BOARD MEETING AGENDA

MAY 23, 2018 • 9:30AM

LEOFF Plan 2 Retirement Board

LOCATION

STATE INVESTMENT BOARD
Large Conference Room, STE 100
2100 Evergreen Park Drive S.W.
Olympia, WA 98502

**THEY KEEP US SAFE,
WE KEEP THEM SECURE.**

1.	**Approval of Minutes** April 25, 2018	**9:35 AM**
2.	**LAVR Preview** Mitch DeCamp, OSA	**9:40 AM**
3.	**Benefit Improvement Account** Steve Nelsen, Executive Director	**10:10 AM**
4.	**Funding Method** Ryan Frost, Research and Policy Manager	**10:40 AM**
5.	**Contribution Rate Setting Introduction** Ryan Frost, Research and Policy Manager	**11:10 AM**
6.	**Supplemental Rate Introduction** Ryan Frost, Research and Policy Manager	**11:40 AM**
7.	**Administrative Update** • Constituent Correspondence • Outreach Activities	**12:10 PM**
8.	**Executive Session** *To review the performance of a public employee*	**1:00 PM**

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

In accordance with RCW 42.30.110, the Board may call an Executive Session for the purpose of deliberating such matters as provided by law. Final actions contemplated by the Board in Executive Session will be taken in open session. The Board may elect to take action on any item appearing on this agenda.

LEOFF 2 Preliminary Actuarial Valuation Results

Mitch DeCamp
Actuarial Analyst

Presentation to: LEOFF Plan 2 Retirement Board

Office of the State Actuary
"Supporting financial security for generations."

May 23, 2018

Today's Presentation

- Purpose of an actuarial valuation
- Preliminary 2017 Actuarial Valuation Results
- Informational – no Board action needed today

Purpose Of The 2017 Actuarial Valuation

- Estimate future benefits to be paid from the plan
  - When and for how long will members receive benefits?
  - How large will benefits be?
- Calculate contribution rates that fund expected future benefits
  - Updated with latest data, assets, and legislation (if applicable)
- Check funding progress
  - Are we on track with the systematic actuarial funding plan?
- Certify the underlying data, assumptions, and methods are reasonable and conform with current actuarial standards of practice

Highlights Of Preliminary 2017 Valuation Results

Assets

- 14.14% return on Market Value of Assets (MVA)
- Actuarial Value of Assets (AVA) is deferring asset gains of $581 million from higher than expected returns in 2017

Funded Status

- Funded status increased from the prior valuation to 109%
- Greater than expected asset returns and new economic assumptions contributed to higher funded status

Preliminary Contribution Rates

- Preliminary contribution rates lower compared to currently adopted rates for Aggregate (statutory funding method) and Normal Cost under the EAN method (Board's current funding policy)

Change In Participant Data From Last Valuation

LEOFF 2			
	2016	2017	Difference
Number of Actives	17,186	17,694	508
Average Annual Salary	$103,947	$106,169	$2,222
Average Attained Age	43.5	43.2	(0.3)
Average Service	14.5	14.2	(0.3)
Number of Annuitants	4,259	4,851	592

Change In Market Value Of Assets From Last Valuation

LEOFF 2			
(Dollars in Millions)	**2016**	**2017**	**Difference**
Market Value	$10,194	$11,758	$1,564
Contributions Less Disbursements*	$118	$117	($1)
Investment Return	$244	$1,446	$1,202
Return on Assets**	2.48%	14.14%	11.66%

*Includes transfers, restorations, and payables.
**Dollar-weighted return on MVA.

Calculation Of Smoothed Value Of Assets

- MVA reported by WSIB
- Calculate 2017 asset gain (or loss) based on 7.5% expected return
- Develop AVA by smoothing past and current asset gains (or losses)
  - Smooth gain (or loss) over a period up to 8 years
  - AVA limited to 30% "corridor" around MVA
  - Smoothing method reduces contribution rate and funded status volatility

Actuarial Value Of Assets

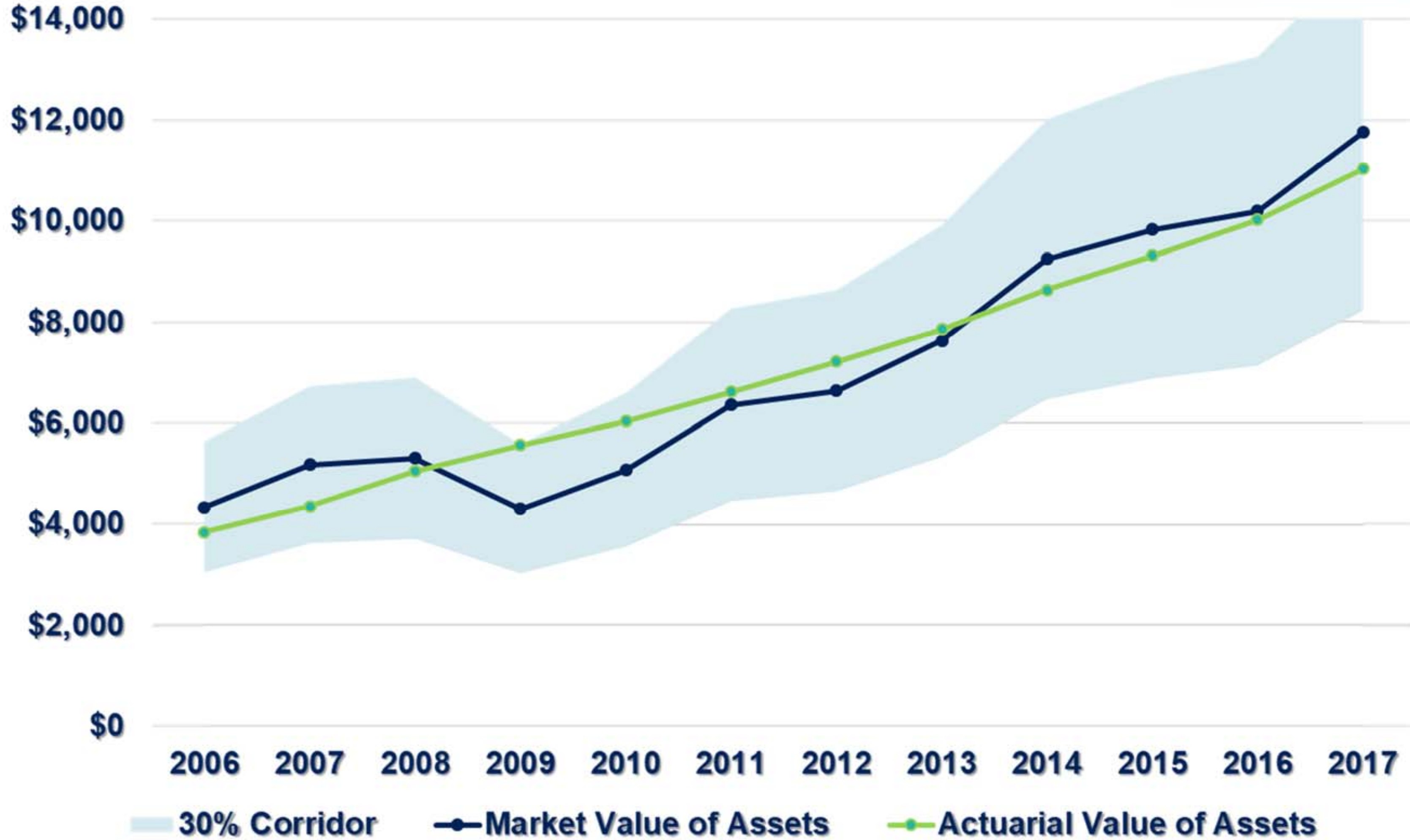
Calculation of Actuarial Value of Assets				
LEOFF 2				
(Dollars in Millions)				**2017**
Market Value of Assets				$11,758
Plan Year Ending	**Return on Assets***	**Years Deferred**	**Years Remaining**	**Amount Deferred****
6/30/2017	14.14%	7	6	581
6/30/2016	2.48%	6	4	(331)
6/30/2014	18.93%	8	4	439
6/30/2012	1.45%	7	1	(56)
6/30/2011	21.08%	8	1	87
Total Deferral				**720**
Actuarial Value of Assets***				**$11,037**

**Dollar-weighted rate of return.*

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

****Actuarial Value of Assets can never be less than 70% ($8,230) or greater than 130% ($15,285) of the Market Value of Assets.*

Actuarial Value Of Assets Less Volatile Than Market Value



Change In Liabilities And Assumptions From Last Valuation

LEOFF 2			
(Dollars in Millions)	**2016**	**2017**	**Difference**
Present Value of Future Benefits	$13,013	$13,689	$676
Accrued Liability	$9,571	$10,160	$589
Valuation Interest Rate	7.50%	7.40%	(0.10%)
General Salary Growth	3.75%	3.50%	(0.25%)
Inflation	3.00%	2.75%	(0.25%)

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

Change In Funded Status From Last Valuation

LEOFF 2			
(Dollars in Millions)	**2016**	**2017**	**Difference**
a. Accrued Liability	$9,571	$10,160	$589
b. Actuarial Value of Assets	$10,021	$11,037	$1,016
c. Unfunded Liability (a-b)	($450)	($877)	($427)
Funded Status (b/a)	105%	109%	4%

- Funded status =

  $ Actuarial Value of Assets, **Divided By**

  $ Accrued Liabilities

- If the funded status exceeds 100%, the plan has more than $1 of assets for every $1 of accrued benefits
- Plan greater/less than 100% funded status not necessarily overfunded/at-risk

Preliminary Impacts To Contribution Rates

LEOFF 2	
Adopted Contribution Rates: 2017-2021	
Member	8.75%
Employer*	5.25%
State	3.50%

**Excludes current administrative expense rate of 0.18%*

- Current contribution rates adopted for 2017-2021 Biennia equal to 100% of the NC under the EAN funding method from the 2015 valuation
- Preliminary results show contribution rates decrease under both the Aggregate rates (statutory policy) and NC rate of the EAN method (funding policy)
  - Decrease primarily from adoption of new economic assumptions

Summary Of Preliminary 2017 Actuarial Valuation

- Plan assets returned more than expected
- Strong asset returns combined with new economic assumptions boosted funded status
- Preliminary rates lower compared to currently adopted rates
  - Finalized rates will be available at the June meeting
- The plan is considered healthy
- Actuarial valuation is snap-shot in time

Questions

LEOFF Plan 2 Retirement Board

May 23, 2018

Benefit Improvement Account

EDUCATIONAL BRIEFING

By Steve Nelsen
Executive Director
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ISSUE STATEMENT

The payment to the LEOFF Plan 2 Benefit Improvement Account (BIA) originally scheduled for September 2016 has not been made. The payment originally scheduled for September 2018 was not included in the State Operating Budget.

