assets.

P.O. Box 40914 Olympia, WA 98504-0914 actuary.state@leg.wa.gov

Regular Committee Meeting

September 17, 2013 10:00 a.m. – 12:00 p.m.* Senate Hearing Room 4 Olympia

AGENDA

10:00 a.m. **1. Approval of Minutes**

10:05 a.m.

2. State Actuary's Recommendations on Long-Term Economic Assumptions – Matt Smith, State Actuary

Work Session with Public Hearing and Possible Executive Session

10:40 a.m. **3. Retire-Rehire Corrections** – Aaron Gutierrez, Policy Analyst

Work Session

TRS 3 Member Rate Flexibility – Aaron Gutierrez
 PSERS Study Update – Devon Nichols, Policy Analyst

12:00 p.m. **6. Adjourn**

*These times are estimates and are subject to change depending on the needs of the Committee.

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*Senator Barbara Bailey, Vice Chair

*John Boesenberg PERS/Higher Ed Employer

Representative Bruce Chandler

Senator Steve Conway,

Randy Davis
TRS Actives

*Eugene Forrester TRS Retirees

*Marcie Frost, Director Department of Retirement Systems

Senator Steve Hobbs

*Robert Keller PERS Actives

Representative Matt Manweller

Corky Mattingly PERS Employers

Doug Miller PERS Employers

Glenn Olson PERS Employers

*Representative Timm Ormsby, Chair

Senator Mark Schoesler

David Schumacher, Director Office of Financial Management

Representative Pat Sullivan

J. Pat Thompson PERS Actives

Robert Thurston WSPRS Retirees

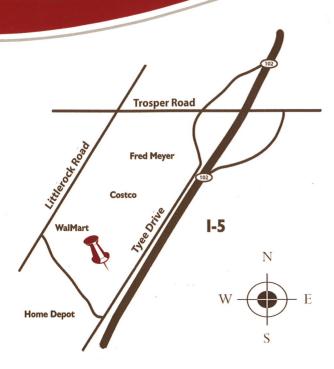
David Westberg
SERS Actives

*Executive Committee

Come Visit Us

From Interstate 5, take Exit 102 for Black Lake/ Trosper Road. Northbound visitors will a take left off the exit and turn left onto Tyee Drive; southbound visitors will proceed straight through the intersection at the exit on to Tyee Drive.

After passing Fred Meyer and Costco, the main entrance will be on the right, approximately 100 yards past Costco.









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Annual Board Member Training

Date Presented:

9/25/2013

Presenter Name and Title:

Dawn Cortez, Assistant Attorney General

Summary:

Board members are responsible for complying with state laws governing ethics, open public meetings, and public disclosure. The Board's Assistant Attorney General annually presents an overview of these laws to the Board and responds to any member questions.

Strategic Linkage:

This item supports the following Strategic Priority Goals:
Goal 3 – Maintain the financial integrity of the plan., Goal 4 – Inform the stakeholders.

ATTACHMENTS:

Description Type

AAG Annual Board Member Training Presentation

Role of the Attorney General and Assistant Attorneys General







DAWN C. CORTEZ
ASSISTANT ATTORNEY GENERAL
WASHINGTON ATTORNEY
GENERAL'S OFFICE

SO, WHY DOES THE BOARD HAVE AN AAG?

Role of the Attorney General RCW 43.10.030

Attorney General shall:

- (1) Appear in all appeals in which the state is interested;
- (2) Institute and prosecute all cases which may be necessary in the execution of the duties of any state officer;
- (3) Defend all actions and proceedings against any state officer or employee acting in his or her official capacity, in any of the courts of this state or the United States; ...
- (5) Consult with and advise ... state officers, and when requested, give written opinions upon all constitutional or legal questions relating to the duties of such officers;
- (6) Prepare proper drafts of contracts and other instruments relating to subjects in which the state is interested; ...

Representation of boards, commissions and agencies

RCW 43.10.040

The attorney general shall also represent ... all ...boards ... of the state in the courts, and before all administrative tribunals or bodies of any nature, in all legal or quasi legal matters, hearings, or proceedings, and advise all ... boards ... of the state in all matters involving legal or quasi legal questions...

Impact of consulting with non-AG attorneys

- No attorney client privilege exists
 - Statements/advice in public records are not exempt emails, advice, letters
 - No privilege in a deposition or court testimony
- Not an official legal opinion
 - May not be argued in court the way the Board was told
 - The opinion advice may be very different from what other agencies receive.
- AAGs can give a more objective opinion, since they are not employed by the Board
- AAGs have approx. 500 other AAGs to consult on an issue

Non- AG Attorneys

- The Director is an inactive attorney
- A staff member is a licensed attorney
- A Board member is a licensed practicing attorney
- Counties and Cities have attorneys
- Unions, Associations and Guilds have attorneys
- Friends or family may be attorneys

Ethics in Public Service







Will address these issues and applicable rules:



Use of LEOFF Plan 2 trust (trust) resources Gifts, meals, and travel expenses Use of the Board's confidential information Campaign contributions Open Public Meetings Act

Fundamental Ethics Principles:



When serving as a Board member you are required to act solely in the interest of the Plan membership and the trust funds



May not use your position to obtain (or *attempt* to gain) gifts, rewards, special benefits, or privileges for yourself or others

May not use trust resources for personal benefit or to benefit other personal interests

Board members have a duty to diligently protect the trust from actual and potential conflicts of interest

For management/supervisors, knowing acquiescence of an ethics law violation by a person under your direction, control, or influence actions of another is itself an ethics violation

Where do all these rules come from?



