

WASHINGTON STATE

Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board



2005 Actuarial Valuation Report

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A special thank you to Charles Middleton for the use of his "fire fighter saving girl" photo.

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Washington State Investment Board

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WASHINGTON STATE LEGISLATURE
Office of the State Actuary

**Law Enforcement Officers' and Fire Fighters'
Retirement System Plan 2
Actuarial Valuation Report
As of September 30, 2005**
December 2006

As required under Chapter 41.45 RCW, this report documents the results of an actuarial valuation of the Law Enforcement Officers' and Fire Fighters' Retirement System Plan 2 (LEOFF 2).

The primary purpose of this valuation is to determine contribution requirements for LEOFF 2 as of the valuation date September 30, 2005. The report is organized in the following four sections:

- Summary of Key Results
- Actuarial Exhibits
- Participant Data
- Appendices

The Summary of Key Results section provides a high-level executive summary of the valuation results for the LEOFF Plan 2. The remaining sections of the report provide detailed actuarial asset and liability information. The Appendix provides a summary of the principal actuarial assumptions and methods, summary of the major plan provisions, age-service distributions, historical data, and a glossary of actuarial terms used throughout this report.

We encourage you to submit any questions you might have concerning this report to our regular or e-mail address below. We also invite you to visit our website (<http://osa.leg.wa.gov>) for further information regarding the actuarial funding of the Washington State retirement systems.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew M. Smith".

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Summary of Key Results



Summary of Key Results

Contribution Rates

Member and employer contribution rates determined from the actuarial valuation are expressed as a percentage of salary. In December of 2004, the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 Retirement Board (the Board) adopted contribution rate increases that will be "phased-in" over the 2007-09 biennium. The first summary table below shows contribution rates before completion of the phase-in along with comparable rates from the previous valuation. The table that follows includes the adjustments required to complete the phase-in for the 2007-09 biennium by year. See the Actuarial Exhibits section of this report for the development of these rates.

Contribution Rates - Before Completion of Phase-In		
	2005	2004
Member	8.10%	7.60%
Employer*	4.86%	4.57%
Total State	3.24%	3.03%

**Excludes administrative expense rate.*

Contribution Rates - To Complete Phase-In						
	Member		Total Employer*		Total State*	
	2007-2008	2008-2009	2007-2008	2008-2009	2007-2008	2008-2009
Valuation Rates	8.10%	8.10%	4.86%	4.86%	3.24%	3.24%
Required Phase-In	(0.04%)	0.15%	(0.02%)	0.09%	(0.02%)	0.06%
Rate After Phase-In	8.06%	8.25%	4.84%	4.95%	3.22%	3.30%

**The state pays 20% of the total normal cost; the employer pays 30% of the total normal cost.*

Contribution Rate-Setting Cycle

Under current Washington State law, in September of even-numbered years, the Board reviews the basic contribution rates recommended by the actuary retained by the Board based on an actuarial valuation performed on asset, participant, and plan information compiled in odd-numbered years. The Board adopts contribution rates for LEOFF Plan 2 as provided under RCW 41.26.720(1)(a) and the rates remain in place for the ensuing biennium, subject to revision by the Legislature.

RCW 41.45.070 requires that a temporary and supplemental contribution rate increase be charged to fund the cost of benefit enhancements that are enacted following the adoption of the basic rates by the Board. Supplemental contribution rates are included in the basic rates at the beginning of the next contribution rate-setting cycle.

Summary of Key Results

Funding Policy

The funding policy of the Legislature is contained in Chapter 41.45 RCW - Actuarial Funding of State Retirement Systems. RCW 41.45.010 outlines the intent to achieve the following goals:

- To provide a dependable and systematic process for funding the benefits to members and retirees of the Washington State Retirement Systems;
- To continue to fully fund the LEOFF Plan 2 as provided by law;
- To establish long-term employer contribution rates that will remain a relatively predictable proportion of the future state budgets; and
- To fund, to the extent feasible, benefit increases over the working lives of those members so that the cost of those benefits are paid by the taxpayers who receive the benefit of those members' service.

The Board has adopted a four-year "phase-in" contribution rate schedule for 2005-2009. Beginning July 1, 2009, the rates adopted by the Board shall be no less than 90 percent of the normal cost calculated under the entry age normal cost method.

Comments on 2005 Results

Short-term actuarial gains or losses occur when actual economic and demographic experience differs from what was assumed in the valuation. Actuarial gains will reduce contribution rates; whereas, actuarial losses will increase contribution rates. Under a reasonable set of actuarial assumptions and methods, actuarial gains and losses will offset over long-term experience periods.

Significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates. Significant factors that impacted the results of this valuation include the following:

- The actual rate of investment return for the plan year was above the assumed rate of 8 percent. Actual investment return on the market value of assets was 17.23 percent (time-weighted). The actual rate of investment return of 9.31 percent on the actuarial value of assets for the plan year was also greater than the assumed rate of 8 percent.

Summary of Key Results

- The preliminary conversion to a new actuarial software system, along with post-conversion method changes, generated an actuarial loss.
- New entrants continue to exert a modest upward adjustment on current contribution rates.
- Actual salary growth was below the assumed growth for the period.

Please see the table, Actuarial Gains/Losses, in the Actuarial Exhibits section of this report for detailed gain and loss information.

Actuarial Liabilities

A summary of key measures of actuarial liability is shown below along with comparable information from last year's valuation. See the Actuarial Exhibits section of this report for additional information on the plan's actuarial liability. See the Glossary for a brief explanation of the actuarial terms.

Actuarial Liabilities		
<i>(Dollars in millions)</i>	2005	2004
Present Value of Fully Projected Benefits	\$5,462	\$4,800
Unfunded Actuarial Accrued Liability	N/A	N/A
Present Value of Credited Projected Benefits	2,932	2,521
Valuation Interest Rate	8.00%	8.00%

Assets

The market value of assets and actuarial (or smoothed) value of assets are shown below along with approximate rates of investment return. See the Actuarial Exhibits section of this report for additional information on the plan's assets as well as the development of the actuarial value of assets.

Assets		
<i>(Dollars in millions)</i>	2005	2004
Market Value of Assets	\$3,614	\$2,984
Actuarial Value of Assets	\$3,329	2,947
Contributions*	120	103
Disbursements	18	12
Investment Return	528	351
Rate of Return on Assets**	17.23%	13.73%

*Employee and Employer

**This is the time-weighted rate of return on the Market Value of Assets. The Actuarial Value of Assets is used in determining contribution rates.

Summary of Key Results

Funded Status

Several key measures of the plan's funded status are displayed below. The Present Value of Credited Projected Benefits was calculated under the Projected Unit Credit (PUC) cost method and is consistent with governmental accounting standards for the disclosure of a plan's funded status. The PUC cost method is not used to determine contribution requirements for LEOFF Plan 2. Please see the Glossary for an explanation of PUC.

Funded Status		
<i>(Dollars in millions)</i>	2005	2004
a. Present Value of Credited Projected Benefits	\$2,932	\$2,521
b. Actuarial Value of Assets	\$3,329	2,947
c. Unfunded Liability (a-b)	(397)	(426)
d. Credited Projected Funded Ratio (b/a)	114%	117%

Totals may not agree due to rounding.

Participant Data

Participant data used in the actuarial valuation for the plan year ending September 30, 2005, are summarized below along with comparable information from last year's valuation. See the Participant Data section of this report for additional information on the plan's participant data.

Participant Data		
	2005	2004
Active Members		
Number	15,168	14,754
Total Salaries (in millions)	\$1,092	\$1,020
Average Annual Salary	\$72,015	\$69,098
Average Attained Age	40.5	40.1
Average Service	11.7	11.3
Retirees and Beneficiaries		
Number	574	432
Average Annual Benefit	\$20,012	\$17,821
Terminated Members		
Number Vested	570	521
Number "Non-Vested"	1,285	1,233

Key Assumptions

Key economic assumptions used in the actuarial valuation are displayed below. These assumptions were unchanged from the previous year's valuation. See the Appendix - Actuarial Assumptions and Methods for a detailed listing of the actuarial assumptions used in this valuation.