OVERVIEW

This report will provide background on the history and purpose of the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 Benefit Improvement Account. It will also identify questions arising from the State's decision not to make scheduled payments to the BIA.

BACKGROUND AND POLICY ISSUES

What is the LEOFF Plan 2 Benefit Improvement Account?

LEOFF Plan 2 historically had two sources of revenue to fund plan benefits; contributions and investment earnings. Any increase in costs to the plan, including benefit improvements, would be paid for by an increase in contributions from plan members, employers, and the State.

The Benefit Improvement Account is a subaccount of the LEOFF Plan 2 Retirement Fund that was created by legislation in 2008. Its purpose is to provide an additional means of funding benefit improvements in LEOFF Plan 2. The assets in this account are invested in the same way as other LEOFF 2 fund assets as part of the Comingled Trust Fund managed by the Washington State Investment Board (WSIB).

Alternate Revenue Legislation

The 2008 Legislature passed Engrossed Substitute Senate Bill 6573 providing local government public safety employers and the LEOFF Plan 2 pension system with additional revenues.

Legislative Intent

The intent of the legislation recognized the need for additional revenue to provide for public safety and protection. The legislature also recognized the physical and challenging demands of fire fighters and law enforcement officers, effect on the length of working careers, and impact on earning adequate pension benefits. Section 1 of the legislation reads, in part:

> *"The legislature finds that local governments need additional revenues to provide public safety resources in order to protect the citizens of Washington from fire and crime. The legislature finds that the current benefit formula and contributions for the law enforcement officers' and firefighters' plan 2 are inadequate to modify that formula in recognition of the shorter working careers for firefighters and police officers. The legislature recognizes that although some officers and firefighters are able to work comfortably beyond twenty-five years, the combat nature of fire suppression and law enforcement generally require earlier retirement ages. In recognition of the physical demands of the professions and the inherent risks faced by law enforcement officers and firefighters, eligibility for retirement in the law enforcement officers' and firefighters' plan 2 system has been set at age fifty-three. However, the benefit formula is designed for careers of thirty-five to forty years, making retirement at age fifty-three an unrealistic option for many."*

Alternate Revenue Trigger and Payment Schedule

Beginning in 2011, and by September 30 of odd-numbered years in each subsequent fiscal biennium in which general state revenue collections increase by more than 5 percent from the prior fiscal biennium, the State Treasurer is required to transfer, subject to appropriation, prescribed funds to the Local Public Safety Enhancement Account (LPSEA). The amounts that would be transferred to the LPSEA if the Alternate Revenue trigger is met are shown in the following schedule:

- $5 million for 2011
- $10 million in 2013
- $20 million in 2015
- $50 million in 2017

In subsequent fiscal biennia's after 2017, the amount eligible for transfer is the lesser of one-third of the general revenue increase amount or $50 million. General state revenues mean total revenues to the General Fund-state less state revenues from property taxes.

Distribution of Funds

After a transfer to the LPSEA, one-half of the funds transferred into the LPSEA would then be transferred to the LEOFF 2 BIA. The remaining funds in the LPSEA are distributed to local governments for public safety purposes. Therefore, contributions to the BIA would be made according to the following schedule:

- $2.5 million for 2011
- $5 million in 2013
- $10 million in 2015
- $25 million in 2017

Money transferred to the BIA can only be used to fund benefits adopted by the Legislature. Benefits may be funded from the BIA if the State Actuary determines that the actuarial present value of the proposed and existing benefit obligations is met or exceeded by the actuarial present value of the projected revenues to the account. WSIB is authorized to adopt investment policies and invest the money in the BIA.

The Board has the sole authority to authorize disbursements from the BIA, and to establish all other related policies, which must be administered in an actuarially sound manner. Funds in the BIA may not be considered assets of the plan and are not included in contribution rate calculations by the State Actuary until directed by the Board for purposes of financing benefits adopted by the Board. The LEOFF Plan 2 Board is required to include sufficient funds from the account in the LEOFF Plan 2 Fund to meet benefit obligations within 90 days of the fund's transfer into the account.

Contribution History

The 5% required revenue growth necessary to trigger the 2011 LPSEA contribution of $5 million was not met.

The 5% revenue growth trigger was met for the 2013 LPSEA contribution. However, the $10 million transfer was not appropriated by the legislature in the budget so there was no transfer to the LPSEA nor the BIA.

The 5% revenue growth trigger was met for the 2015 LPSEA contribution. However, the $20 million transfer was not appropriated by the legislature in the budget so there was no transfer to the LPSEA nor the BIA. Instead, the legislature directed a $15,776,000 transfer into the BIA from the LEOFF Plan 2 Trust. The amount was calculated to include the $2.5 million scheduled for 2013 plus the $10 million scheduled for 2015 plus lost earnings at the actuarially assumed rate.

The 5% revenue growth trigger was met for the 2017 LPSEA contribution. However, the $50 million transfer was not appropriated by the legislature in the budget so there was no transfer to the LPSEA nor the BIA.

LEOFF
Plan 2 Retirement Board

Benefit Improvement Account

Educational Briefing– May 23, 2018

Issue

- The payment to the LEOFF Plan 2 Benefit Improvement Account (BIA) originally scheduled for September, 2016 has not been made. The payment originally scheduled for September 2018 was not included in the State Operating Budget.

Background and Policy Issues

- What is the LEOFF Plan 2 Benefit Improvement Account?
- Alternate Revenue Legislation
  - Legislative Intent
- Alternate Revenue Trigger and Payment Schedule
- Distribution of Funds
- Contribution History

Thank You

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May 23, 2018

Funding Method

INITIAL CONSIDERATION
By Ryan Frost
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ISSUE STATEMENT

There are a variety of funding methods used to estimate the cost of future benefits, therefore it is up to the Board to decide which method aligns best with their funding goals.

OVERVIEW

Funding Policy

A funding policy is very important to the success of a pension plan, because these policies help the address the plan's affordability, the risk of the plan, rate stability, and rate adequacy. While the funding method is the underlying rate calculation, any funding policies the Board adopts is layered on top of that. LEOFF Plan 2 has stated the following as goals in the funding policy:

- Stable short-term contribution rates
- Full funding on an ongoing basis
- Smoothing investment returns
- Asset value corridor
- Minimum contribution rates
- Multi-year rate plans

Funding Method

The choice of a funding method is a core issue for a pension plan because the funding method determines the way the cost of the plan will be financed over time in much the same way that the choice of a style of mortgage determines the way in which the cost of a house is financed over time. All standard funding methods will accomplish the same goal of completely funding the cost of the plan just like either a fixed-rate mortgage or an adjustable-rate mortgage can be used to pay for a house. This report will examine two of the standard pension funding methods used by LEOFF Plan 2 since its inception, the aggregate funding method and the entry age normal cost method (EANC), as well as examine the variation of those funding methods that the LEOFF 2 Board has chosen to use when setting contribution rates.

FUNDING GOALS

Stable Contribution Rates

Stable contribution rates result in more predictable budget obligations for plan members, local government employers and the State which helps them prepare to meet their future funding obligations. The LEOFF Plan 2 Retirement Board has adopted contribution rate stability as one of the key elements of the Board's strategic plan for LEOFF Plan 2.

There are a number of policies which have been adopted by the LEOFF Plan 2 Retirement Board in order to moderate short-term swings in contribution rates.

1. Smoothing investment gains or losses over a period of time
2. Asset value corridor
3. Minimum contribution rates
4. Multi-year rate plans

Full Funding on an Ongoing Basis

In addition to short-term contribution rate stability, the Legislature adopted a goal of long-term contribution rate stability when LEOFF Plan 2 was first created. The term used to describe this goal in statute is "intergenerational equity" or the concept that each generation of members, employers and taxpayers pays for the benefits that they receive. Costs for current member benefits are not passed on to future generations.

There are two common causes of long-term contribution rate volatility; underfunding and benefit improvements. The Aggregate Funding Method used in LEOFF Plan 2 supports the goal of long-term contribution rate stability because this funding method eliminates the risk of plan underfunding (or overfunding). Benefit improvements also increase the cost of the plan. Benefit improvements that apply to retired members or to past service credit for current members may raise a concern that the current generation of members is paying for past benefits so this issue has been considered carefully by the LEOFF Plan 2 Board any time that the Board has recommended a benefit improvement to the Legislature.

Smoothing Investment Returns

The current assumption is that assets invested in the LEOFF Plan 2 Retirement Fund will earn 7.4% per year over the long-term. However, on a year-by-year basis, the investment return is almost certain to be higher or lower than 7.4% which results in a "gain" or "loss" when compared to the 7.4% earnings expectation. Public pension funds commonly "smooth" or phase in the recognition of these annual investment gains or losses over a period of time in order to soften the effect of short-term financial market volatility on contribution rates because averaging investment returns over a period of time will result in greater contribution rate stability over that same period of time. The current smoothing method for LEOFF Plan 2 recognizes investment gains or losses over a period of as much as eight years.

Asset Value Corridor

Smoothing investment returns results in a variance between the true market value of the assets in a retirement fund and the assumed value which is used to determine the contribution rates for the plan. An asset value corridor ensures that the variance stays within a set amount which increases contribution rate stability during periods of unusual investment gains or losses. LEOFF Plan 2 uses a 30% market value corridor which means that the actual market value of assets may not drop below 70% of the assumed value of assets or rise above 130% of the assumed value of assets.