State regulations:

WAC 292-110 (Executive Ethics); WAC 390 (Public Disclosure Commission [PDC]); State Agency Accounting Manual (Office of Financial Management)

Administrative guidance or decisions (Executive and Legislative Ethics Boards and PDC)

State statutes (primarily RCW 41.04.300, 42.17A, 42.20, & 42.52) and case law on fiduciary principles

Use of Trust Resources





May not use trust resources for personal benefit or to benefit others

Trust "resources" include, among other things, its funds, office space, staff time, computers, ipads, cell phones, data and intellectual property

Categorically prohibited uses of Trust resources include:

Any use for the purpose of promoting or benefiting an outside business, group, or financial interest;

any lobbying or campaign purpose;

any illegal conduct or any use that is contrary to agency policy

De minimis use of Trust resources may be permitted only if:

The use is not prohibited (see above); there is no or negligible cost to the Trust

Most commonly reported resource misuse cases:



Employee use of agency technology resources for outside business purpose or personal use including:



Storing personal or business documents on hard drives
Visiting pornographic, travel, or shopping websites
Sending jokes or inappropriate content by email
Using email to conduct outside or personal business
Using internet bandwidth to listen to music or watch videos
Using state cell phone for personal calls

Executives using agency staff for personal or outside business

Personal or outside business use of state cars or car repair facilities

Using state credit cards for personal use

Promotion of campaigns via state email

Theft

Prohibitions Apply to Specific Activities

- Receipt of gifts
- Disclosure of confidential information
- Concealment of information when required to disclose
- Use of state resources for private gain or benefit
- Use of state resources for political campaigns
- Financial interest in transactions involving the state
- Outside financial interests, including compensation from outside activities
- Honoraria
- Employment of former employees
- Assisting persons in transactions involving the state

Gifts: If you want it, you probably can't have it ...



A Board Member cannot seek or accept anything of economic value that could reasonably be expected to influence or reward performance of your duties

Your ability to accept valuable things that *aren't* designed to influence or reward depends on your status, the status of the giver and the nature of the gift

Gifts - Generally

- Cannot accept a gift, if it could reasonably be expected to influence the performance or nonperformance of an officer's official duties
- Cannot accept a gift from any one source with a value in excess of \$50 a year
- Does not include
 - o items related to outside business that are customary and not related to official duties
 - o gifts from friends & family
 - o items donated or returned

OK under Section 4

- Advertising and promotional items (tokens)
- Plaques and awards of appreciation
- Items received for purpose of evaluation, if no beneficial interest (samples of products)
- Publications related to official duties
- Food and beverages at hosted receptions
- Admission to a charitable event
- And . . . there's more

Also OK under Section 4

- Items from family & friends, if clear purpose was not to influence
- Customary items related to outside business
- Items exchanged at social events by coworkers
- Items permitted by law
- Items returned or donated to charity within 30 days
- Lawful campaign contributions
- Discounts available to individual as a member of a broad based group

Gifts - Caution!



- Different and more restrictive standards apply when employee is involved in regulation or acquiring goods and services
- Referred to as "Section 4" restrictions (RCW 42.52.150(4))
- Section 4 applies when the WSHS approves contracts for goods or services

Not OK under Section 4

- Flowers
- Gifts from dignitaries
- Food and beverages
 - Even on infrequent occasions in the ordinary course of meals when related to official duties
- Expenses (travel, room & meals) for speech or seminar, even if reasonable
- Other gifts, even those valued at less than \$50

Still more on gifts ...







Even if gift is legal, employees and Board members should evaluate the propriety of accepting a gift

Nothing good comes from an ethics rule violation or the appearance of a violation

Close cases should always be decided by rejecting gifts

When in doubt, decline the gift, return it, or donate it within 30 days

Meals and Travel



Trust employee and officer travel governed by rules in OFM SAAM manual

Travel and meeting attendance must be approved in advance

Check with Jessica Burkhart

Request should identify any anticipated entertainment in request

Cannot accept entertainment paid by Trust partners or contractors. Can pay your own way if no "special access" involved. Should get receipt or some other form of documentation.

Board's Confidential Information





Confidential materials and information must be used solely for authorized LEOFF 2 Plan purposes

Information is confidential if: (1) not available to the public on request (*i.e.*, information subject to confidentiality agreement) or (2) if made confidential by law (*personal information*)

Confidential information may not be disclosed to an unauthorized person.

Confidential information includes protected attorney client privileged material.

What about campaign contributions?



Reported contributions are not "gifts" – RCW 42.52.010(10)(h)

If there is a quid pro quo involved, a contribution from a contractor could be considered as "compensation, gratuity, or reward" from an entity interested in state business (RCW 42.52.030; RCW 42.52.110;

Recusal from Board/Staff Action/Deliberation/Discussion



Board members and staff owe an absolute duty of loyalty to the Board and beneficiaries of the funds and must recuse from participation if:

Beneficially interested, directly or indirectly, in requested Board decision or action

Beneficially interested in the entity or group seeking business from the Board

Accepted compensation or reward from those beneficially interested in the Board decision or action

Motivated by other than the best interests of the Board or beneficiaries

Soliciting, or being recruited for, employment by entity doing business with the Board

But, by my position requirements I have an interest in the Plan?