Key Assumptions	
Valuation Interest Rate	8.00%
Salary Increase	4.50%
Inflation	3.50%
Growth in Membership	1.25%

Actuarial Exhibits



Actuarial Exhibits

Actuarial Certification

This report documents the results of an actuarial valuation of the Law Enforcement Officers' and Fire Fighters' Retirement System Plan 2 as defined under Chapter 41.26 of the Revised Code of Washington. The primary purpose of this valuation is to determine contribution requirements for the retirement plan listed above as of the valuation date September 30, 2005, and should not be used for other purposes.

The valuation results summarized in this report involve calculations that require assumptions about future economic and demographic events. We believe that the assumptions and methods used in the underlying valuation are reasonable and appropriate for the primary purpose stated above. The use of another set of assumptions and methods, however, could also be reasonable and could result in materially different results.

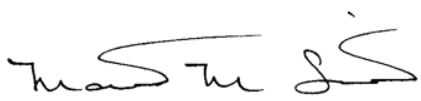
The assumptions used in the valuation for investment return, inflation, salary, and membership growth were prescribed by the Legislature in 2001. Demographic assumptions were developed from the 1995-2000 experience study performed by the Office of the State Actuary. The Legislature was responsible for the selection of the actuarial cost and asset valuation methods. In our opinion, all methods, assumptions, and calculations are reasonable and are in conformity with generally accepted actuarial principles and standards as of the date of this publication.

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

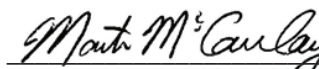
The asset smoothing method adopted during the 2003 legislative session (Chapter 11, Laws of 2003, E1) was intended to address the volatility of contribution rates under the aggregate funding method when used in combination with the existing asset allocation policy. The combination of the current asset smoothing method with any other funding method or asset allocation policy may not be appropriate.

Future improvement in assumed mortality represents a material liability that has been excluded from the results of this valuation. Preliminary results were prepared with an assumption change that recognized projected mortality improvement, but the assumption change was not adopted by the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 Retirement Board (the Board). The Board will review the projected mortality assumption change along with all other demographic assumptions during the next six-year experience study.

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



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



Martin McCaulay, FSA, EA, MAAA
Senior Pension Actuary

Actuarial Exhibits

Contribution Rates

Member and Employer Rate Summary - Before Completion of Phase-In

	2005	2004
Member	8.10%	7.60%
Employer*	4.86%	4.57%
State (Normal Cost)	3.24%	3.03%
State (Plan 1 UAAL)	0.00%	0.00%
Total State	3.24%	3.03%

*Excludes administrative expense rate.

Development of Employer/State Rates - Before Completion of Phase-In

a.	Total Normal Cost	16.20%
b.	Employee Normal Cost	8.10%
c.	Employer Contribution (a-b)	8.10%
d.	Cost to Amortize UAAL	0.00%
e.	Total Employer Contribution Rate (c+d)*	4.86%

*The state pays 20% of the total normal cost for LEOFF 2. This reduces the total employer contribution rate from 8.10% to 4.86%.

Development of Normal Cost Rates - Before Completion of Phase-In

(Dollars in millions)

a.	Actuarial Present Value of Fully Projected Benefits	\$5,447
b.	Valuation Assets	3,329
c.	Unfunded Fully Projected Benefits (a - b)	2,118
d.	Future Contribution Adjustment	0
e.	Adjusted Unfunded (c - d)	\$2,118

Present Value of Projected Salaries to Current Members (PVS)

f.	Plan 1 PVS	N/A
g.	Plan 2 PVS	13,171
h.	Plan 3 PVS	N/A
i.	Weighted PVS (f + g + h)	\$13,171
j.	Preliminary Normal Cost (e / i)	16.08%
k.	Change In Plan Provisions (Laws of 2006)	0.12%
l.	Total Normal Cost (j + k)	16.20%
m.	50% Normal Cost (l x 50%)	8.10%
n.	Employee Contribution Rate (m)*	8.10%
o.	Employer Contribution Rate*	4.86%
p.	State Contribution Rate*	3.24%
q.	Total Contribution Rate (n + o + p)	16.20%

Note: Totals may not agree due to rounding.

*LEOFF 2 rate: 50% Employee, 30% Employer, 20% State.

Calculation of Normal Cost Rates - To Complete Phase-In*						
	Member		Employer**		State**	
	2007-2008	2008-2009	2007-2008	2008-2009	2007-2008	2008-2009
Valuation Rates	8.10%	8.10%	4.86%	4.86%	3.24%	3.24%
Required Phase-In*	(0.04%)	0.15%	(0.02%)	0.09%	(0.02%)	0.06%
Rate After Phase-In*	8.06%	8.25%	4.84%	4.95%	3.22%	3.30%

*LEOFF 2 phase-in adjustments were adopted by the LEOFF 2 Board December 9, 2004.

**The state pays 20% of the total normal cost for LEOFF 2; the employer pays 30% of the total normal cost.

Amortization of the Plan 1 Unfunded Actuarial Accrued Liability (UAAL)		LEOFF 1
<i>(Dollars in millions)</i>		
a.	Actuarial Present Value of Fully Projected Benefits	\$4,216
b.	Valuation Assets	4,800
c.	Actuarial Present Value of Future Normal Costs	0
d.	UAAL (a - b - c)	(584)
e.	Expected UAAL Contributions to 2007	0
f.	Remaining UAAL (d - e)	(\$584)
g.	Amortization Date	6/30/2024
h.	Present Value of Projected Salaries beyond 2007	\$16,605
i.	Preliminary Rate (f/g)*	(3.51%)
j.	Change In Plan Provisions (Laws of 2005)	0.15%
k.	Contribution Rate to Amortize the UAAL (i+j)*	(3.36%)

Note: Totals may not agree due to rounding.

*LEOFF 1 is fully funded so no UAAL contributions are required.

Actuarial Exhibits

Actuarial Liabilities

Present Value of Fully Projected Benefits	
<i>(Dollars in millions)</i>	
Active Members	
Retirement	\$4,883
Termination	37
Death	18
Disability	147
Return of Contributions on Termination	58
Return of Contributions on Death	44
Total Active	\$5,187
Inactive Members	
Terminated	\$97
Service Retired	144
Disability Retired	13
Survivors	7
Total Inactive	\$260
Laws of 2006	15
2005 Total	\$5,462
2004 Total	\$4,800

*Note: Totals may not agree due to rounding.
Liabilities for Portability are included.*

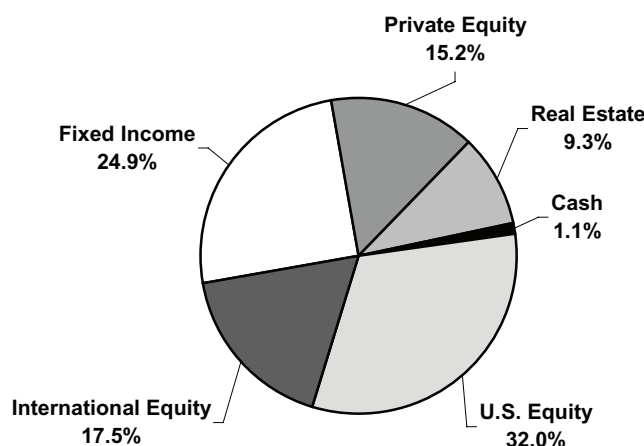
Present Value of Credited Projected Benefits	
<i>(Dollars in millions)</i>	
Active Members	
Retirement	\$2,497
Termination	21
Death	11
Disability	80
Return of Contributions on Termination	31
Return of Contributions on Death	23
Total Active	\$2,663
Inactive Members	
Terminated	\$97
Service Retired	144
Disability Retired	13
Survivors	7
Total Inactive	\$260
Laws of 2006	9
2005 Total	\$2,932
2004 Total	\$2,521

*Note: Totals may not agree due to rounding.
Liabilities for Portability are included.*

**Calculated using the Projected Unit Credit (PUC) cost method.
This method was not used to determine contribution requirements.*

Plan Assets

Retirement Commingled Trust Fund (CTF) Asset Allocation



Cash: Highly liquid, very safe investments that can be easily converted into cash, such as Treasury Bills and money-market funds.