Minimum Contribution Rates

Minimum contribution rates are often referred to as a “rate floor” and are used to ensure that short-term contribution rates do not drop below the expected long-term cost of the plan by more than a set amount. A rate floor is particularly useful for stabilizing contribution rates during periods of better than expected investment returns and when there are short-term variances in plan funding levels resulting from changes to assumptions or the plan funding method. The LEOFF Plan 2 Retirement Board adopted 90% of the expected long term cost of the plan as the contribution rate floor for LEOFF Plan 2.

Multi-year Rate Plans

Adopting a multi-year contribution rate plan is another useful method for improving the short-term predictability of contribution rates. The contribution rate may vary during the period of the plan or remain level depending on plan funding needs. The LEOFF Plan 2 Retirement Board adopted a four-year schedule for contribution rates in 2008 which set rates for the entire period exactly equal to the expected long-term cost of the plan.

FUNDING METHOD

The Aggregate Funding Method

The aggregate funding method has only one component, the normal cost. The normal cost takes the cost of all future benefits and spreads that over the future payroll of all current members. When LEOFF Plan 2 was created in 1977, the aggregate method was chosen by the Legislature as the plan’s funding method because it was particularly well suited to accomplish two pension funding policy goals which were considered important at that time; long-term stability in contribution rates and full funding of the plan on an ongoing basis. The Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board adopted the policy goals of contribution rate stability and full funding of LEOFF Plan 2 as part of the Board's Strategic Plan in 2004 and has reaffirmed use of the Aggregate Funding Method to accomplish these goals.

The aggregate funding method promotes long-term stability in contribution rates because it is designed to fund the cost of the plan as a level percentage of pay over a member's working career. The contribution rates paid by the plan members and their employers would theoretically remain unchanged for the member's entire career if the plan's long-term economic assumptions and assumptions regarding member behavior were 100% accurate. To the extent that those assumptions prove inaccurate, any difference between what is expected and what is experienced, such as lower than expected investment returns, is reflected in the plan's cost each time the plan is reviewed and a new long-term rate is calculated. Therefore, short term contribution rates can and do experience ample volatility. A plan using the Aggregate Funding Method will always be 100% funded if the required contributions are paid; it will never have a surplus or an unfunded liability.

The Entry Age Normal Cost Method

The EANC method has two components; the normal cost, and an unfunded actuarial accrued liability (UAAL). The UAAL refers to the difference between the actuarial values of assets owned by the plan and the total benefits due to be paid. Unfunded liabilities are created when the actual plan investment returns are less or more than the assumed returns, and when other plan assumptions are realized, resulting in actual costs exceeding or below predicted costs. Both of these components are necessary in this funding method to achieve the goal of fully funding the benefits when they are due. The normal cost is more stable under the EANC because it doesn't include any of the experience that differs from assumptions, that is what the UAAL component is for. The normal cost only changes when plan assumptions are changed[1].

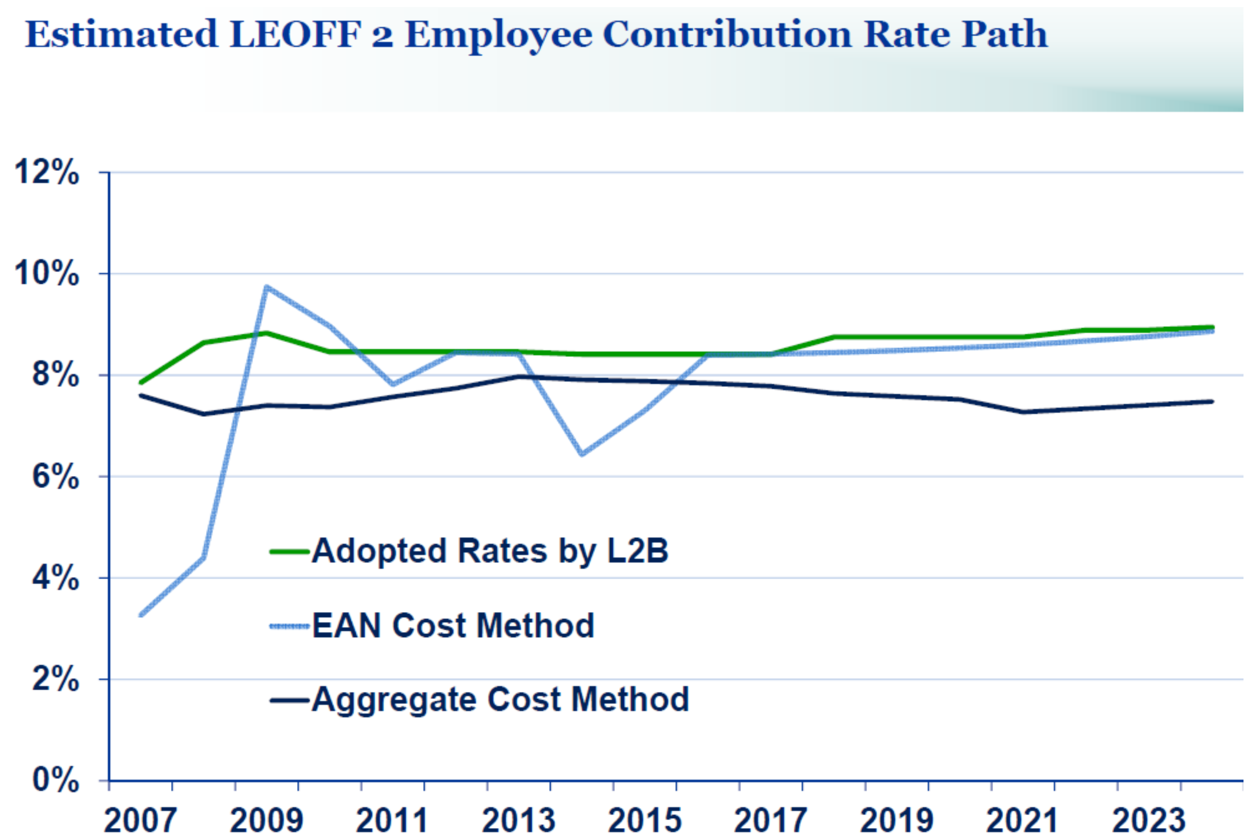
LEOFF 2 Board Funding Method

The Board has two policies in place when it comes to the funding method:

- Long term: Aggregate, with rate floor of 90% EANC
- Short term: Aggregate, with rate floor of 100% EANC

[1] For example, lowering the investment return assumption from 7.5% to 7.4%

With those two policies in place, the LEOFF 2 Board staff has come to call the plan's method the fixed normal cost method, which is simply a variation of EANC. As stated previously, under the EANC method, there are two components: the normal cost, and the UAAL (surplus or deficit) which is amortized over time. Under the fixed normal cost (FNC) method, the amortization of the unfunded liability is eliminated. Instead, rates are tied to the normal cost and the UAAL will fluctuate up and down (within the corridor) depending on investment performance. This method provides more stable rates than the EANC.



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CONCLUSION

The current framework for funding LEOFF Plan 2 is a result of several decisions such as choosing the aggregate funding method, adopting long-term economic assumptions, setting member behavior assumptions, and modifying the funding method to provide contribution rate stability. Each of these policy areas plays an important role in plan funding and every current policy used in LEOFF Plan 2 has been carefully considered by the LEOFF Plan 2 Board as to how that policy supports the Board's strategic goals to fully fund the plan and keep contribution rates stable.

LEOFF
Plan 2 Retirement Board

Funding Method

Initial Consideration – May 23, 2018

Issue Statement

There are a variety of funding methods used to estimate the cost of future benefits, therefore it is up to the Board to decide which method aligns best with their funding goals.

Funding Policy Overview

- Stable contribution rates
- Full funding on an ongoing basis
- Smoothing investment returns
- Asset value corridor
- Minimum contribution rates
- Multi-year rate plans

Funding Method Overview

- All methods accomplish the same goal of completely funding the cost of the plan
  - Fixed rate vs. adjustable rate mortgage
- Aggregate method
- Entry age normal cost method
- LEOFF 2 Board funding method

Stable Contribution Rates

- Predictable budgets for stakeholders
- Policies to moderate short term swings:
  - Investment smoothing
  - Asset value corridor
  - Minimum contribution rates
  - Multi year rate plans

Smoothing Investment Returns

- 7.4% return assumption
- Earnings will almost always be higher or lower than 7.4%
- Returns smoothed over a period of up to 8 years

Asset Value Corridor

- Smoothing results in a variance between market value and actuarial value of assets
- AVC ensures that the variance stays within a set amount to increase rate stability
- LEOFF 2 uses a 30% corridor
  - Market value may not drop below 70% or above 130% of actuarial value of assets

Minimum Contribution Rates

- Often referred to as a “rate floor”
- Used to ensure that short-term rates do not drop below the expected long term cost of the plan by more than a set amount.
- LEOFF 2 has historically adopted a 90% or 100% rate floor

Multi-year Rate Plans

- Another method to improve predictability of rates
- LEOFF 2 uses a 4-year schedule for adopting rates

Aggregate Funding Method

- Has only one component, the normal cost
- Normal cost takes cost of all future benefits and spreads that over current members
- Funding method in statute since plan inception in 1977
  - Long term rate stability
  - Fully funds plan
- Any difference between experience and assumptions leads to rate volatility
  - Aggregate wants the plan to always be 100% funded, ASAP
  - No UAAL, plan will always be 100% funded if required contributions are made