RCW 42.26.715 acknowledges and requires that the LEOFF Plan 2 Board consist of members who have an interest in the Plan, but must still act in the best interests of the Plan as a whole and not your individual interest or the group from which you are selected.

Example: Excess Compensation:

The Board may be asked to take a position on a legislative proposal. A Board member must weigh

- the impact on members who may be denied opportunities for overtime
- the impact on the fund of providing additional retirement compensation
- the potential impact on employers who may be charged for additional retirement payments incurred by granting excess compensation during the relevant time frame.
- A Board member may not just consider the impact of the proposal on one group.

Most commonly reported non- resource violations:



State employee awarding contract to affiliated business;

State employee negotiating contract and future employment with contractor simultaneously;

State employees accepting gifts from contractors

How do ethics violations come to light?



Staff, co-worker, or subordinate whistleblower complaints

State Auditor's Office audits

Employee performance investigations

Uncovered during the course of another investigation

Reports by the public or media

Sanctions for Ethics Violations:



Damages suffered by the state



Civil penalties of up to \$5,000 per violation or 3 times value received or sought in violation of laws or rules

May be barred from or limited in doing business with the Board

May be subject to official reprimand by Board

May be removed from Board or terminated from office or position

Contract may be rescinded without any liability to the state

May be subject to action by a citizen, or by the Attorney General

Open Public Meetings







Open Public Meetings Act (OPMA) (RCW 42.30):



By statute, all Board meetings are open to the public and official notice must be provided

A meeting occurs whenever six Board members gather to transact official business including but not limited to:

the receipt of public testimony; deliberations; reviews; evaluations; considerations; and discussions

OPMA recurring questions





Yes, if it involves a quorum of the board in an exchange of views Not if it is a one-way communication Emails exchanged during a public meeting are public records



Can a Board member attend the meeting of a Committee of which he or she is not a member?

Yes, members have the same right to attend and observe as any member of the public;

However if a voting member participates in the discussion of Board business with five other voting members, there would be an unnoticed Board meeting

When may Board go into executive session?

Only when allowed by statute:

Public contract negotiations;

Candidate or employee evaluations;

Litigation or legal matters;

Valuable financial or commercial information related to investment

Links to some additional resources:

State travel reimbursement regulations: http://www.ofm.wa.gov/policy/10.htm

Answers to ethics FAQs from Executive Ethics Board: http://www.ethics.wa.gov/RESOURCES/FAQ.htm

Training aids on recurring ethics topics for supervisors: http://www.ethics.wa.gov/TRAINING/Ethics_Manual.htm

AGO legal memorandum on use of agency resources for campaigns: http://www.ethics.wa.gov/RESOURCES/public%20fund%20memo%202009.pdf



Career Change - Comprehensive Report

Report Type:

Comprehensive Report

Date Presented:

9/25/2013

Presenter Name and Title:

Paul Neal, Senior Legal Counsel

Summary:

The Board recommended a current Career Change policy to enable retired law enforcement officers and firefighters to transition to a new non-LEOFF career. This policy recommendation was passed into law in 2005.

An unintended loop-hole has been misused to enable a LEOFF Plan 2 retiree to work as a law enforcement officer while still drawing a LEOFF 2 pension.

Misuse of the career change law to draw a LEOFF Plan 2 salary while working as a law enforcement officer undermines both public trust in the LEOFF Plan 2 system and the legitimate policy goals of the original law.

The report follows up on the inital presentation to the Board provided at the August meeting. This report provides additional data about the usage of the career change benefit over the last 8 years and presents the Boad with options for further action.

Strategic Linkage:

This item supports the following Strategic Priority Goals:

Goal 3 – Maintain the financial integrity of the plan., Goal 4 – Inform the stakeholders.

ATTACHMENTS:

Description

Career Change

Career Change

Career Change

Presentation



Career Change

Comprehensive Report September 25, 2013

Issue

 Abuse of "Career Change" legislation could undermine public trust that the plan is responsibly designed and professionally managed.



Background

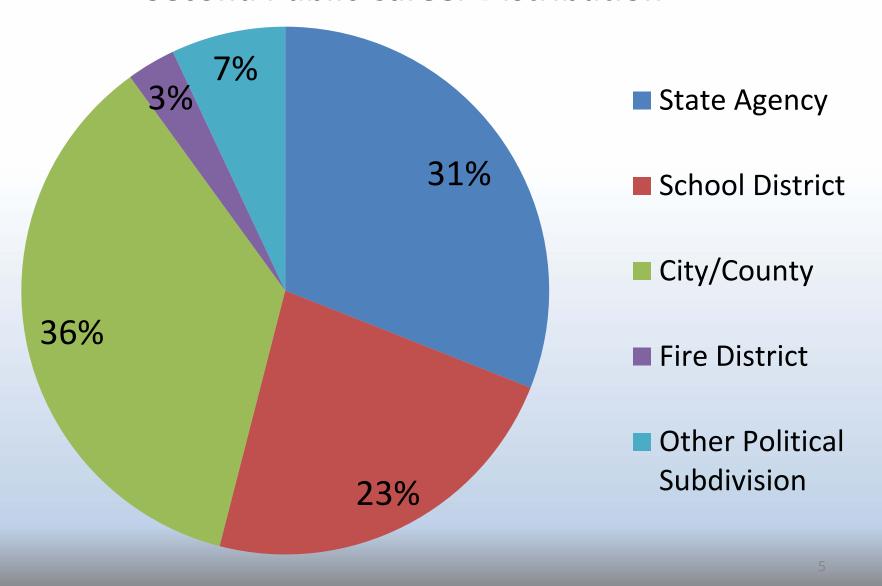
- Recent action by City of DuPont re-designating Police Chief position as "part-time" in order to facilitate a LEOFF Plan 2 retiree filling the position and continuing to draw his pension.
- Unintended Consequence of 2005 Career Change legislation undermines legitimate policy of the law.