Fixed Income: Securities representing debt obligations and usually having fixed payments and maturities. Different types of fixed income securities include government and corporate bonds, mortgage-backed securities, asset-backed securities, convertible issues, and may also include money-market instruments.

International Equity: Shares of non-U.S. corporations that trade on public exchanges or “over-the-counter.” The ownership of a corporation is represented by shares that are claimed on the corporation’s earnings and assets.

Private Equity: The infusion of equity capital into a private company (one which is not available on the public markets). Private equity investments include securities that are not listed on a public exchange and are not easily accessible to most individuals. These investments range from initial capital in start-up enterprises to leveraged buyouts of mature corporations.

U.S. Equity: Shares of U.S. corporations that trade on public exchanges or “over-the-counter.” The ownership of a corporation is represented by shares that are claimed on the corporation’s earnings and assets.

Real Estate: An externally-managed selection of partnership investments with the majority of the partnerships invested in high-quality real estate leased to third parties.

Change in Market Value of Assets	
<i>(Dollars in millions)</i>	
2004 Market Value	\$2,984
Revenue	
Contributions	
Employee	60
Employer/State	60
Total Contributions	120
Investment Return	528
Restorations	1
Transfers In	0
Miscellaneous	0
Total Revenue	\$648
Disbursements	
Withdrawn Annuities	
Monthly Benefits	10
Refunds	8
Total Benefits	18
Transfers Out	0
Expenses	0
Total Disbursements	\$18
Payables	\$0
2005 Market Value	\$3,614
2005 Actuarial Value	\$3,329
Ratio	92%

Note: Totals may not agree due to rounding.

Calculation of Actuarial Value of Assets

(Dollars in millions)

a.	Market Value at 9/30/2005		\$3,614
b.	Deferred Investment Gains and (Losses)		
	<u>Plan Year Ending</u>	<u>Percent Deferred</u>	
	9/30/2005	87.50%	252
	9/30/2004	66.67%	97
	9/30/2003	62.50%	96
	9/30/2002	50.00%	(160)
	Total		<u>\$285</u>
c.	Market Value less Deferral (a-b)		\$3,329
d.	70% of Market Value of Assets		\$2,530
e.	130% of Market Value of Assets		\$4,699
f.	Actuarial Value of Assets*		\$3,329

*Note: Totals may not agree due to rounding.***Actuarial Value of Assets can never be less than 70% or greater than 130% of the market value of assets.*

Investment Gains and (Losses) for Prior Year

(Dollars in Millions)

a.	2004 Market Value (at SIB)	\$	2,978
b.	Total Cash Flow		98
c.	2005 Market Value (at SIB)		<u>3,605</u>
d.	Actual return (c-b-a)	\$	529
e.	Weighted asset amount	\$	3,015
f.	Expected return (8%xe)		241
g.	Investment Gain/(Loss) for Prior Year (d-f)		288
h.	Dollar-weighted rate of return		17.55%

Funded Status

Funded Status on an Actuarial Value Basis**(Dollars in millions)*

Credited Projected Liability	\$2,932
Valuation Assets	\$3,329
Unfunded Liability	(\$397)

Funded Ratio:

2005 **	114%
2004	117%
2003	125%
2002	137%
2001 **	154%
2000 **	161%
1999	154%
1998	160%
1997 **	155%
1996	130%
1995	126%
1994 **	124%
1993	127%
1992	128%
1991	154%
1990	153%
1989 **	158%
1988	153%
1987	157%
1986	142%

*Note: Totals may not agree due to rounding.***Liabilities have been valued using an interest rate of 8% while assets have been valued under the actuarial asset method.****Assumptions changed.***Funded Status on a Market Value Basis****(Dollars in millions)*

Credited Projected Liability	\$4,793
Market Value of Assets	\$3,614
Unfunded Liability	\$1,179

Funded Ratio:

2005	75%
2004	72%

*Note: Totals may not agree due to rounding.***Liabilities have been valued using an interest rate of 5.5% while assets have been valued at market value. The 5.5% interest rate approximates the "risk-free" rate of return on assets. Under this method, the so-called "equity premium" on non-risk-free investments is not recognized until it is realized in the market value of assets. This method was not used to determine contribution requirements.*

Actuarial Gains/Losses

Change in State Contribution Rate by Source - Before Completion of Phase-In	
2004 Contribution Rate	0.80%
Preliminary Software Conversion	(0.79%)
2004 Adjusted Contribution Rate	0.01%
Economic Gains/Losses	(1.10%)
Demographic Gains/Losses	(0.03%)
Present Value Future Salaries Gains/Losses	(0.19%)
Other Gains/Losses	1.01%
Total Change	(0.30%)
2005 Preliminary Contribution Rate	(0.29%)
Laws of 2006	0.17%
2005 Contribution Rate	(0.12%)

The Contribution Rate is the State's portion for Plan 2 (20% of the Normal Cost) plus the UAAL rate for Plan 1

Change in State Normal Cost Rate by Source - Before Completion of Phase-In	
2004 Normal Cost	3.03%
Preliminary Software Conversion	0.01%
2004 Adjusted Normal Cost	3.04%
Assets	(0.06%)
Salaries	(0.23%)
Growth	0.00%
Economic Gains/Losses	(0.29%)
Termination/Return to Work	(0.01%)
Retirement	(0.02%)
Demographic Gains/Losses	(0.03%)
Present Value Future Salaries Gains/Losses	(0.19%)
Plan Change Gains/Losses	0.07%
Method Change Gains/Losses	0.11%
Assumption Change Gains/Losses	0.00%
Miscellaneous Change Gains/Losses*	0.51%
Total Other Gains/Losses	0.69%
Total Change	0.18%
2005 Preliminary Normal Cost	3.22%
Laws of 2006	0.02%
2005 Normal Cost	3.24%

The Normal Cost Rate is the State's portion only (20% of the Plan 2 Normal Cost).

**Includes post-software conversion method changes.*

Actuarial Exhibits

Change in State UAAL Rate by Source Before Completion of Phase-In	
2004 UAAL Rate	(2.23%)
Preliminary Software Conversion	(0.80%)
2004 Adjusted UAAL Rate	(3.03%)
Assets	(0.33%)
Salaries	(0.06%)
Inflation (CPI)	(0.42%)
Economic Gains/Losses	(0.81%)
Termination/Return to Work	0.01%
Retirement	(0.01%)
Demographic Gains/Losses	0.00%
Present Value Future Salaries Gains/Losses	0.00%
Plan Change Gains/Losses	0.00%
Method Change Gains/Losses	0.16%
Assumption Change Gains/Losses	0.00%
Miscellaneous Change Gains/Losses*	0.16%
Total Other Gains/Losses	0.32%
Total Change	(0.48%)
2005 Preliminary UAAL Rate	(3.51%)
Laws of 2006	0.15%
2005 UAAL Rate	(3.36%)

Plan 1 has a surplus of assets over liabilities, so no UAAL rate is currently payable.

**Includes post-software conversion method changes.*

Effect of Plan, Assumption, and Method Changes

In addition to experience gains or losses, significant changes in plan provisions or actuarial assumptions and methods will also have an impact on contribution rates.