Entry Age Normal Cost Method

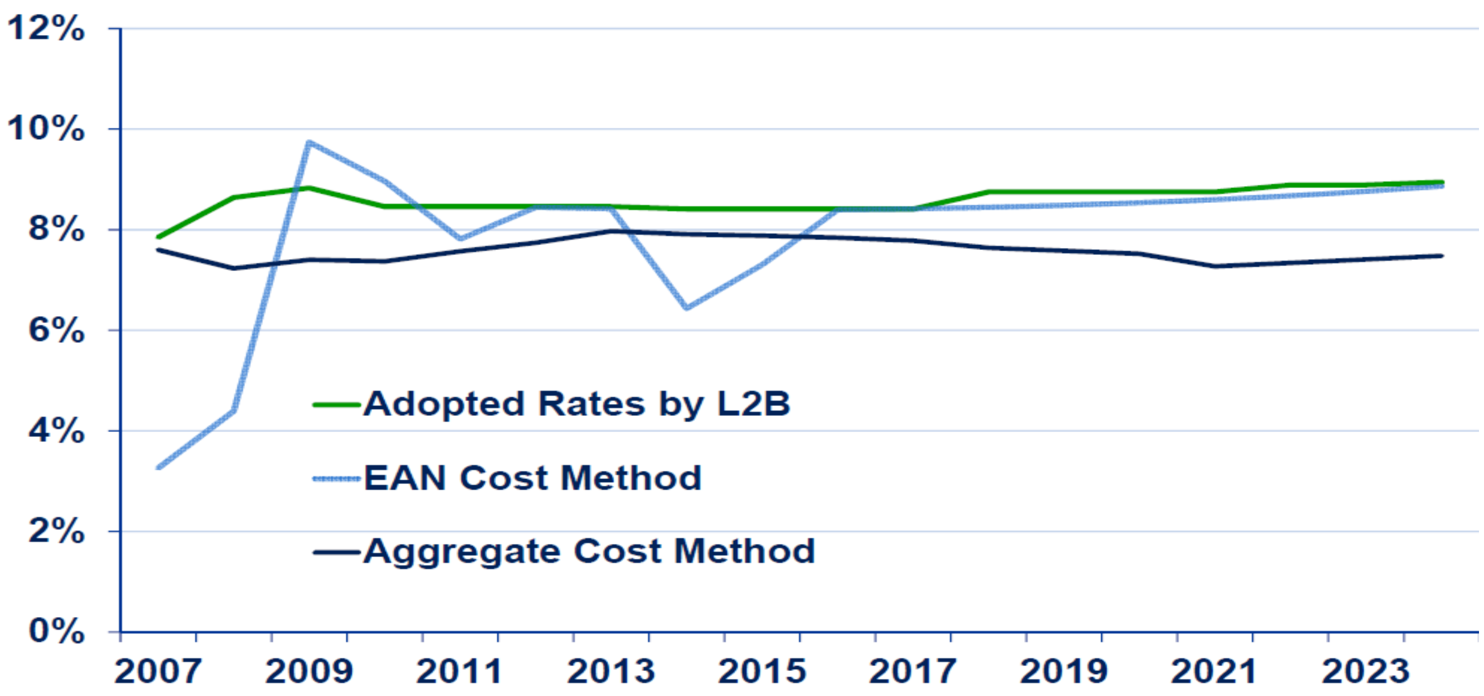
- Two components
  - Normal cost
  - UAAL
- UAAL may be positive or negative
  - Amortized over time
- Normal cost is more stable under EANC
- Normal cost only changes when plan assumptions change

LEOFF 2 Board Funding Method

- Two policies for funding method:
  - Long term: Aggregate, rate floor of 90% EANC
  - Short term: Aggregate, rate floor of 100% EANC
- Fixed normal cost method
  - Variation of EANC
  - Amortization of UAAL is eliminated
  - Rates tied to normal cost, UAAL fluctuates based on investment returns
  - Provides the most stable rates out of the 3 methods

Estimated Rates

Estimated LEOFF 2 Employee Contribution Rate Path



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Thank You

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LEOFF Plan 2 Retirement Board

May 23, 2018

Contribution Rate Setting Introduction

By Ryan Frost
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ISSUE STATEMENT

Setting the contribution rates for the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 retirement system is one of the key responsibilities of the Board.

OVERVIEW

Setting appropriate contribution rates is important to maintaining the financial integrity of LEOFF Plan 2 and providing stability for employers, members, and the state with respect to amounts that must be budgeted and paid into the plan.

This report provides an introduction to contribution rate setting and includes information about the rate setting cycle, current and historical contribution rates, and reviews the Board's strategy and policies related to contribution rates, along with other concepts that impact rate setting.

BACKGROUND AND POLICY ISSUES

Introduction

The Board has a statutory duty[1] to set contribution rates for LEOFF Plan 2 in even-numbered years. The Board adopts the required member, employer, and state contribution rates for LEOFF Plan 2. Contribution rates come in two forms; a *"base rate"* to pay for the cost of the plan and a *"supplemental rate"* to pay for the cost of additional benefits added to the plan.

These contribution rates are split among members of the plan, employers and the state[2] on a 50-30-20 basis. The contribution rates are calculated as a percentage of employee salary. The Department of Retirement Systems (DRS) collects the required contributions on a monthly basis and transfers them to the LEOFF 2 Retirement Fund.

Prior to the creation of the Board in July 1, 2003 under Initiative 790, basic contribution rates for LEOFF Plan 2 were set by the Pension Funding Council (PFC), subject to revision by the Legislature. The PFC would receive contribution rate recommendations from the Office of the State Actuary (OSA) on all of the state retirement plans, including LEOFF Plan 2 and this same process is used today for all of the other state retirement systems.

[1] RCW 41.26.720, RCW 41.45.0604, 41.45.070, RCW 44.44.040. See Appendix A: LEOFF Plan 2 Rate Setting Statutes

[2] LEOFF Plan 2 is the only state plan receiving a contribution from the state.

After the creation of the Board, OSA now makes contribution rate recommendations for LEOFF Plan 2 directly to the Board and the Board sets contribution rates. The PFC still sets the contribution rates for the other state pension plans.

Contribution Rate Setting Cycle

Under current Washington State law, in July of even-numbered years, the Board reviews the basic contribution rates calculated by the Office of the State Actuary (OSA)[3] based on an actuarial valuation performed on asset, participant, and plan information compiled in odd-numbered years.

In calculating base contribution rates, OSA applies applicable funding policies. The Board then adopts contribution rates for LEOFF Plan 2 as provided under RCW 41.26.720(1)(a). The adopted rates remain in place for the ensuing biennium, subject to revision by the Legislature.

Biennial Base Rates

The biennial base contribution rate is based on the level of benefits in place at the time the underlying actuarial valuation is performed. Base contribution rates for LEOFF Plan 2 were established on an ad-hoc basis prior to 1989, but generally were only changed every two years, unless there was a benefit increase.

Supplemental Rates

A supplemental contribution rate is calculated and charged whenever there is an increase to benefits as provided in RCW 41.45.070. Supplemental contribution rates for LEOFF Plan 2 are adopted by the Board. Supplemental contribution rates are included in the basic rates at the beginning of the next contribution rate-setting cycle.

Current Rates

During the 2016 Interim, the Board adopted contribution rates for the 2017-19 and 2019-21 biennium's based on 100 percent of the normal cost under the Entry Age Normal (EAN) funding method. The Board's rate adoption for 2017-21 represents a continuation of their temporary funding policy that produces stable contribution rates. Measured at June 30, 2016, that rate adoption exceeds the requirements under the plan's actuarial cost method and long-term funding policy.[4]

The current *total* contribution rate for LEOFF Plan 2 is 17.50%[5] which breaks down to:

8.75% Members
5.25% Employers
3.50% State

See Appendix A to review the full history of LEOFF Plan 2 contribution rates.

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[3] Board-retained actuary

[4] 2016 Actuarial Valuation Report for LEOFF Plan 2, pg. 12.

[5] Rates based on the 2016 Valuation as recommended by OSA: 7.91% Member, 5.25% Employer, 3.50% State (Total 15.82%)

LEOFF STRATEGIC PRIORITIES

Pension plans commonly have other goals related to plan funding in addition to the primary goal of providing the necessary funding to pay the full costs of the plan. These goals may influence the choice of a funding method and they may also lead pension plans to adopt funding polices which modify the plan's funding method to support those other goals. These choices can impact the contribution rates.

In 2004 the Board, as part of its strategic plan, identified financial integrity as one of its top four goals. Contribution rate stability and full funding on an ongoing basis were identified as key objectives of this goal.

LEOFF POLICIES

There are a number of policies which have been adopted by the Board in order to moderate short-term swings in contribution rates and achieve its strategic goal. These policies include:

1. Smoothing investment gains or losses over a period of time
2. Asset value and funding corridors
3. Minimum contribution rates
4. Multi-year rate plans

Smoothing

The current assumption is that assets invested in the LEOFF Plan 2 Retirement Fund will earn 7.5% per year over the long-term. However, on a year-by-year basis, the investment return is almost certain to be higher or lower than assumed. Therefore, public pension funds commonly "smooth" or phase in the recognition of these annual investment gains or losses over a period of time. The Board allows gains and losses to be "smoothed" over a period of up to eight years, depending on the magnitude of the deviation between actual investment return and the current assumption.

Asset Value and Funding Corridors

In order to achieve the second goal, the Board adopted two policies to help stabilize long-term contribution rates. One was the adoption of a minimum contribution rate of 90% of the Entry Age Normal Cost (EANC) of the plan. An asset value corridor ensures that the variance stays within a set amount, which increases contribution rate stability during periods of unusual investment gains or losses.

The second policy was to establish a funding corridor. This helps ensure rates do not remain artificially too high or low. The Board adopted a 30% market value corridor, which means that the actual market value of assets may not drop below 70% of the assumed value of assets or rise above 130% of the assumed value of assets.

Minimum Contribution Rates

Minimum contribution rates are often referred to as a "rate floor" and are used to ensure that short-term contribution rates do not drop below the expected long-term cost of the plan by more than a set amount.

A rate floor is particularly useful for stabilizing contribution rates during periods of better than expected investment returns and when there are short-term variances in plan funding levels resulting from changes to assumptions or the plan funding method.

Multi Year Rate Plans

Adopting a multi-year contribution rate plan is a useful method for improving the short-term predictability of contribution rates. The contribution rate may vary during the period of the plan or remain level depending on plan funding needs. The Board adopted a four-year schedule for contribution rates in 2008, which set rates for the entire period exactly equal to the expected long-term cost of the plan. The Board has continued the practice of adopting multi-year rate plans, with minor adjustments as necessary. This has resulted in the rates for LEOFF Plan 2 remaining very stable since 2009.