Member's Use of Career Change Law

- 263 LEOFF Plan 2 retirees have benefitted from the career change legislation.
- Average annual compensation: \$28,268.
- More than 61% do not work for LEOFF employers.

LEOFF Plan 2 Retirees: Second Public Career Distribution



Board Option 1

Clarify that re-employment in a Law Enforcement or Fire Fighter Job requires suspension of pension even if less than full time, fully compensated.

- Reaffirms original policy of career change law.
- Closes off ability to get around career change law by adjusting hours or compensation.
- Requires remedial legislation.

Board Option 2

Take no action.

- Allows current situation to continue.
- Expands original career change policy.
- No legislation required.

Board Option 3

Extend Career Change policy to LEOFF Plan 2 retirees who return to LEOFF position.

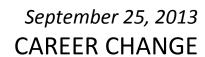
- Changes original policy of career change legislation.
- Formally adopts new policy instead of current "back door" approach.
- Potential for unfavorable public reaction.
- May put conditions on extension.

Any Questions?

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COMPREHENSIVE REPORT

By Paul Neal Senior Legal Counsel 360-586-2327 paul.neal@leoff.wa.gov

ISSUE

Abuse of "Career Change" legislation could undermine public trust that the plan is responsibly designed and professionally managed.

MEMBERS IMPACTED

265 LEOFF Plan 2 retirees have utilized the provisions of the career change law since its inception in 2005. Assuming utilization continues at the same rate, a similar number of members would be impacted by any changes to the law. The public trust issues implicated by manipulation of the original bill impact all LEOFF Plan 2 members.

OVERVIEW

Before 2005 a LEOFF Plan 2 retiree's pension stopped upon return to work in a job covered by any state-wide public retirement system. The LEOFF Plan 2 Board (Board) recognized members could age out of LEOFF positions before they were ready or could afford to leave the workforce. The Board proposed Career Change legislation in 2005 enabling retired LEOFF Plan 2 retiree to start a second career in non-LEOFF public employment. A retiree accepting such a job can either establish membership in another public system, thus suspending their LEOFF Plan 2 pension, or waive membership in the new system and continuing to receive a pension.

The Board intended to facilitate transition from a physically demanding profession to another, often less-well compensated, job. The average annual compensation of LEOFF plan 2 retirees returning to work under the career change law was \$28,268. It did not intend to enable LEOFF Plan 2 retirees to return to work as a law enforcement officer or firefighter and continue to receive their pension. The Legislature passed the LEOFF Plan 2 Career Change bill in 2005.

The City of DuPont recently utilized an unintended loophole in the Career Change legislation to hire a LEOFF Plan 2 retiree as police chief and continue his pension. Although DuPont's former police was a full-time employee covered by LEOFF, DuPont found a way to ostensibly place their new Chief, a LEOFF Plan 2 retiree, outside of LEOFF. The City did this by redefining the position



as "part-time," i.e. 35 hours a week. The sole reason for this action was to move a law enforcement officer position into PERS to take advantage of the Career Change legislation.

This report will explain the difference between the Board's Career Change policy and the retire-rehire policy in PERS and TRS; identify unintended consequences of the Career Change law, explain how the loophole works, and discuss media reaction to DuPont's utilization of that loophole.

BACKGROUND INFORMATION & POLICY ISSUES

When creating LEOFF Plan 2 in 1977, the Legislature prohibited members from receiving a pension while engaged in retirement system covered employment. If a LEOFF Plan 2 retiree entered public employment covered by LEOFF, the Public Employees' Retirement System (PERS), or the Teachers' retirement system (TRS), that member's pension would be suspended. Over subsequent years the suspension requirement was expanded to include employment in positions covered by the School Employees' Retirement System (SERS) or the Public Safety Officers' Retirement System (PSERS). RCW 41.26.500.

CAREER CHANGE VS. RETIRE-REHIRE

The LEOFF Career Change bill is sometimes confused with retire-rehire provisions governing PERS and TRS. Retire-rehire was enacted in 2001 and has been in the news, and before the Legislature, repeatedly since then. The retire-rehire law was intended to allow PERS and TRS retirees to supplement their pensions by working in part-time or temporary positions. Current retire-rehire provisions allow PERS and TRS retirees to work 867 hours per year while collecting their full pension. This allows part-time work or a temporary assignment to full-time work.

The retire-rehire law does not apply to LEOFF Plan 2. Its policy of assisting both employers and employees by facilitating part-time or temporary work by experienced workers stands in marked contrast to the Career Change policy.

Career Change Legislation

The Board studied the LEOFF Plan 2 pension suspension provisions in 2004. The policy considerations underlying the action ultimately taken by the Board were discussed in the LEOFF Plan 2 staff presentation:

The normal retirement age for LEOFF Plan 2 (53) is an age at which a person is generally considered to still be in the prime of their productive employment period although they may no longer be capable of performing the duties of a law



enforcement officer or fire fighter. A LEOFF Plan 2 member who separates from LEOFF employment at age 53 may be expected to seek continued full-time employment in a non-LEOFF capacity for a number of reasons including income, access to health care coverage and the ability to qualify for social security or earn additional pension benefits to supplement those provided by LEOFF Plan 2.