Plan Changes:

- LEOFF 2 survivors line-of-duty death (Chapter 345, Laws of 2006);
- LEOFF 2 line-of-duty death: occupational illness (Chapter 351, Laws of 2006);
- LEOFF 2 disability (Chapter 39, Laws of 2006); and
- LEOFF 1 removal of 30-year service cap (Chapter 350, Laws of 2006 - affects Plan 1 UAAL only).

Assumption Changes:

- LEOFF 2 disability (Chapter 451, Laws of 2005).

Method Changes:

- New valuation software utilized; and
- The present value of future salaries is calculated differently for the Plan 2 Normal Cost rate as part of the system change.

The table on the next page shows the effect of the above changes on the current actuarial valuation results. The experience gains and losses are already reflected in all the liabilities and contribution rates shown in the table.

Effect of Plan, Assumption and Method Changes

Before Changes

Present Value of Fully Projected Benefits	\$5,154
Present Value of Credited Projected Benefits	2,856
Actuarial Value of Assets	3,329
Unfunded Liability	(474)
Employer Contribution Rate	4.39%

After Changes

Present Value of Fully Projected Benefits	\$5,462
Present Value of Credited Projected Benefits	2,932
Actuarial Value of Assets	3,329
Unfunded Liability	(397)
Employer Contribution Rate	4.86%

Increase/(Decrease) in Rate **0.47%**

Before and after changes include actuarial gains and losses for the year ending 9/30/2005.

The LEOFF contribution rate is the Employer's portion only (30% of the Plan 2 Normal Cost).

Participant Data



Participant Data

Overview of System Membership

LEOFF - Law Enforcement Officers' and Fire Fighters' Retirement System Plan 2; Chapter 41.26 RCW.

Fire fighters; emergency medical technicians; law enforcement officers, including sheriffs; university, port, and city police officers; and enforcement officers with the Department of Fish and Wildlife.

Active Membership By Employer	
State Agencies	102
Higher Education	102
Community Colleges	0
K-12	0
Counties	2,715
County Sub Divisions	29
First Class Cities	4,636
Other Cities	4,847
Ports	179
Education Service District	0
Fire Districts	2,558
Public Utility District	0
Water Districts	0
Energy Northwest	0
Unions	0
TOTAL	15,168

The table below summarizes participant data changes from last year's valuation to the current year's valuation. The participant data is divided into two main categories: (1) Actives and (2) Annuitants (receiving a pension or annuity payment). The "+" symbol indicates new participants entering the system or actives and new beneficiaries entering the annuitant status; whereas the "-" symbol indicates participants that have left either active or annuitant status.

Reconciliation of Participant Data	
2004 Actives	14,754
Transfers	0
Hires/Rehires (+)	912
New Retirees (-)	(104)
Deaths (-)	(9)
Terminations (-)	(385)
2005 Actives	15,168
2004 Annuitants	432
New Retirees (+)	142
Annuitant Deaths (-)	(3)
New Survivors (+)	9
Other (-)	(6)
2005 Annuitants	574
Ratio Actives to Annuitants	26.43

Participant Data

Summary of Plan Participants

Summary of Plan Participants		
	2005	2004
Active Members		
Number	15,168	14,754
Total Salaries (millions)	\$1,092	\$1,020
Average Age	40.5	40.1
Average Service	11.7	11.3
Average Salary	\$72,015	\$69,098
Terminated Members		
Number Vested	570	521
Number "Non-Vested"	1,285	1,233
Retirees		
Number of Retirees (All)	574	432
Average Monthly Benefit, All Retirees	\$1,668	\$1,485
Number of New "Service Retirees"	120	104
Average Monthly Benefit, New "Service Retirees"	\$2,208	\$1,848

Appendices



Appendices

Actuarial Assumptions and Methods

Actuarial Cost Methods

The Aggregate Cost Method was used to determine the normal cost and the actuarial accrued liability for retirement, termination, and ancillary benefits. Under this method, the unfunded actuarial present value of fully projected benefits is amortized over the future payroll of the active group. The entire contribution is considered normal cost and no UAAL exists.

The Projected Unit of Credit (PUC) cost method was used to calculate the plan's funded status and is consistent with governmental accounting standards. Please see the Glossary for an explanation of the PUC cost method.

Asset Valuation Method

The actuarial value of assets is calculated under an adjusted market value method by starting with the market value of assets. For subsequent years the actuarial value of assets is determined by adjusting the market value of assets to reflect the difference between the actual investment return and the expected investment return during each of the last eight years or, if fewer, the completed years since adoption, at the following rates per year:

Rate of Return	Annual Gain/Loss	
	Smoothing Period	Annual Recognition
15% and up	8 years	12.50%
14-15%	7 years	14.29%
13-14%	6 years	16.67%
12-13%	5 years	20.00%
11-12%	4 years	25.00%
10-11%	3 years	33.33%
9-10%	2 years	50.00%
7-9%	1 year	100.00%
6-7%	2 years	50.00%
5-6%	3 years	33.33%
4-5%	4 years	25.00%
3-4%	5 years	20.00%
2-3%	6 years	16.67%
1-2%	7 years	14.29%
1% and lower	8 years	12.50%

Additionally, the actuarial value of assets may not exceed 130 percent nor drop below 70 percent of the market value of assets.

Changes in Assumptions and Methods since Last Valuation

The Board has adopted a four-year “phase-in” contribution rate schedule for 2005-2009.

The following assumption has been updated for the laws of 2005: duty disability benefits (Chapter 451, Laws of 2005).

Full details of the assumptions and methods used to value legislation passed in 2006 are set out in the 2006 fiscal notes: disability benefits (Chapter 39, Laws of 2006) and line-of-duty death benefits - occupational illness (Chapter 351, Laws of 2006).

See the Miscellaneous Assumptions/Methods section for additional disclosure on assumption and method changes since the last valuation.

Economic Assumptions

Economic Assumptions	
Annual Growth in Membership	1.25%
Interest on Member Contributions ¹	5.50%
Return on Investment Earnings ²	8.00%
Inflation ³	3.50%
General Salary Increases (due to inflation) ⁴	4.50%
Annual COLA ⁵	3.00%

¹Annual rate, compounded quarterly.

²Annual rate, compounded annually.

³Based on the CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items.

⁴Excludes longevity, merit or step increases that usually apply to members in the early part of their careers.

⁵Based on the CPI (3% maximum).