ADDITIONAL CONCEPTS AFFECTING CONTRIBUTION RATES

Actuarial Cost Method

The aggregate actuarial cost method was statutorily designated to satisfy the goal of fully funding LEOFF Plan 2. By definition, the aggregate actuarial cost method does not allow for an unfunded actuarial accrued liability (UAAL) to develop. The aggregate normal cost is determined as the level percentage of projected payroll that will fund the difference between the present value of projected benefits and the actuarial value of assets at the valuation date. As a result, any difference between the assets and the projected liability, due to short-term gains or losses, assumption changes or benefit enhancements, is automatically reflected in the annual cost of the plan and not amortized as a separate component of plan cost. In absence of an effective asset smoothing method, the aggregate cost method can produce volatile contribution rates under certain investment market cycles.

In July 2008 the Board adopted a temporary change in funding policy by adopting fixed rates for the next four years (July 1, 2009 through June 30, 2013) that were equal to 100% of the EANC as of June 30, 2007. Then in July 2010, as part of their two-year rate-setting cycle, the Board reviewed the existing funding policy and moved to extend the current temporary funding policy through June 30, 2017.

This temporary funding policy allowed the Board to maintain rate stability and 100% funded status through June 2017. The Board’s policy allowed for the fund to recognize all of the losses from 2008 and 2009 without having to increase contribution rates. Most of the other Washington plans had, and continue to have, significant pressure to increase rates.

At the July 2012 meeting, the Board decided to adjust the temporary funding policy enacted in 2010 by adopting rates based on 100% of the EANC from the *2011 Actuarial Valuation Report,* rather than continuing to use the rates from the *2007 Actuarial Valuation Report.*

The funding policies, which determine the required contribution rates for LEOFF Plan 2, are found in RCW 41.45. Two of the general funding policy goals that apply to LEOFF Plan 2 are:

1. To dependably, systematically and fully fund Plan 2; and,
2. To establish predictable long-term employer contribution rates that will remain a relatively constant proportion of future budgets.

Long-Term Economic Assumptions

Certain long-term economic assumptions are designated in RCW 41.45.035, which have an effect on pension contribution rates.

There are four long-term economic assumptions used to estimate the future cost of LEOFF Plan 2 and develop accurate current contribution rates for funding the plan. These economic assumptions currently are:

- Growth in Inflation – 3%
- Investment Rate of Return – 7.5%
- Growth in Salaries – 3.75%
- Growth in System Membership – 1.25%

The accuracy of these assumptions is reviewed every two years because of their importance to plan funding. Inaccurate assumptions will result in the need to change contribution rates, up or down, depending on whether the assumptions were too conservative or too aggressive. These economic assumptions were established in statute by the Legislature in 2001. The Board was given the authority to set long-term economic assumptions for LEOFF Plan 2 in 2003 and has reaffirmed the use of these assumptions.

Actuarial Experience Studies

The Office of the State Actuary (OSA) is required to submit an experience study every four years regarding demographic assumptions, which have an effect on the calculation of the actuarial liabilities for LEOFF Plan 2, such as mortality, disability, salary growth and retirement experience. The results of these experience studies are incorporated into future actuarial valuations. The results of the 1995-2000 Actuarial Experience Study were the basis for contribution rate reductions by the Legislature in 2002.

Demographic Assumptions

Member behavior also plays a crucial role in determining the cost of a pension plan. So in order to estimate the future cost of the plan and determine the appropriate current contribution rates to fund the plan, assumptions are required for things like how long a member will live, when a member will choose to retire, and the likelihood that a member will become disabled during their career. These assumptions are referred to as “demographic assumptions.” The accuracy of these assumptions is reviewed every six years in an experience study, which compares the expected behavior of the pension plan’s population to what was actually experienced.

PROCESS AND TIMELINE

The contribution rate setting process occurs over the course of several Board meetings. Following this introduction, the Board will be presented with options for setting future rates at the June 20, 2018 Board meeting. This will include a review of the rates calculated by the OSA. At the July 25, 2018 the Board will hear the results of the audit of the OSA valuation from the outside actuarial firm Milliman and the Board will then adopt/reaffirm contribution rates for the 2019-2021 biennium.

SUPPORTING INFORMATION

Appendix A: LEOFF Plan 2 Rate Setting Statutes

Appendix B: LEOFF Plan 2 Historical Contribution Rates

APPENDIX A: LEOFF PLAN 2 RATE SETTING STATUES

RCW 41.26.720

(1) The Board of trustees have the following powers and duties and shall:

(a) Adopt actuarial tables, assumptions, and cost methodologies in consultation with an enrolled actuary retained by the board. The state actuary shall provide assistance when the board requests. The actuary retained by the board shall utilize the aggregate actuarial cost method, or other recognized actuarial cost method based on a level percentage of payroll, as that term is employed by the American academy of actuaries. In determining the reasonableness of actuarial valuations, assumptions and cost methodologies, the actuary retained by the board shall provide a copy of all such calculations to the state actuary. If the two actuaries concur on the calculations, contributions shall be made as set forth in the report of the board's actuary. If the two actuaries cannot agree, they shall appoint a third, independent, enrolled actuary who shall review the calculations of the actuary retained by the board and the state actuary. Thereafter, contributions shall be based on the methodology most closely following that of the third actuary.

RCW 41.45.0604

(1) Not later than September 30, 2004, and every even-numbered year thereafter, the law enforcement officers' and firefighters' plan 2 retirement board shall adopt contribution rates for the law enforcement officers' and firefighters' retirement system plan 2 as provided in RCW 41.26.720(1)(a).

(2) The law enforcement officers' and firefighters' plan 2 retirement board shall immediately notify the directors of the office of financial management and department of retirement systems of the state, employer, and employee rates adopted by the board. The rates shall be effective for the ensuing biennial period, subject to legislative modification.

RCW 41.45.070

(2) In addition to the basic member, employer, and state contribution rate established in RCW 41.45.0604 for the law enforcement officers' and firefighters' retirement system plan 2, the department shall also establish supplemental rates to pay for the cost of additional benefits, if any, granted to members of the law enforcement officers' and firefighters' retirement system plan 2. Except as provided in (6) of this section, these supplemental rates shall be calculated by the actuary retained by the law enforcement officers' and firefighters' board and the state actuary through the process provided in RCW 41.26.720(1)(a) and the state treasurer shall transfer the additional required contributions regardless of language to the contrary contained in the statute which authorizes the additional benefits.

RCW 44.44.040

The office of the state actuary shall have the following powers and duties:

(7) Provide actuarial assistance to the law enforcement officers' and firefighters' plan 2 retirement board as provided in chapter 2, laws of 2003. Reimbursement for those services shall be made to the state actuary under RCW 39.34.130 and 41.26.720(5).

APPENDIX B: LEOFF PLAN 2 HISTORICAL CONTRIBUTION RATES

Effective	Member	Employer	State	Expense
7/1/2017[6]	8.75%	5.25%	3.50%	0.18%
7/1/2015	8.41%	5.05%	3.36%	0.18%
7/1/2013	8.41%	5.05%	3.36%	0.18%
9/1/2009	8.46%	5.08%	3.38%	0.16%
7/1/2009	8.45%	5.07%	3.38%	0.16%
7/1/2008	8.83%	5.30%	3.53%	0.16%
9/1/2007	8.64%	5.19%	3.45%	0.16%
7/1/2007	8.60%	5.17%	3.43%	0.18%
9/1/2006	7.85%	4.72%	3.13%	0.18%
7/1/2006	7.79%	4.68%	3.11%	0.19%
9/1/2005	6.99%	4.20%	2.79%	0.19%
7/1/2005	6.75%	4.05%	2.70%	0.19%
9/1/2004	5.09%	3.06%	2.03%	0.19%
2/1/2004	5.07%	3.04%	2.03%	0.22%
7/1/2002	5.05%	3.03%	2.02%	0.22%
5/1/2002	4.39%	2.64%	1.75%	0.22%
4/1/2002	4.39%	2.64%	1.75%	0.23%
7/1/2001	4.50%	2.70%	1.80%	0.23%
9/1/2000	6.78%	4.07%	2.71%	0.23%
7/1/2000	5.41%	3.25%	2.16%	0.23%
5/1/2000	5.41%	3.25%	2.16%	0.25%
9/1/1999	5.87%	3.52%	2.35%	0.21%
7/1/1999	5.87%	3.52%	2.35%	0.21%
9/1/1997	8.48%	5.09%	3.39%	0.18%
9/1/1996	8.43%	5.06%	3.37%	0.20%
9/1/1995	8.41%	5.05%	3.36%	0.20%
3/1/1994	8.41%	5.05%	3.36%	0.17%
9/1/1993	8.41%	5.05%	3.36%	0.22%
1/1/1992	7.01%	4.21%	2.80%	0.22%
7/1/1989	7.60%	4.56%	3.04%	0.22%
9/1/1988	8.09%	4.85%	3.24%	0.22%
7/1/1987	8.09%	4.85%	3.24%	0.16%
7/1/1985	7.83%	4.70%	3.13%	0.16%
7/1/1983	7.90%	4.74%	3.16%	0.16%
7/1/1981	7.74%	4.65%	3.09%	0.16%
7/1/1979	8.08%	4.85%	3.23%	0.09%
10/1/1977	8.14%	4.88%	3.26%	0.10%

[6] These rates adopted through the 2019-2021 biennium (June 30, 2021)

LEOFF
Plan 2 Retirement Board

Contribution Rate Setting Introduction

May 23, 2018

Purpose of Contributions

- Pre-fund pension obligation
- Members and employers make contributions to pension trust fund
  - During member’s working life
  - As a percent of salary
- Contributions invested and grow with earnings
- Accumulated fund at retirement = Cost of all future benefit payments

About Rate Setting

- Systematic actuarial funding to pre-fund future pension obligation
- Adopted by the Board, subject to legislative modification
- Biennial basis
- Actuary recommendation
- State law defines certain funding policy and some assumptions
- Board funding policy and assumption setting