Public employment offers a number of potential second careers to LEOFF 2 members where the skills developed in their LEOFF positions can be utilized. However, LEOFF Plan 2 members who seek to continue in public employment following separation or retirement from LEOFF may be restricted from establishing membership in a second public retirement system or receiving their LEOFF pension. Thus, there are barriers to transitioning to public employment after completing a career in LEOFF.

When a LEOFF Plan 2 retiree becomes employed in an eligible position covered by another state pension system the retiree will have their LEOFF pension suspended. Additionally, the retiree would normally be prohibited from participating as a member in the other state pension system and accruing a second pension. These pension provisions may make continued public employment an unviable option for LEOFF Plan 2 retirees.

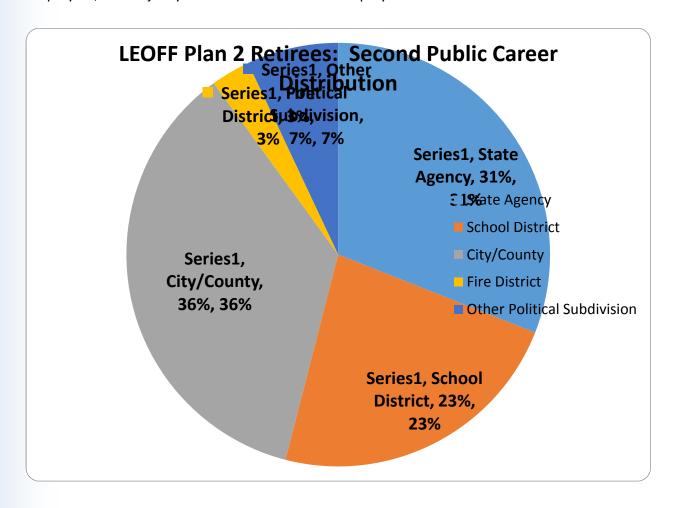
LEOFF Plan 2 staff presented three different options to the Board, including providing the same retire-rehire provisions available in PERS and TRS. But the Board's concern was not supplementing a pension with part-time work. Its issue was transitioning from a law enforcement officer or fire fighter career to a new career. Accordingly, the Board declined the option to adopt retire-rehire instead proposing Career Change legislation. Those provisions, enacted in RCW 41.26.500, allow a LEOFF Plan 2 retiree who starts a new career in public employment other than as a law enforcement officer or fire fighter to either:

- Establish membership in a new public retirement system suspending their LEOFF Plan 2 pension; or
- Opt out of the second public retirement systems and continue to receive their LEOFF
 Plan 2 pension while pursuing their second career.

The Career Change law has mostly functioned as intended: facilitating a second public career for LEOFF Plan 2 retirees as something other than a law enforcement officer or fire fighter. According to recent data compiled by DRS, 263 LEOFF Plan 2 retirees have reentered public employment without suspension of their pension. The average annual compensation for these



second career employees is \$28, 268. They work as employees for a number of different public employers, the majority of which are not LEOFF employers.



It was not the intention of the Board nor the Legislature to allow a retired LEOFF Plan 2 member to return to work as a law enforcement officer or fire fighter and continue receiving a LEOFF Plan 2 pension. The City of DuPont has taken advantage of a loophole created by the intersection of the Career Change law and the pre-existing LEOFF definition of law enforcement officer to do exactly that.

UNINTENDED CONSEQUENCE OF CAREER CHANGE LAW

The City of DuPont's full-time Chief of Police recently retired from LEOFF. The City hired a LEOFF Plan 2 retiree to replace him. The new Chief was originally hired on an interim basis and served full-time for approximately 3 months. Following DRS's recent disallowance of DuPont's claim that its Fire Chief was an independent contractor and the resulting suspension of the Fire



Chief's LEOFF Plan 1 pension, the interim Police Chief "...notified the city of his intention to terminate his interim contract 'out of fear and confusion from the recent audit findings, "

To allow the retiree to work as Police Chief and receive his LEOFF 2 pension, the City reclassified the Police Chief's position from full-time to "part-time" requiring 35 hours per week. It does not appear any change in duties accompanied the change in hours. The City redefined the position to reclassify it from LEOFF to PERS to fit within LEOFF Plan 2's Career Change provisions.

This loophole relies on an aspect of LEOFF's definition of a "Law Enforcement Officer":

"Law enforcement officer" beginning January 1, 1994, means any person who is commissioned and employed by an employer on a **full time**, **fully compensated** basis to enforce the criminal laws of the state of Washington generally, with the following qualifications:

...

(c) Only such **full time** commissioned law enforcement personnel as have been appointed to offices, positions, or ranks in the police department which have been specifically created or otherwise expressly provided for and designated by city charter provision or by ordinance enacted by the legislative body of the city shall be considered city police officers;

RCW 41.26.030(18) (emphasis added). Firefighters must also be full-time, fully compensated to qualify for LEOFF, RCW41.26.030(16). LEOFF is somewhat unique in limiting membership to full-time employees. PERS, TRS, SERS, include part-time employees if they work at least 70 hours per month². A review of the role of volunteer firefighters and reserve police officers helps explain why the Legislature set the bar for LEOFF membership so high.