Appendices

RP-2000 Mortality Rates (Continued)				Disabled Mortality (Continued)				Active, Annuitant Mortality (Continued)								
Combined Healthy Table				LEOFF 2				LEOFF 1				WSP				
Age	Male	Female	Minimum Probability -->	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Age
45	0.001508	0.001124	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	45
46	0.001616	0.001223	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	46
47	0.001734	0.001326	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	47
48	0.001860	0.001434	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	48
49	0.001995	0.001550	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	49
50	0.002138	0.001676	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	50
51	0.002449	0.001852	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	51
52	0.002667	0.002018	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	52
53	0.002916	0.002207	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	53
54	0.003196	0.002424	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	54
55	0.003624	0.002717	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	0.005000	55
56	0.004200	0.003090	0.005273	0.005000	0.005273	0.005000	0.005273	0.005000	0.005273	0.005000	0.005273	0.005000	0.005273	0.005000	0.005000	56
57	0.004693	0.003478	0.005945	0.005000	0.005945	0.005000	0.005945	0.005000	0.005945	0.005000	0.005945	0.005000	0.005945	0.005000	0.005000	57
58	0.005273	0.003923	0.006747	0.005055	0.006747	0.005055	0.006747	0.005055	0.006747	0.005055	0.006747	0.005055	0.006747	0.005055	0.005055	58
59	0.005945	0.004441	0.007676	0.005814	0.007676	0.005814	0.007676	0.005814	0.007676	0.005814	0.007676	0.005814	0.007676	0.005814	0.005814	59
60	0.006747	0.005055	0.008757	0.006657	0.008757	0.006657	0.008757	0.006657	0.008757	0.006657	0.008757	0.006657	0.008757	0.006657	0.006657	60
61	0.007676	0.005814	0.010012	0.007648	0.010012	0.007648	0.010012	0.007648	0.010012	0.007648	0.010012	0.007648	0.010012	0.007648	0.007648	61
62	0.008757	0.006657	0.011280	0.008619	0.011280	0.008619	0.011280	0.008619	0.011280	0.008619	0.011280	0.008619	0.011280	0.008619	0.008619	62
63	0.010012	0.007648	0.012737	0.009706	0.012737	0.009706	0.012737	0.009706	0.012737	0.009706	0.012737	0.009706	0.012737	0.009706	0.009706	63
64	0.011280	0.008619	0.014409	0.010954	0.014409	0.010954	0.014409	0.010954	0.014409	0.010954	0.014409	0.010954	0.014409	0.010954	0.010954	64
65	0.012737	0.009706	0.016075	0.012163	0.016075	0.012163	0.016075	0.012163	0.016075	0.012163	0.016075	0.012163	0.016075	0.012163	0.012163	65
66	0.014409	0.010954	0.017871	0.013445	0.017871	0.013445	0.017871	0.013445	0.017871	0.013445	0.017871	0.013445	0.017871	0.013445	0.013445	66
67	0.016075	0.012163	0.019802	0.014860	0.019802	0.014860	0.019802	0.014860	0.019802	0.014860	0.019802	0.014860	0.019802	0.014860	0.014860	67
68	0.017871	0.013445	0.022206	0.016742	0.022206	0.016742	0.022206	0.016742	0.022206	0.016742	0.022206	0.016742	0.022206	0.016742	0.016742	68
69	0.019802	0.014860	0.024570	0.018579	0.024570	0.018579	0.024570	0.018579	0.024570	0.018579	0.024570	0.018579	0.024570	0.018579	0.018579	69

RP-2000 Mortality Rates (Continued)				Disabled Mortality (Continued)				Active, Annuitant Mortality (Continued)															
Combined Healthy Table				LEOFF 2				LEOFF 1				LEOFF 2				LEOFF 1				WSP			
Age	Male	Female	Minimum Probability -->	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Age	
70	0.022206	0.016742		0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	0.027281	0.020665	70	
71	0.024570	0.018579		0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	0.030387	0.022970	71	
72	0.027281	0.020665		0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	0.033900	0.025458	72	
73	0.030387	0.022970		0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	0.037834	0.028106	73	
74	0.033900	0.025458		0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	0.042169	0.030966	74	
75	0.037834	0.028106		0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	0.046906	0.034105	75	
76	0.042169	0.030966		0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	0.052123	0.037595	76	
77	0.046906	0.034105		0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	0.057927	0.041506	77	
78	0.052123	0.037595		0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	0.064368	0.045879	78	
79	0.057927	0.041506		0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	0.072041	0.050780	79	
80	0.064368	0.045879		0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	0.080486	0.056294	80	
81	0.072041	0.050780		0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	0.089718	0.062506	81	
82	0.080486	0.056294		0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	0.099779	0.069517	82	
83	0.089718	0.062506		0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	0.110757	0.077446	83	
84	0.099779	0.069517		0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	0.122797	0.086376	84	
85	0.110757	0.077446		0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	0.136043	0.096337	85	
86	0.122797	0.086376		0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	0.150590	0.107303	86	
87	0.136043	0.096337		0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	0.166420	0.119154	87	
88	0.150590	0.107303		0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	0.183408	0.131682	88	
89	0.166420	0.119154		0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	0.199769	0.144604	89	
90	0.183408	0.131682		0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	0.216605	0.157618	90	
91	0.199769	0.144604		0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	0.233662	0.170433	91	
92	0.216605	0.157618		0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	0.250693	0.182799	92	
93	0.233662	0.170433		0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	0.267491	0.194509	93	
94	0.250693	0.182799		0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	0.283905	0.205379	94	

RP-2000 Mortality Rates <i>(Continued)</i>				Disabled Mortality <i>(Continued)</i>				Active, Annuitant Mortality <i>(Continued)</i>			
Combined Healthy Table				LEOFF 1				LEOFF 2			
Age	Male	Female	WSP	Male	Female	Male	Female	Male	Female	Male	Female
Age Offset (Years) -->	Minimum Probability -->		WSP	LEOFF 1		WSP		LEOFF 2		WSP	
95	0.267491	0.194509	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
96	0.283905	0.205379	0.315296	0.223947	0.215240	0.299852	0.215240	0.299852	0.215240	0.299852	0.215240
97	0.299852	0.215240	0.330207	0.231387	0.231387	0.330207	0.231387	0.330207	0.231387	0.330207	0.231387
98	0.315296	0.223947	0.344556	0.237467	0.237467	0.344556	0.237467	0.344556	0.237467	0.344556	0.237467
99	0.330207	0.231387	0.358628	0.244834	0.244834	0.358628	0.244834	0.358628	0.244834	0.358628	0.244834
100	0.344556	0.237467	0.371685	0.254498	0.254498	0.371685	0.254498	0.371685	0.254498	0.371685	0.254498
101	0.358628	0.244834	0.383040	0.266044	0.266044	0.383040	0.266044	0.383040	0.266044	0.383040	0.266044
102	0.371685	0.254498	0.392003	0.279055	0.279055	0.392003	0.279055	0.392003	0.279055	0.392003	0.279055
103	0.383040	0.266044	0.397886	0.293116	0.293116	0.397886	0.293116	0.397886	0.293116	0.397886	0.293116
104	0.392003	0.279055	0.400000	0.307811	0.307811	0.400000	0.307811	0.400000	0.307811	0.400000	0.307811
105	0.397886	0.293116	0.400000	0.322725	0.322725	0.400000	0.322725	0.400000	0.322725	0.400000	0.322725
106	0.400000	0.307811	0.400000	0.337441	0.337441	0.400000	0.337441	0.400000	0.337441	0.400000	0.337441
107	0.400000	0.322725	0.400000	0.351544	0.351544	0.400000	0.351544	0.400000	0.351544	0.400000	0.351544
108	0.400000	0.337441	0.400000	0.364617	0.364617	0.400000	0.364617	0.400000	0.364617	0.400000	0.364617
109	0.400000	0.351544	0.400000	0.376246	0.376246	0.400000	0.376246	0.400000	0.376246	0.400000	0.376246
110	0.400000	0.364617	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Age	Service Retirement				Disability				Ratio of Survivors Selecting Annuities*									
	LEOFF 2		LEOFF 1		WSP		Nonduty		LEOFF 1		WSP		LEOFF 2		LEOFF 1		WSP	
	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female
20	0.00	0.00	0.00	0.00	0.001010	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.001034	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.001059	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.001084	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.001110	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.001137	0.000022	0.001000	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.001164	0.000024	0.002397	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.001192	0.000026	0.003793	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.001221	0.000028	0.005187	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.001250	0.000031	0.006578	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.001280	0.000033	0.007968	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.001367	0.000035	0.009356	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.001460	0.000037	0.010742	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.001559	0.000039	0.012126	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.001665	0.000042	0.013508	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.001778	0.000044	0.014888	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.001899	0.000050	0.016267	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.002028	0.000057	0.019033	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.002166	0.000066	0.020514	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.002313	0.000077	0.021994	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.002470	0.000088	0.023471	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.002627	0.000098	0.024946	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.002794	0.000109	0.026419	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.002971	0.000123	0.027889	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.003159	0.000138	0.036042	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.31	0.003360	0.000153	0.042372	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.31	0.004317	0.000197	0.048661	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.31	0.005546	0.000256	0.054909	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.31	0.007125	0.000328	0.061118	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.31	0.009154	0.000424	0.067287	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.09	0.09	0.09	0.31	0.011760	0.000547	0.073417	0.001000	0.001000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Refers to survivor who selects annuity payments (rather than a lump sum payment) upon active or terminated vested member's death. The LEOFF 2 ratio is 0.60 for duty-related deaths.