Two Types of Contribution Rate

- Board adopts two types of contribution rates
  - Basic rates
  - Supplemental rates

Basic Rates

- Rate recommendation and options calculated by OSA
- Rate options calculated based on statute, Board policies, and past practices
- Every even-numbered year (RCW 41.45.0604)
- Based on results of odd-year actuarial valuation
- Valuation is audited by outside actuary
- Rates apply for ensuing biennium, typically two years of same rate

Supplemental Rates

- Temporary rate increases to fund the cost of benefit improvements not included in basic rates
- Added to basic rates during the basic rate setting cycle

Factors Impacting Plan Cost or Contributions

Several factors are important in determining the contribution rate:

- Assets & Liabilities
- Rate floor
- Smoothing
- Corridor
- Investment return
- Assumptions – Economic & Demographic
- Experience

Strategic Priority – Financial Integrity

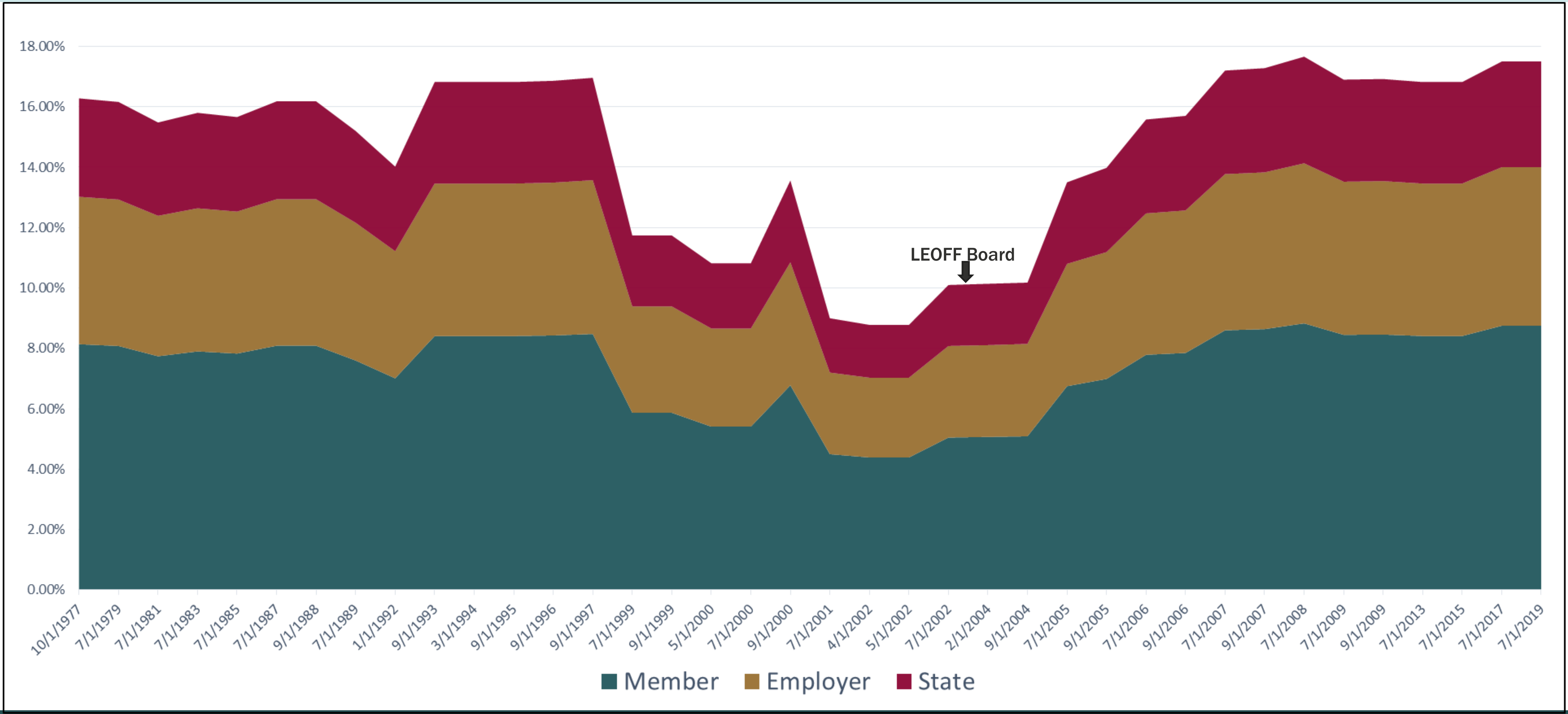
- Fully-funded Status
  - Maintain 100% or better funded status

- Stable Contribution Rates
  - Predictable increases

Previous Rate-setting Decisions

- Strategic Plan
- Four-year rate phase-in (2005-2009) / Rate stability
- Contribution rate floor (minimum contribution rates)
- Supplemental rates (2003, 2004, 2005, 2006, 2007, 2009)
- Multi-year rates (eg. 2017-2021)

LEOFF 2 Contribution Rates 1977 to Present



Current Rates

Member	8.75%
Employer	5.25%
State	3.50%
	17.50%

*Current rates adopted through 2019-2021 biennium

Next Steps

- OSA finalizes actuarial valuation results and contribution rates
- Concurrent audit process continues
- Options presented to the Board June 20, 2018
- Milliman (outside actuary) presents preliminary audit results in July 25, 2018
- Board adoption of contribution rates occurs in July
  - Adopted rates effective July 1, 2019, through June 30, 2021
- Supplemental rate changes can occur outside of the basic rate process

Thank You

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May 23, 2018

Supplemental Rate Introduction

INITIAL CONSIDERATION

By Ryan Frost

Research & Policy Manager

360-586-2325

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ISSUE STATEMENT

A supplemental rate may be necessary due to the passage of Senate Bill 6214 which adds Post-traumatic Stress Disorder (PTSD) to the list of presumptive occupational diseases for Workers' Compensation.

OVERVIEW

A key statutory duty of the Law Enforcement Officers' and Fire Fighters (LEOFF) Plan 2 Retirement Board is to adopt contribution rates. This may include the adoption of a supplemental contribution rate to prefund benefit improvements passed by the legislature.

This report provides information about supplemental contribution rates including the purpose of the supplemental rate, supplemental rate development, supplemental rate history, and the PTSD legislation from the 2018 session.

SUPPLEMENTAL RATE FOR BENEFIT IMPROVEMENTS

One of the main goals of the Board is to maintain the financial integrity of the plan. In order to maintain that goal, it may be necessary for the Board to pay for new benefit improvements through the adoption of a supplemental contribution rate. The Board is required to use an accredited actuary using approved actuarial methods to determine the cost of the plan and the cost of any benefit improvements.

The cost of the existing benefits in the plan are paid by the "basic" contribution rate which is established by the Board every two years in even number years. The cost of any benefit improvement is paid by a "supplemental" contribution rate. Supplemental rates generally are adopted by the Board at the July Board meeting following the passage of the legislation. The supplemental rate is typically effective the following September 1. The statutes covering adoption of supplemental contribution rates for LEOFF Plan 2 include RCW 41.26.720, 41.45.0604 and 41.45.070.

PURPOSE OF SUPPLEMENTAL RATE

A supplemental rate is intended to begin prefunding the cost of a benefit improvement rather than waiting until the next actuarial valuation when the benefit liability will be rolled into the basic contribution rate. The risk of delaying the adoption of a supplemental rate is the loss of earnings on the contributions that would be made. A delay in the adoption of a supplemental rate may not create a significant risk of underfunding though depending on the level of cost associated with the benefit improvement.

SUPPLEMENTAL RATE DEVELOPMENT

In accordance with RCW 41.45.070 the cost of any additional benefits granted by the Legislature require a supplemental rate increase to pay for the increased costs. The Department of Retirement Systems (DRS) in turn is required under RCW 41.45.067(2) to give affected employers a 30-day notice prior to the effective date of any rate change.

A supplemental contribution rate calculation is performed by the Office of the State Actuary (OSA) for all pension legislation and the result of that calculation is reported in the fiscal note published by OSA. Any supplemental contribution rate for LEOFF 2 is adopted by the Law Enforcement Officers' and Fire Fighters' (LEOFF) Plan 2 Retirement Board. The Board has all supplemental rate recommendations audited by an outside actuary.

OSA calculates a supplemental rate by evaluating proposed legislation, developing assumptions for how the legislation will affect future benefit payments and future plan experience, calculating the expected increase in plan liabilities, and determining what increase in contributions, if any, is sufficient to off-set the increase in liabilities. The development of assumptions for fiscal notes may differ from the assumptions used in actuarial valuations.

Not all benefit improvements will have costs sufficient to increase contribution rates, but if they do, the Board has the task of evaluating the feasibility of adopting a supplemental rate increase, usually effective September 1 following the effective date of the legislation.

CURRENT CONTRIBUTION RATES

During the 2016 Interim, the Board adopted contribution rates for the 2017-19 and 2019-21 Biennia based on 100 percent of the normal cost under the Entry Age Normal (EAN) funding method. The Board's rate adoption for 2017-21 represents a continuation of their temporary funding policy that produces stable contribution rate. Measured at June 30, 2016, that rate adoption exceeds the requirements under the plan's actuarial cost method and long-term funding policy.[1] The current *total* contribution rate for LEOFF Plan 2 is 17.50%[2]; the total contribution rate is split 50-30-20% between members, employers, and the state as follows:

8.75% Members | 5.25% Employers | 3.50% State

[1] 2016 Actuarial Valuation Report for LEOFF Plan 2, pg. 12.

[2] Rates based on the 2016 Valuation as recommended by OSA: 7.91% Member, 5.25% Employer, 3.50% State (Total 15.82%)

SUPPLEMENTAL RATE HISTORY

The Board has considered a supplemental rate increase for 14 benefit improvements. The Board adopted the supplemental rate recommended by OSA for 10 of those benefit improvements. The Board did not adopt the supplemental rate on the four most recent recommendations. In two cases it was determined the adopted rates were sufficient to cover the funding requirement. In the other two cases rates were left unchanged as it was decided that the cost of the benefit change would be allowed to emerge in plan experience.