Part-time Law Enforcement Officers and Fire Fighters

LEOFF's full-time requirement springs from a unique aspect of the fire fighter and law enforcement officer professions. A number of Washington's communities are served by Volunteer Fire Fighters and/or Reserve Police Officers. These part-time public safety officers

¹ DuPont police chief to work part time, retain benefits, The Olympian, July 31, 2013.

² An "eligible position" for PERS, PSERS, and TRS Plan 2/3 is a position that normally requires 70 or more hours per month for at least 5 months per year. The relatively new retirement system of PSERS, created for public safety officers who are not fully commissioned law enforcement officers, also requires full-time employment.



belong to the Volunteer Firefighters and Reserve Police Officers' Retirement System, Chapter 41.24 RCW.

Volunteer Firefighters and Reserve police officers have the same authority and duties as their full-time counterparts when called into service. The distinction is they do not work full-time:

"Reserve officer" includes any law enforcement officer who does not serve as a law enforcement officer of this state on a full-time basis, but who, when called by such agency into active service, is fully commissioned on the same basis as full-time officers to enforce the criminal laws of this state³;

Washington's Courts recognize a similar distinction between LEOFF eligible fire fighters and volunteer firefighters, noting the distinction between full time vs. part time/volunteer controls whether the firefighter goes into LEOFF or the Volunteer system⁴. Similarly, when discussing LEOFF eligibility for police matrons the Court noted: "that plaintiffs are full-time employees, they are regularly employed as opposed, for example, to police reservists...⁵"

"Full-time" is not defined in the LEOFF statute, nor has it been defined by the Courts⁶. DRS adopted a rule in 1995 defining full time as "regularly scheduled to work at least 160 hours per month," i.e. at least 40 hours per week for at least 20 days, WAC 415-104-011(3). Coming ten years before the Career Change law, the rule had no impact on post-retirement employment laws when adopted. The 2005 Career Change legislation unintentionally created the loophole used by DuPont. Prior to that time a LEOFF Plan 2 retiree's pension would be suspended upon reentering covered employment regardless of what public position he or she entered. Redefining a LEOFF position as a PERS position would have been pointless, as it would not prevent suspension of the retiree's pension.

That is no longer the case. Even though the DuPont's Police Chief is a commissioned position created by the city to enforce the criminal laws of the State of Washington generally, i.e. a law

³ WAC 139-05-810(1).

⁴ Schrom v. Board for Volunteer Fire Fighters, 153 Wn.2d 19, 27, 28, 100 P.3d 814 (2004).

⁵ Beggs v. City of Pasco, 93 Wn.2d 682, 685, 611 P.2d 1252 (1980).

⁶ Tucker v. Department of Retirement Systems of State, 127 Wn.App. 700, 706, 113 P.3d 4 (2005); The closest the Court has come is to uphold DRS determinations that persons performing law enforcement or firefighter duties less than half time do not meet the statutory full time requirement, see Buckley v. Department of Retirement Systems, 116 Wn.App. 1, 65 P.3d 1216 (2003); International Ass'n of Fire Fighters Local 3266, AFL-CIO v. Department of Retirement Systems, State of Wash., 97 Wn.App. 715, 987 P.2d 115 (1999).



enforcement position, DuPont has reduced the hours to make it a PERS position so its Police Chief can continue to receive a LEOFF Plan 2 pension.

DRS has fielded similar inquiries seeking the same result by focusing on the "fully compensated" eligibility requirement. Some examples include questioning whether a LEOFF Plan 2 retiree is not fully compensated, and therefore not LEOFF eligible, if he or she did not receive health care benefits, or earned annual leave at a lesser rate than other employees with similar experience. These inquires are designed to take advantage of the high bar to LEOFF membership used to distinguish between LEOFF eligible law enforcement officers and fire fighters and volunteer or part-time law enforcement officers and fire fighters. They seek to use that policy for an unintended purpose: to enable retirees to work as a law enforcement officer or fire fighter and continue to receive their pension.

MEDIA RESPONSE TO PART-TIME DUPONT POLICE CHIEF

The Associated Press and the Daily Olympian recently published articles reporting on DuPont's arrangement⁷. Publishers of the Associated Press article include the Seattle Times, the Bellingham Herald, the Spokesman Review, and the Kansas City Star.

The Olympian followed up with an editorial confusing the 2005 Career Change bill with the 2001 Retire-Rehire provisions legislation, mistakenly claiming the 2001 law allowed LEOFF Plan 2 retirees to return to work as law enforcement officers or fire fighters for 1800 hours per year (35 hours per week x 52) while receiving a benefit. Neither the 2001 law nor the 2005 career change legislation intended that result. Further, that result cannot be accomplished without redefining a full-time position as a part-time job. Nonetheless, the Olympian included the Career Change law in its call for a full repeal of retire-rehire⁸.

POLICY OPTIONS

Option 1: Clarify that Law Enforcement or Firefighter Jobs do not qualify for the Career Change law regardless of whether they are full time, fully compensated.

⁷ DuPont police chief will collect salary, \$90,000-a-year pension, Associated Press, published in Seattle Times August 3, 2013.

⁸ Time for Retire-Rehire to End in This State, Daily Olympian, August 8, 2013.



The original intent of the career change law limited its application to situations where a retired LEOFF Plan 2 member began a second career as something other than a law enforcement officer or firefighter. The policy looked to the duties of the position, not whether it was full time and/or fully compensated. Under this option, the Board would propose remedial legislation to clarify its original intent that a LEOFF Plan 2 retiree who returned to work as a law enforcement officer or fire fighter would not qualify for the career change law even if the position was technically not LEOFF eligible.