Appendices

Age	Service Retirement (Continued)				Disablement (Continued)				Ratio of Survivors Selecting Annuities*			
	LEOFF 2		WSP		Duty		Nonduty		LEOFF 2		WSP	
	Male & Female	LEOFF 1	Male & Female	WSP	Male & Female	LEOFF 2	Male & Female	LEOFF 1	Male & Female	LEOFF 2	Male & Female	WSP
	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female
51	0.09	0.07	0.23	0.23	0.014078	0.000628	0.079508	0.001000	0.25	0.60	0.60	0.60
52	0.09	0.08	0.23	0.28	0.016852	0.000722	0.085561	0.001000	0.25	0.60	0.60	0.60
53	0.16	0.08	0.23	0.28	0.020174	0.000851	0.091576	0.001000	0.25	0.60	0.60	0.60
54	0.19	0.10	0.23	0.28	0.024150	0.000951	0.097553	0.001000	0.25	0.60	0.60	0.60
55	0.24	0.16	0.23	0.28	0.028910	0.000951	0.103493	0.001000	0.25	0.60	0.60	0.60
56	0.25	0.16	0.28	0.28	0.028910	0.000951	0.109395	0.001000	0.25	0.60	0.60	0.60
57	0.25	0.16	0.28	0.28	0.028910	0.000951	0.115262	0.001000	0.25	0.60	0.60	0.60
58	0.33	0.23	0.28	0.28	0.028910	0.000951	0.121663	0.001000	0.25	0.60	0.60	0.60
59	0.33	0.23	0.28	0.28	0.028910	0.000951	0.121663	0.001000	0.25	0.60	0.60	0.60
60	0.33	0.23	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
61	0.37	0.28	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
62	0.37	0.28	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
63	0.37	0.28	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
64	0.48	0.40	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
65	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
66	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
67	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
68	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
69	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
70	1.00	1.00	1.00	1.00	0.028910	0.000951	0.121663	0.001000	0.50	0.60	0.60	0.60
71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60
80+	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.60	0.60	0.60

*Refers to survivor who selects annuity payments (rather than a lump sum payment) upon active or terminated vested member's death. The LEOFF 2 ratio is 0.60 for duty-related deaths.

Service Years	Termination				Percent Vested*				Salary Scale							
	LEOFF 2		LEOFF 1		LEOFF 2		LEOFF 1		WSP		LEOFF 2		LEOFF 1		WSP	
	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio	
0	0.1033	0.1043	0.0243	0.0243	0.00	N/A	N/A	0.00	0.00	11.70%	2.022	11.70%	2.022	6.00%	1.779	
1	0.0459	0.0469	0.0243	0.0243	0.00	N/A	N/A	0.00	0.00	11.70%	1.810	11.70%	1.810	6.00%	1.678	
2	0.0227	0.0237	0.0243	0.0243	0.00	N/A	N/A	0.00	0.00	8.10%	1.621	8.10%	1.621	6.00%	1.583	
3	0.0198	0.0208	0.0243	0.0243	0.00	N/A	N/A	0.00	0.00	6.60%	1.499	6.60%	1.499	6.00%	1.493	
4	0.0188	0.0198	0.0243	0.0243	0.00	N/A	N/A	0.00	0.00	4.50%	1.406	4.50%	1.406	6.00%	1.409	
5	0.0184	0.0194	0.0138	0.0138	0.15	N/A	N/A	0.15	0.15	3.20%	1.346	3.20%	1.346	6.00%	1.329	
6	0.0184	0.0194	0.0138	0.0138	0.15	N/A	N/A	0.15	0.15	2.50%	1.304	2.50%	1.304	6.00%	1.254	
7	0.0184	0.0194	0.0138	0.0138	0.15	N/A	N/A	0.15	0.15	2.20%	1.272	2.20%	1.272	1.30%	1.183	
8	0.0157	0.0167	0.0138	0.0138	0.15	N/A	N/A	0.15	0.15	2.00%	1.245	2.00%	1.245	1.30%	1.168	
9	0.0157	0.0167	0.0138	0.0138	0.15	N/A	N/A	0.15	0.15	2.00%	1.221	2.00%	1.221	1.30%	1.153	
10	0.0157	0.0167	0.0087	0.0087	0.15	N/A	N/A	0.15	0.15	2.00%	1.197	2.00%	1.197	1.30%	1.138	
11	0.0132	0.0142	0.0087	0.0087	0.15	N/A	N/A	0.15	0.15	1.90%	1.173	1.90%	1.173	1.30%	1.123	
12	0.0132	0.0142	0.0087	0.0087	0.15	N/A	N/A	0.15	0.15	1.80%	1.151	1.80%	1.151	1.30%	1.109	
13	0.0132	0.0142	0.0087	0.0087	0.15	N/A	N/A	0.15	0.15	1.70%	1.131	1.70%	1.131	1.30%	1.095	
14	0.0089	0.0099	0.0087	0.0087	0.15	N/A	N/A	0.15	0.15	1.60%	1.112	1.60%	1.112	1.30%	1.081	
15	0.0089	0.0099	0.0064	0.0064	0.15	N/A	N/A	0.15	0.15	1.60%	1.095	1.60%	1.095	1.30%	1.067	
16	0.0089	0.0099	0.0064	0.0064	0.15	N/A	N/A	0.15	0.15	1.60%	1.077	1.60%	1.077	1.30%	1.053	
17	0.0060	0.0070	0.0064	0.0064	0.15	N/A	N/A	0.15	0.15	1.60%	1.060	1.60%	1.060	1.30%	1.040	
18	0.0060	0.0070	0.0064	0.0064	0.35	N/A	N/A	0.35	0.35	1.60%	1.044	1.60%	1.044	1.30%	1.026	
19	0.0060	0.0070	0.0064	0.0064	0.35	N/A	N/A	0.35	0.35	1.40%	1.027	1.40%	1.027	1.30%	1.013	
20	0.0060	0.0070	0.0019	0.0019	0.75	N/A	N/A	0.75	0.75	1.30%	1.013	1.30%	1.013	0.00%	1.000	
21	0.0060	0.0070	0.0019	0.0019	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	
22	0.0060	0.0070	0.0019	0.0019	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	
23	0.0060	0.0070	0.0019	0.0019	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	
24	0.0060	0.0070	0.0019	0.0019	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	

*Denotes ratio of members who do not withdraw their savings when they leave employment.

Appendices

Service Years	Termination				Percent Vested*				Salary Scale							
	LEOFF 2		LEOFF 1		LEOFF 2		LEOFF 1		LEOFF 2		LEOFF 1		WSP			
	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	Male & Female	% Increase	Salary Ratio	% Increase	Salary Ratio	% Increase	Salary Ratio		
25	0.0060	0.0070	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	25
26	0.0060	0.0070	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	26
27	0.0060	0.0070	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	27
28	0.0060	0.0070	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	28
29	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	29
30	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	30
31	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	31
32	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	32
33	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	33
34	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	34
35	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	35
36	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	36
37	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	37
38	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	38
39	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	39
40	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	40
41	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	41
42	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	42
43	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	43
44	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	44
45	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	45
46	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	46
47	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	47
48	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	48
49	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	49
50	0.0000	0.0000	0.0000	0.0000	1.00	N/A	N/A	1.00	1.00	0.00%	1.000	0.00%	1.000	0.00%	1.000	50

*Denotes ratio of members who do not withdraw their savings when they leave employment.