MEETING DATE	LEGISLATION	SUPPLEMENTAL RECOMMENDATION (Member, Employer, State)	ACTION	RATE EFFECTIVE
12/17/2003	HB 1205 (2003) - Fish & Wildlife Enforcement Officer LEOFF Membership	0.02%, 0.01%, 0.01%	**Adopted**	2/1/2004
7/28/2004	HB 2418 (2004) - Duty Disability Benefits	0.01%, 0.01%, 0.00%	**Adopted**	9/1/2004
	HB 2419 (2004) - Duty Death Benefits	0.01%, 0.01%, 0.00%		
7/27/2005	SB 5615 (2005) - Duty Disability Benefits	0.23%, 0.14%, 0.09%	**Adopted**	9/1/2005
	HB 1936 (2005) - EMT LEOFF Membership	0.01%, 0.01%, 0.00%		
5/24/2006	HB 2932 (2006) Catastrophic Disability	0.02%, 0.01%, 0.01%	**Adopted**	9/1/2006
	SHB 2933 (2006) Occupational Disease Death Special Benefit	0.01%, 0.01%, 0.00%		
	SB 6723 (2006) Survivor Health Care Insurance Reimbursement	0.03%, 0.02%, 0.01%		
7/23/2007	HB 1833 (2007) Occupational Disease Presumption	0.04%, 0.02%, 0.02%	**Adopted**	9/1/2007
7/22/2009	HB 1953 (2009) – Fish & Wildlife Enforcement Officer Svc Credit Transfer	0.01%, 0.01%, 0.00%	**Adopted**	9/1/2009
7/28/2010	HB 2519 (2010) – Duty Death Benefits (Lakewood Omnibus legislation)	0.05%, 0.03%, 0.02%	**NOT Adopted** supplemental rate. Current rates were sufficient to cover funding requirement.	
	HB 1679 (2010) - Catastrophic Disability. Health Insurance	0.13%, 0.08%, 0.05%		
7/27/2011	HB 2070 (2011) Furlough	0.02%, 0.01%, 0.01%	**NOT Adopted** Deferred adoption to conduct further study with AWC on impact. Unanimous vote at 10/26/11 meeting to adopt no supplemental rate increase	
9/23/2015[3]	HB 1194 (2015) Remarriage Prohibition	0.05%, 0.03%, 0.02%,	**NOT Adopted** Unanimous vote to leave existing rates in place.	

[3] Supplemental rate consideration were delayed because fiscal note was under outside actuary review.

2018 LEGISLATION

The 2018 Legislature passed Substitute Senate Bill 6214 which adds PTSD to the list of occupational diseases, and creates a rebuttable presumption for LEOFF members that PTSD is an occupational disease.

OSA estimated in a fiscal note that this legislation would have a cost to the plan due to members who leave employment due to PTSD being eligible for disability or death benefits. OSA stated in the fiscal note that it does not expect this bill to result in an increase in the total number of annual deaths but does expect an increase in the total number of annual disabilities since the bill expands the coverage of occupational diseases.

Additionally, OSA expects a shift in the benefits paid from non-duty to duty-related for both deaths and disabilities. Duty-related benefits are typically more costly to the pension system and require higher contributions to cover the costs.

OSA estimated that this legislation would create cost impacts as outlined in the table below:

Impact on Contribution Rates *(Effective 9/1/2018)*	
Fiscal Year 2019 State Budget	**LEOFF**
Member	0.05%
Employer	0.03%
State	0.02%

Budget Impacts ***(Dollars in Millions)***			
	2018-2019	**2019-2021**	**25-Year**
General Fund-State	$0.3	$0.8	$15.8
Local Government	$0.5	$1.2	$23.6
Total Employer	$0.8	$2.0	$39.4

The Actuary's Fiscal Note for SSB 6214, can be reviewed in Appendix A.

Fiscal Note Audit

It is the Board's practice to have all fiscal notes that have a cost to the plan audited by an outside actuary. The Board has engaged the firm of Bartel & Associates to conduct this audit. Bartel & Associates has conducted similar fiscal note audits for the Board in the past. The Board will be presented with the auditing actuary's findings at the June 20, 2018 board meeting.

Process and Timeline

The supplemental contribution rate setting process occurs over the course of several meetings. Following this introduction, the Board will be presented with options at the June 20, 2018 Board Meeting regarding the adoption of a supplemental rate for SSB 6214. This will include a review of the results of the audit of the OSA fiscal note from the outside actuarial firm Bartel & Associates. At the July 25, 2018 the Board will consider adoption of a supplemental contribution rate.

SUPPORTING INFORMATION

Appendix A: Actuary's Fiscal Note for SSB 6214 (2018)

Multiple Agency Fiscal Note Summary

Bill Number: 6214 S SB	**Title:** PTSD/law enf. & firefighters

Estimated Cash Receipts

NONE

Estimated Expenditures

Agency Name	2017-19			2019-21			2021-23		
	FTEs	GF-State	Total	FTEs	GF-State	Total	FTEs	GF-State	Total
Washington State Health Care Authority	.0	0	0	.0	0	0	.0	0	0
Department of Retirement Systems	Non-zero but indeterminate cost and/or savings. Please see discussion.								
Department of Labor and Industries	Non-zero but indeterminate cost and/or savings. Please see discussion.								
Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board	.0	0	0	.0	0	0	.0	0	0
Actuarial Fiscal Note - State Actuary	.0	300,000	300,000	.0	800,000	800,000	.0	800,000	800,000
Total	0.0	$300,000	$300,000	0.0	$800,000	$800,000	0.0	$800,000	$800,000

Estimated Capital Budget Impact

NONE

Prepared by: Devon Nichols, OFM	**Phone:** (360) 902-0582	**Date Published:** Final 3/ 2/2018

* See Office of the Administrator for the Courts judicial fiscal note

** See local government fiscal note

FNPID: 52798

FNS029 Multi Agency rollup

Individual State Agency Fiscal Note

Bill Number: 6214 S SB	Title: PTSD/law enf. & firefighters	Agency: AFN-Actuarial Fiscal Note - State Actuary

Part I: Estimates

☐ **No Fiscal Impact**

Estimated Cash Receipts to:

NONE

Estimated Expenditures from:

	FY 2018	FY 2019	2017-19	2019-21	2021-23
Account					
General Fund-State 001-1	0	300,000	300,000	800,000	800,000
Total $	0	300,000	300,000	800,000	800,000

Estimated Capital Budget Impact:

NONE

The cash receipts and expenditure estimates on this page represent the most likely fiscal impact. Factors impacting the precision of these estimates, and alternate ranges (if appropriate), are explained in Part II.

Check applicable boxes and follow corresponding instructions:

☒ If fiscal impact is greater than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete entire fiscal note form Parts I-V.

☐ If fiscal impact is less than $50,000 per fiscal year in the current biennium or in subsequent biennia, complete this page only (Part I).

☐ Capital budget impact, complete Part IV.

☐ Requires new rule making, complete Part V.

Legislative Contact:	Joan Elgee	Phone: 360-786-7106	Date: 02/20/2018
Agency Preparation:	Aaron Gutierrez	Phone: 360-786-6152	Date: 02/23/2018
Agency Approval:	Lisa Won	Phone: 360-786-6150	Date: 02/23/2018
OFM Review:	Jane Sakson	Phone: 360-902-0549	Date: 02/26/2018

Part II: Narrative Explanation

II. A - Brief Description Of What The Measure Does That Has Fiscal Impact

Briefly describe by section number, the significant provisions of the bill, and any related workload or policy assumptions, that have revenue or expenditure impact on the responding agency.

II. B - Cash receipts Impact

Briefly describe and quantify the cash receipts impact of the legislation on the responding agency, identifying the cash receipts provisions by section number and when appropriate the detail of the revenue sources. Briefly describe the factual basis of the assumptions and the method by which the cash receipts impact is derived. Explain how workload assumptions translate into estimates. Distinguish between one time and ongoing functions.

II. C - Expenditures

Briefly describe the agency expenditures necessary to implement this legislation (or savings resulting from this legislation), identifying by section number the provisions of the legislation that result in the expenditures (or savings). Briefly describe the factual basis of the assumptions and the method by which the expenditure impact is derived. Explain how workload assumptions translate into cost estimates. Distinguish between one time and ongoing functions.

Part III: Expenditure Detail

III. A - Expenditures by Object Or Purpose

	FY 2018	FY 2019	2017-19	2019-21	2021-23
FTE Staff Years					
A-Salaries and Wages					
B-Employee Benefits		300,000	300,000	800,000	800,000
C-Professional Service Contracts					
E-Goods and Other Services					
G-Travel					
J-Capital Outlays					
M-Inter Agency/Fund Transfers					
N-Grants, Benefits & Client Services					
P-Debt Service					
S-Interagency Reimbursements					
T-Intra-Agency Reimbursements					
9-					
Total:	$0	$300,000	$300,000	$800,000	$800,000

Part IV: Capital Budget Impact

Part V: New Rule Making Required

Identify provisions of the measure that require the agency to adopt new administrative rules or repeal/revise existing rules.

SUMMARY OF RESULTS

BRIEF SUMMARY OF BILL: This bill adds Post-Traumatic Stress Disorder (PTSD) to the list of occupational diseases, and creates a rebuttable presumption for LEOFF members that PTSD is an occupational disease.

COST SUMMARY

We estimate this bill will have a cost to the retirement system because members who leave employment due to PTSD are eligible for disability or death benefits from the pension plan. We estimate, at a minimum, this bill creates cost impacts as outlined in the tables below.

Impact on Contribution Rates (Effective 09/01/2018)	
Fiscal Year 2019 State Budget	LEOFF
Employee (Plan 2)	0.05%
Total Employer	0.03%
Total State	0.02%

Budget Impacts			
(Dollars in Millions)	2018-2019	2019-2021	25-Year
General Fund-State	$0.3	$0.8	$15.8
Local Government	$0.5	$1.2	$23.6
Total Employer	**$0.8**	**$2.0**	**$39.4**

Note: 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.