This would reaffirm the original policy of the Career Change law, closing the loophole utilized by Dupont to place a LEOFF Plan 2 retiree into a Law Enforcement Officer position, in this case police chief, without suspension of his pension.

Option 2: Take no action

Under this option the Board would retain the Career Change law in its current form.

Option 3: Allow LEOFF Plan 2 retirees to Accept a LEOFF position without pension suspension.

Under this option a LEOFF Plan 2 retiree would have the same option upon entering a LEOFF position as he or she has under current law when entering a PERS position. That is, the retiree could either: 1) reenter LEOFF Plan 2 membership and have their pension calculated upon reretirement; or 2) Choose not to reenter membership and continue to receive a LEOFF Plan 2 retirement allowance while employed as a law enforcement officer or firefighter.

This would alter the original policy of the Career Change law by including retirees who return to work in a LEOFF position. This would allow the option for all LEOFF Plan 2 retirees without requiring adjustment of employee hours or compensation.



Correction Legislation - Comprehensive Report

Report Type:

Comprehensive Report

Date Presented:

9/25/2013

Presenter Name and Title:

Ryan Frost, Research Analyst

Summary:

Corrections are needed to fix errors and oversights in the statutes. The initial report presented at the August meeting reviewed a potential correction to the definition of fire fighter in LEOFF Plan 2 as it pertains to Emergency Medical Technicians. The initial report also identified three potential corrections that other organizations may be interested in partnering with the LEOFF Plan 2 Retirement Board for legislative action.

This report provides options should the Board wish to take further action.

Strategic Linkage:

This item supports the following Strategic Priority Goals: Goal 1 – Enhance the benefits for the members.

ATTACHMENTS:

Description	Туре
Correction Legislation	Report
Correction Legislation	Presentation



Corrections Legislation

Comprehensive Report September 25, 2013

Issue

 Corrections are needed to fix errors and oversights in the statutes.



Background

- 2005 legislation included EMTs in the definition of fire fighter.
- Bill language contained an unintentional expiration date which would make EMTs ineligible for LEOFF membership in 2023.



Policy Options

- **1. Take No Action**: The correction for the definition of fire fighter would expire in 2023.
- 2. Address the EMT Expiration Date: Change specific language in the statutes to eliminate the 2023 expiration date for EMTs being included in the definition of fire fighter.



Any Questions?

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Research Analyst

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September 25, 2013 CORRECTIONS LEGISLATION

PRELIMINARY REPORT

By Ryan Frost Research Analyst 360-586-2325 ryan.frost@leoff.wa.gov

ISSUE

Corrections are needed to fix errors and oversights in the statutes.

MEMBERS IMPACTED

This issue impacts current and future Emergency Medical Technicians in LEOFF Plan 2.

CURRENT SITUATION

The definition of fire fighter is found in RCW 41.26.030 and includes emergency medical technicians. The 2005 legislation which included emergency medical technicians in the definition of fire fighter contained an unintentional expiration date which would make emergency medical technicians ineligible for LEOFF membership in 2023.

Several of the Board's strategic partners have issues that need to be corrected for their programs. Individually, the attempts to fix some of these issues legislatively have been unsuccessful.

This report reviews a potential correction to the definition of fire fighter in LEOFF Plan 2 and identifies three other potential corrections that other organizations may be interested in partnering with the LEOFF Plan 2 Retirement Board for legislative action.

BACKGROUND INFORMATION & POLICY ISSUES

LEOFF Plan 2 Correction

Definition of Fire Fighter / Emergency Medical Technicians – LEOFF Plan 2 Retirement Board Full-time, fully compensated law enforcement officers and fire fighters are covered by RCW 41.26 (LEOFF retirement system).



Statutory changes to the definition of fire fighter to include emergency medical technicians contain an unintentional expiration date.

Chapter 459, Laws of 2005, sec. 1, added (h) to the definition of fire fighter in RCW 41.26.030(4) to include emergency medical technicians. Section 3 of that same act provides that "This act expires July 1, 2013." Given that the entire act expires 2013, the inclusion of EMTs within the definition of fire fighter would expire along with the act.

Chapter 304, Laws of 2007, sec. 2 attempted to correct the definition expiration issue by stating "2005 c 459 s 3 (uncodified) is amended to read as follows: Section 2 of this act expires July 1, ((2013)) 2023." This would have fixed the definition expiration issue. However, section 4 of the legislation states that "This act expires July 1, 2023."

This results in undoing the "fix" in section 2 and recreates the expiration problem. This means that emergency medical technicians would no longer be eligible for participation in LEOFF after July 1, 2023.

Other Potential Corrections

Reserve Police Officer Survivor Education Benefit - Board for Volunteer Fire Fighters and Reserve Officers

Prior to 2010, state institutions of higher education could optionally waive all or a portion of tuition and fees for eligible students within certain limits. Categories of eligible students included the children of law enforcement officers or fire fighters that died or became disabled in the line of duty. The definition of law enforcement officer for the purpose of the educational waiver included law enforcement officers and fire fighters under RCW 41.26 and reserve law enforcement officers and volunteer fire fighters under RCW 41.24.