Portability Load	
LEOFF 2	0.1%
LEOFF 1	N/A
WSP	0.0%

Reflects portability provisions for each plan.

Certain and Life Annuities: Years Certain	
LEOFF 2	5
LEOFF 1	N/A
WSP 1	N/A
WSP 2	4

	Member/Beneficiary Age Difference (In Years)	
	Male Member	Female Member
LEOFF 2	4	(4)
LEOFF 1	4	(4)
WSP	3	(2)

Age difference is Member age minus Beneficiary age.

Duty-Related Death Assumption	
	Duty Death Rate*
LEOFF	0.0200%
WSP	0.0200%

**The duty death rate is a constant probability applied, regardless of age. The nonduty death rate is obtained by subtracting duty death rate from mortality rate in any given age.*

Duty-Related Disability Assumption		
Age	Duty Disability Rate*	
20	95.00%	
25	92.47%	
30	90.00%	
35	87.46%	
40	85.00%	
50	75.00%	
55+	70.00%	

**Probability of disability being duty-related; geometrically interpolated between given values. Applies to LEOFF 2 only. Table represents a summary of rates.*

Miscellaneous Assumptions/Methods

- Minimum and maximum allowable ages are set in the data as follows:

	Non-Annuitants	Annuitants
Minimum Age	16	20
Maximum Age	99	120

- Default entry salaries, increased for past service, are assigned for active members with less than two months' service during the valuation year.
- Historical salaries for vested terminated members are not provided. To estimate salaries for these members, the following procedure is used: First, a salary appropriate for the given system/plan and the member's total past service is assigned. These salaries are determined as of a given base year. Second, the salary is divided by the general salary increase assumption for each year the member has been inactive as measured from the base year.
- While the Department of Retirement Systems reports salaries earned during the year prior to the valuation date, the salaries used in the first year of the valuation process have received an additional merit salary increase. In other words, the valuation software projects salaries to the coming year, beginning the day after the valuation date (method change).
- All systems now use a midyear decrement timing assumption (method change). Additionally, Final Average Salary (FAS) is developed using the trapezoidal rule, which includes six months of salary in the year of retirement in the average (method change).
- Disability and termination rates are discontinued after members are eligible to retire.

Summary of Plan Provisions

Summary of Plan Provisions	
Effective Date of Plan	10/1/77
Date Closed to New Entrants	Open
Statutory Reference	Chapter 41.26 RCW
Normal Retirement Eligibility (age/service)	53/5
Accrued Benefit Formula	2% x YOS x AFC; 0.25% per month pre-retirement COLA with 20 years of service
Computation of FAS/AFC	Average compensation earnable for the highest 60 consecutive months
Credited Service	Monthly, based on hours worked each month
Vesting	5 years
Vested Benefits Upon Termination	Refund of employee contributions (x 150% if 10 YOS) plus interest, or deferred retirement allowance
Early Retirement Eligibility (age/service)	50/20
Early Retirement Reduction Factors	3% ERF with 20 YOS
Disability Retirement Benefit	Non-duty: accrued benefit, actuarially reduced; Duty: accrued benefit without actuarial reduction, minimum 10% of AFC
COLA	Lesser of CPI* or 3%
Minimum Benefit per Month per YOS	n/a
Gain-Sharing Benefit Provisions	n/a
Changes in Plan Provisions Since Last Valuation	Disability (C 39 L 06); Line of Duty Survivor Health Benefits (C 345 L 06); Expand Definition of Line-of-Duty Death (C 351 L 06)
Benefits not Included in This Valuation	None

*CPI: *Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items.*

Appendices

Early Retirement Reduction Factors			Early Retirement Reduction Factors (Continued)		
Years Early	LEOFF2, WSP*	Subsidized 3%**	Years Early	LEOFF2, WSP*	Subsidized 3%**
0	1.0000	1.00	25	0.1400	N/A
1	0.9200	0.97	26	0.1300	N/A
2	0.8400	0.94	27	0.1200	N/A
3	0.7600	0.91	28	0.1100	N/A
4	0.7100	N/A	29	0.1000	N/A
5	0.6600	N/A	30	0.1000	N/A
6	0.6100	N/A	31	0.1000	N/A
7	0.5600	N/A	32	0.1000	N/A
8	0.5100	N/A	33	0.1000	N/A
9	0.4700	N/A	34	0.1000	N/A
10	0.4300	N/A	35	0.1000	N/A
11	0.3900	N/A	36	0.1000	N/A
12	0.3500	N/A	37	0.1000	N/A
13	0.3100	N/A	38	0.1000	N/A
14	0.2900	N/A	39	0.1000	N/A
15	0.2700	N/A	40	0.1000	N/A
16	0.2500	N/A	41	0.1000	N/A
17	0.2300	N/A	42	0.1000	N/A
18	0.2100	N/A	43	0.1000	N/A
19	0.2000	N/A	44	0.1000	N/A
20	0.1900	N/A	45	0.1000	N/A
21	0.1800	N/A	46	0.1000	N/A
22	0.1700	N/A	47	0.1000	N/A
23	0.1600	N/A	48	0.1000	N/A
24	0.1500	N/A	49	0.1000	N/A

Early Retirement Reduction Factors are not applied in LEOFF 1.

*Terminated Vested only.

**LEOFF 2 members must be at least age 50 with 20 or more years of service to qualify.

Age/Service Distribution

Age and Service Distribution of Active Members (Number of Actives and Average Salary)															
LEOFF Plan 2: Attained Age	Attained Years of Service														Total
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over		
Under 25	65	62	27	14	4	1	0	0	0	0	0	0	0	0	173
	\$45,036	\$47,548	\$53,278	\$60,607	\$62,763	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,039
25-29	123	215	206	191	192	285	0	0	0	0	0	0	0	0	1,212
	\$46,048	\$49,770	\$53,827	\$59,367	\$64,408	\$66,248	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57,788
30-34	85	177	194	210	275	1,247	303	1	0	0	0	0	0	0	2,492
	\$47,292	\$50,709	\$56,055	\$59,529	\$63,808	\$69,303	\$71,960	*	\$0	\$0	\$0	\$0	\$0	\$0	\$65,096
35-39	65	110	129	112	189	1,172	1,189	382	1	0	0	0	0	0	3,349
	\$47,948	\$49,668	\$57,486	\$63,762	\$63,692	\$70,396	\$74,189	\$77,106	*	\$0	\$0	\$0	\$0	\$0	\$70,307
40-44	23	42	66	52	80	525	796	1,084	280	7	0	0	0	0	2,955
	\$44,387	\$49,670	\$56,967	\$65,545	\$62,784	\$69,234	\$75,062	\$79,113	\$85,097	\$86,464	\$0	\$0	\$0	\$0	\$74,987
45-49	9	16	34	33	30	206	410	700	718	378	0	0	0	0	2,534
	\$47,166	\$49,893	\$57,012	\$70,809	\$62,024	\$67,774	\$74,253	\$78,158	\$84,860	\$89,080	\$0	\$0	\$0	\$0	\$79,351
50-54	3	15	23	18	17	126	180	332	439	619	0	0	0	0	1,772
	\$52,362	\$52,893	\$64,705	\$82,795	\$75,381	\$65,839	\$73,556	\$78,390	\$82,413	\$84,089	\$0	\$0	\$0	\$0	\$79,572
55-59	2	4	14	12	9	42	48	113	137	177	1	0	0	0	559
	\$48,522	\$90,792	\$57,161	\$79,726	\$75,871	\$68,512	\$72,102	\$75,036	\$78,684	\$84,437	*	\$0	\$0	\$0	\$77,848
60-64	0	3	4	4	3	6	20	24	27	20	0	0	0	0	111
	\$0	\$47,976	\$78,051	\$41,777	\$74,427	\$77,974	\$73,045	\$77,412	\$72,845	\$82,711	\$0	\$0	\$0	\$0	\$74,362
65-69	0	0	0	1	0	0	2	5	2	0	0	0	0	0	10
	\$0	\$0	\$0	*	\$0	\$0	\$46,358	\$62,109	\$88,463	\$0	\$0	\$0	\$0	\$0	\$62,523
70 & Over	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	*	\$0	\$0	\$0	\$0	\$0	\$0	*
Total	375	644	697	647	799	3,610	2,948	2,642	1,604	1,201	1	0	0	0	15,168
	\$46,473	\$50,113	\$56,121	\$62,186	\$64,172	\$69,204	\$74,105	\$78,252	\$83,525	\$85,702	*	\$0	\$0	\$0	\$72,015
Average:	Age	40.5	Number of Participants:		Vested	11,625	Males	13,917	Early Retirement Eligible:	717	Normal Retirement Eligible:		1,154		
	Service	11.7	Not Vested		3,543	Females	1,251	Normal Retirement Eligible:	1,154						

*Annual Salary omitted for privacy reasons.
Numbers of participants eligible for early and normal retirement are estimates only.