Under legislation enacted in 2010, state institutions of higher education were required to waive all tuition, service fees and activity fees for children and spouses of law enforcement officers and fire fighters as defined in RCW 41.26, volunteer fire fighters as defined in RCW 41.24, or Washington State Patrol Officers, who die or become totally disabled in the line of duty.

Reserve law enforcement officers as defined in RCW 41.24 were not included in the eligibility for the required educational waivers. At the same time, the opportunity for an institution to optionally waive tuition and fees for this group was eliminated.



The LEOFF Plan 2 Retirement Board reviewed this issue during the 2012 Interim, but determined it was in the jurisdiction of the Board for Volunteer Fire Fighters and Reserve Officers. Director Nelsen sent the Board for Volunteer Fire Fighters and Reserve Officers a letter dated August 13, 2012 which informed them of this issue.

Health Care Authority

The Health Care Authority (HCA) administers benefits plans for the Public Employees' Benefit Board (PEBB) program serving all state agencies and higher education institutions, some political subdivisions, and some school districts. The Legislature has enacted a number of changes to PEBB affecting eligibility rules and domestic partner rules. A correction is needed to achieve a single statutory provision consistent with the various statutory changes while removing program conflicts. Changes to dependent children coverage is also needed in order to remain compliant with federal law.

The HCA recommended legislation in the 2013 session in an effort to correct the necessary statutes, but the bill (HB 1587) did not pass. The LEOFF Plan 2 Retirement Board endorsed the HCA legislation.

Retiree Return to Work – Select Committee on Pension Policy

The various plans of the Washington State Retirement System each contain rules prescribing the circumstances under which a retired employee may return to employment within a retirement system-covered position and continue to receive retirement benefits.

The 2011 Legislature passed Engrossed Substitute House Bill (ESHB) 1981 (Chapter 47, Laws of 2011, 1st Special Session), which made numerous changes to the rules under which a retired employee may return to employment from the Public Employees' Retirement System (PERS) and the Teachers' Retirement System (TRS).

Prior to the passage of ESHB 1981, retirees from the Plans 2 or 3 of the Public Employees' Retirement System (PERS), the Teachers' Retirement System (TRS), the School Employees' Retirement System (SERS), or the Public Safety Employees' Retirement System (PSERS) who have been separated from service for one calendar month after their accrual date may work in a retirement-eligible position for up to 867 hours per calendar year without a reduction in pension benefits.



Engrossed Substitute House Bill 1981 removed the 867-hour option for PERS Plans 2 and 3 members who return to work in other systems (e.g. TRS, SERS, etc.), meaning these retirees will experience an immediate suspension of benefits so long as they continue working. The PERS retirees who return to work in PERS-covered positions may continue to work up to 867 hours per year without a suspension of benefits. Engrossed Substitute House Bill 1981 also applied the 867-hour limit to PERS retirees working in ineligible positions.

The SCPP recommended legislation (HB 1226) in the 2013 legislative session which would have restored the provisions allowing retirees of the Public Employees' Retirement System (PERS) who return to work in positions covered by other Department of Retirement Systems-administered plans to receive benefits for the first 867 hours of employment per year and also applies the 867-hour return-to-work rules only to PERS retirees hired into eligible positions. The legislation did not pass.

POLICY OPTIONS

Option 1: Take No Action.

Under this option, the Board would take no further action and the correction for the definition of fire fighter would expire in 2023.

Option 2: Introduce Legislation that Addresses the EMT Expiration Date.

Under this option, the Board would change specific language in the statutes that eliminates the 2023 expiration date for EMTs being included in the definition of fire fighter.



2013 AGENDA ITEMS CALENDAR

MEETING DATE	AGENDA ITEMS
January 23, 2013	Meeting Canceled
February 27, 2013	Meeting Canceled
March 27, 2013	Meeting Canceled
April 24, 2013	Meeting Canceled
May 29, 2013	Meeting Canceled
June 19, 2013	2013 Legislative Session Update
	Interim Planning
	Board Operating Policy Changes
	Board Expectations Check-in
	WSIPP Study Follow-up
	Medicare Briefing
July 24, 2013	DRS Administrative Update, Marcie Frost
	CEM Benchmarking Results, Mark Feldhausen
	Background on Economic Experience Study, Lisa Won
	Orientation Manual
	Paperless Board Meeting Training
August 28, 2013	Board & Administrative Committee Elections
	WSIB Annual Presentation, Theresa Whitmarsh
	Final Average Salary Protection, Initial Consideration
	Correction Legislation, Initial Consideration
	EMTs Not Being Reported in LEOFF Plan 2, Initial Consideration
	Salary Spiking, Initial Consideration
	Promoting Individual Savings for Retirement, Initial Consideration
	Career Change, Initial Consideration
	Meeting Materials Posted to Website
September 25, 2013	Board & Administrative Committee Elections
	Annual Board Member Training, Dawn Cortez
	Correction Legislation, Comprehensive Report
	Career Change, Comprehensive Report
	Promoting Individual Savings for Retirement, Comprehensive Report FY13 Independent Audit Results, Steve Davis
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	Results of the Economic Experience Study, Steve Nelsen Funding Methods - Educational Briefing, Lisa Won
October 16, 2013	Long Term Economic Assumptions – Office of the State Actuary
October 10, 2013	2014 Proposed Meeting Calendar
November 20, 2013	Funding Report
14040111001 20, 2013	Final Average Salary Protection, Comprehensive Report
	WSIB Presentation
	2014 Meeting Calendar Adoption
	WSIPP Study Follow-up
December 18, 2013	
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