Appendices

Age/Years Retired Distribution

Age and Years Retired Distribution of All Annuitant Members (Number of All Annuitant Members and Average Monthly Benefit)															
LEOFF Plan 2: Attained Age	Attained Years Retired													Total	
	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over		
Under 50	2	8	4	4	5	2	0	0	0	0	0	0	0	0	25
	\$1,857	\$1,362	\$1,176	\$676	\$519	\$475	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,023
50-54	33	47	12	6	6	2	1	0	0	0	0	0	0	0	107
	\$2,178	\$2,229	\$2,156	\$1,488	\$1,327	\$287	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,060
55-59	25	42	42	43	34	31	0	1	0	0	0	0	0	0	218
	\$2,594	\$2,158	\$2,027	\$1,619	\$1,579	\$1,364	\$0	*	\$0	\$0	\$0	\$0	\$0	\$0	\$1,864
60-64	10	17	15	14	12	47	3	0	0	0	0	0	0	0	118
	\$2,560	\$1,816	\$1,608	\$1,429	\$2,041	\$1,259	\$462	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,573
65-69	0	5	6	10	5	27	13	0	0	0	0	0	0	0	66
	\$0	\$1,735	\$1,301	\$1,424	\$1,213	\$1,184	\$659	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,171
70-74	0	0	0	1	0	12	9	0	1	1	0	0	0	0	24
	\$0	\$0	\$0	*	\$0	\$1,288	\$803	\$0	*	\$0	\$0	\$0	\$0	\$0	\$1,080
75-79	0	0	0	0	0	1	6	6	0	0	0	0	0	0	13
	\$0	\$0	\$0	\$0	\$0	*	\$1,501	\$698	\$0	\$0	\$0	\$0	\$0	\$0	\$1,120
80-84	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$432	\$0	\$0	\$0	\$0	\$0	\$0	\$432
85-89	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
	\$0	\$0	\$0	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	*
90-94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
95 & Over	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	70	119	79	79	62	122	32	9	1	1	0	0	0	0	574
	\$2,372	\$2,066	\$1,869	\$1,505	\$1,529	\$1,244	\$834	\$576	*	*	\$0	\$0	\$0	\$0	\$1,668

Average: Age 58.8
Years Retired 3.6

Males 510
Females 64

*Monthly benefit omitted for privacy reasons.

Historical Data

	Historical Data					
(Dollars in millions)	2005	2004	2003	2002	2001 ¹	2000
Contribution Information						
Employer Rate	4.86%	4.57%	4.32%	3.84%	3.03%	2.41%
State Rate	3.24%	3.03%	2.88%	2.57%	2.02%	1.61%
Employee Rate	8.10%	7.60%	7.20%	6.41%	5.05%	4.02%
Funded Status						
Credited Projected Liability	\$2,932	\$2,521	\$2,194	\$1,937	\$1,668	\$1,528
Market Value of Assets	\$3,614	\$2,984	\$2,541	\$2,136	\$2,210	\$2,378
Actuarial Value of Assets	\$3,329	\$2,947	\$2,740	\$2,646	\$2,576	\$2,459
Unfunded Liability	(\$397)	(\$426)	(\$547)	(\$709)	(\$907)	(\$931)
Funded Ratio	113.53%	116.89%	124.91%	136.62%	154.00%	161.00%
Participant Data						
Number of Actives	15,168	14,754	14,560	14,011	13,585	13,133
Total Annual Salaries	\$1,092	\$1,020	\$967	\$902	\$831	\$780
Number of Terminated Vested	570	521	439	376	303	248
Number of Terminated, Not Vested	1,285	1,233	1,186	1,137	1,051	940
Number of Retirees and Beneficiaries	574	432	316	244	184	143
Total Annual Benefits	\$11	\$8	\$5	\$3	\$2	\$2
Assumptions						
Valuation Interest Rate	8.00%	8.00%	8.00%	8.00%	5.90%	8.00%
Salary Increase	7.40%	7.60%	7.70%	7.80%	5.80%	4.00%
Inflation ²	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Growth in Membership	1.25%	1.25%	1.25%	1.25%	0.94%	1.25%
Actuarial Experience						
Return on Market Value	17.55%	13.64%	15.13%	(6.31%)	(9.77%)	0.37%
Return on Actuarial Value	9.30%	4.10%	0.60%	0.10%	2.00%	9.80%
Salary Increase	5.90%	5.20%	4.80%	7.00%	4.60%	5.90%
Inflation	1.57%	1.41%	1.81%	3.55%	3.75%	3.10%
Growth in Membership	1.85%	0.33%	2.59%	1.73%	1.83%	1.22%
COLA ³	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%

¹For the 2001 valuation, the salary, interest, and growth rates were not annualized. They reflect the actual valuation period of nine months.

²Based on the assumption for prior year's CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bremerton, WA - All Items.

³COLA is based on the CPI (3% maximum per year).

Glossary

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 Gain or Loss: Experience of the plan, from one year to the next, which differs from that assumed will result in an actuarial gain or loss. For example, an actuarial gain would occur if assets earned 10 percent for a given year since the assumed interest rate in the valuation is 8 percent.

Actuarial Value of Assets: The value of pension plan investments and other property used by the actuary for the purpose of an actuarial valuation (sometimes referred to as valuation assets). It is common for actuaries to select an actuarial valuation method that smoothes the effects of short-term volatility in the market value of assets.

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

- Normal cost; plus
- Amortization of the unfunded actuarial accrued 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.

Funded Ratio: The ratio of a plan's assets to its liabilities. There are several acceptable methods of measuring a plan's assets and liabilities. In financial reporting of public pension plans, funded status is reported using consistent measures by all governmental entities. According to the Governmental Accounting Standards Board (GASB), the funded ratio is the actuarial value of assets divided by the actuarial accrued liability calculated under PUC (see below).

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. The employer normal cost is the total normal cost of the plan reduced by employee contributions.

Present Value of Credited Projected Benefits: The actuarial accrued liability computed under the Projected Unit Credit (PUC) funding method.

Present Value of Fully Projected Benefits: Computed by projecting the total future benefit cash flow from the plan, using actuarial assumptions (i.e., probability of death,

retirement, salary increases, etc.), and then discounting the cash flow to the valuation date using the valuation interest rate.

Projected Unit Credit (PUC) Funding Method: The PUC funding method is a standard actuarial funding method. The annual cost of benefits under PUC is comprised of two components:

- Normal cost; plus
- Amortization of the unfunded actuarial accrued liability.

The PUC normal cost is the estimated present value of projected benefits to be earned in the current plan year.

Unfunded Actuarial Accrued Liability: 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.

WASHINGTON STATE

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Fire Fighters'
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