HIGHLIGHTS OF ACTUARIAL ANALYSIS

- This bill also increases benefits for members of LEOFF 1 but we expect the costs will not impact contributions in LEOFF 1 due to the number of members impacted and the Plan's current funding level.
- There is uncertainty in the prevalence of PTSD among LEOFF 2 members.
  - Reported prevalence of PTSD varies by data source.
  - LEOFF 2 could experience an unexpected decline in active membership.
- We do not expect this bill will result in an increase in the total number of annual deaths but we do expect an increase in the total number of annual disabilities. Additionally, we expect a shift in the benefits paid from non-duty to duty-related for both deaths and disabilities.
- We relied on data from DRS, L&I, the CDC, and *The Badge of Life* to help determine the costs in this bill.
- Actual duty-related death and disability experience may be different than what we assumed in the costs shown above. For example, if this bill results in five additional duty-related deaths per year, instead of our assumption of two, then we expect the resulting total employer budget impacts would be $98 million over a 25-year period.

See the remainder of this fiscal note for additional details on the summary and highlights presented here.

WHAT IS THE PROPOSED CHANGE?

Summary Of Change

This bill impacts the following systems:

- Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF).

This bill adds Post-Traumatic Stress Disorder (PTSD) to the list of occupational diseases, and creates a rebuttable presumption for LEOFF members that PTSD is an occupational disease if it manifests after the member has served at least ten years.

For plan members hired after the effective date of the bill, if their employer requires them to have a psychological examination at the time of hire, then the presumption only applies if the member was screened for PTSD at hire, and the exam showed no evidence of existing PTSD.

PTSD will not be considered an occupational disease if the disorder is directly related to disciplinary action, work evaluation, job transfer, layoff, demotion, or termination taken in good faith by an employer.

The presumption applies to the following fire fighters:

- Full-time, fully compensated fire fighters as defined in RCW 41.26.030(16)(a) and (b).
- Supervisors as defined in RCW 41.26.030(16)(c).
- Supervisors employed on a full-time, fully compensated basis as a fire fighter of a private sector employer's fire department that includes over fifty fire fighters.
- Emergency Medical Technicians (EMTs) employed by LEOFF employers.

The presumption applies to the following law enforcement officers:

- Deputy sheriffs, as defined in RCW 41.26.030(18)(b).
- Full-time commissioned city police officers, as defined in RCW 41.26.030(18)(c).
- Public safety officers, or directors of public safety, as defined in RCW 41.26.030(18)(e).

Effective Date: 90 days after session.

HOW THE SUBSTITUTE DIFFERS FROM THE ORIGINAL VERSION

The following list includes only the changes that impact the pricing of the bill. For a complete list of changes to the current version of the bill, please refer to the bill reports prepared by legislative staff.

The substitute adds fire fighters, including supervisors, employed on a full-time, fully compensated basis as a fire fighter of a private sector employer's fire department that includes over 50 such fire fighters, to the individuals exempt from the Department of Labor and Industries' (L&I) rule regarding stress and to the presumption.

The substitute also requires that for the presumption to apply, the PTSD must develop after the individual has served at least ten years.

It also adds a condition to the exemption that individuals hired after the effective date must submit to a psychological exam that rules out PTSD, except when the employer does not provide the exam.

PTSD will not be considered an occupational disease if the disorder is directly related to disciplinary action, work evaluation, job transfer, layoff, demotion, or termination taken in good faith by an employer.

What Is The Current Situation?

Under current law, fire fighters who are members of LEOFF and experience certain medical conditions are presumed to have contracted the medical condition from their occupation. The conditions covered in statute include respiratory disease, heart problems, certain cancers, and certain infectious diseases for fire fighters only. A fire fighter must have ten years of service in order to qualify for the cancer presumption.

According to the Department of Retirement Systems (DRS), a mental condition like PTSD can be considered an occupational disease if it is related to a single traumatic incident (e.g., the Oso landslide). However, these conditions cannot be considered an occupational disease if they result from multiple incidents over a longer term (e.g., having responded to the scenes of many car crashes throughout a career).

If a death is ruled duty-related, health insurance is provided to their surviving beneficiaries under RCW 41.05.080, and COBRA benefits under RCW 41.26.470.

Additionally, presumptions established for fire fighters, law enforcement officers and EMTs are applicable after termination of service for three months for each year of service, not to exceed five years.

The presumption of occupational disease can be rebutted by a preponderance of evidence. Additionally, the presumption does not apply to fire fighters who develop a heart or lung condition and who regularly use tobacco products or have a history of tobacco use.

EMTs may be members of LEOFF if they are full-time, fully compensated employees with a public employer. Fire investigators are generally members of PERS and are not members of LEOFF.

Who Is Impacted And How?

We estimate this bill could affect any of the 17,186 active members and 2,400 eligible inactive members of LEOFF 2 through improved benefits. At a minimum, we expect improved benefits will be paid for two active member deaths and three active member disabilities each year.

Survivors of members that experience a duty-related death will receive enhanced benefits that include an unreduced pension for benefits that begin before normal retirement age, subject to a minimum of 10 percent of final average salary, a lump sum of $238,587 as of July 1, 2016, and healthcare coverage for the surviving family. Members who become disabled due to duty-related causes also receive greater benefits that include an unreduced pension subject to the same minimum benefit. Further, if the disability is deemed catastrophic, as defined under RCW 41.26.470, the member and their family will also receive healthcare coverage.

This bill impacts all LEOFF 2 members and their employers through increased contribution rates.

As of the *June 30, 2016, Actuarial Valuation Report* (AVR), LEOFF 1 has 62 active members and 107 retirees within the eligible window. Given the small number of members eligible for these enhanced benefits and the current level of funding in LEOFF 1, we expect no impact to contribution rates in LEOFF 1.

WHY THIS BILL HAS A COST AND WHO PAYS FOR IT

Why This Bill Has A Cost

This bill adds PTSD to the list of occupational diseases. A member who became disabled due to PTSD or a beneficiary of a member who dies as a result of PTSD (e.g., suicide) can receive duty-related benefits. We do not expect this bill will result in an increase in the total number of annual deaths but we do expect an increase in the total number of annual disabilities since this bill expands the coverage of occupational diseases. Additionally, we expect a shift in the benefits paid from non-duty to duty-related for both deaths and disabilities. Duty-related benefits are typically more costly to the pension system and require higher contributions to cover the costs.

Who Will Pay For These Costs?

For LEOFF 2, any costs that arise from this bill will be divided according to the standard funding method for the plan: 50 percent member, 30 percent employer, and 20 percent state.

No contributions are required for LEOFF 1 while that plan remains fully funded.

HOW WE VALUED THESE COSTS

Assumptions We Made

Based on input from L&I and DRS on how they interpret this bill, we assume a beneficiary of a member who commits suicide as a result of PTSD would be entitled to duty-related death benefits. We do not expect this bill will result in an increase in the total number of deaths but we assume a higher proportion of deaths will be duty-related. We relied on data from *The Badge of Life* to determine the expected number of additional annual duty-related deaths caused by PTSD. We increased our duty-related death rate assumption from 0.035 percent to 0.048 percent for all active members. We estimate this assumption change will move two active deaths from non-duty to duty-related benefit provisions each year. The table below details our expectation, under Current Law and under this bill (Estimated Cost), for the number of duty and non-duty deaths per year.

Expected Annual Deaths		
Actives	**Current Law**	**Estimated Cost**
Duty	6	8
Non-Duty	21	19
Total Deaths	**27**	**27**

We assumed the increase in duty-related death benefits would apply to active members only and there would be no increase in duty-related death benefits for eligible inactive members.

Under this bill, members must have ten years of service to be eligible for a duty-related benefit. For simplicity in our model, we assumed a constant duty-related death rate assumption for all ages. While our assumption may include some members with less than ten years of service, we estimate the impact is very small and falls within the variance of estimated deaths by the sources we studied. For disabilities, we expect the ten-year service provision to be immaterial to our analysis.

We expect this bill will increase the number of total disabilities because it expands coverage of occupational diseases to include PTSD. To develop the cost of this bill, we relied on experience data from DRS regarding the number of PTSD claims they receive and how many claims they deny. We then increased the expected total number of disabilities in our model by two each year.

In addition, we assume one current non-duty related disability each year would now be duty-related because of this bill. Based on data from DRS, we observed an average of one non-duty related PTSD disability request approved (or paid out) each year. Under this bill, we expect any future PTSD disability requests that DRS pays out will be considered duty-related. The increase in costs from this assumption is about three percent of the costs outlined on page one. The table on the next page compares how we expect the counts of disability, by type, to change under this bill.

Expected Annual Disabilities		
	Current Law	Estimated Cost
Duty	**34**	**37**
Catastrophic	4	4
Occupational	30	33
Non-Duty	**5**	**4**
Total Disabilities	**39**	**41**

This bill could also change our percent of duty-related disabilities that are occupational. We currently assume 88 percent of duty-related disabilities are occupational, and the other 12 percent are catastrophic. For this pricing, we assume no change in this relationship.

Currently, we do not model the potential for LEOFF members to return to work once they start collecting disability benefits from the plan. To price this bill, we used data from DRS and assumed every member that becomes disabled would remain on disability.

We assume this bill will provide the same benefit increases for EMTs as provided for fire fighters and law enforcement officers.

We assumed the impact to LEOFF 1 is not material for the reasons noted earlier, and as such did not include the impact of this bill on that plan.

This analysis includes the most recent economic assumptions adopted by the LEOFF 2 Board during the 2017 Interim. This adoption lowered the long-term rate of investment return assumption to 7.40 percent, the general salary growth assumption to 3.50 percent, and the inflation assumption to 2.75 percent.

Otherwise, we developed these costs using the same assumptions as disclosed in the 2016 AVR, Projections Disclosures, and *Risk Assessment* analysis available on our website.

How We Applied These Assumptions

To prepare our analysis, we increased the rate of disablement for LEOFF 2 members and valued one non-duty disability as duty, compared to current law. We also applied our revised assumption for duty-related death to the duty-related lump sum and the annuity death benefits for active members. Lastly, we applied these assumptions to the medical premium reimbursement benefits.

To estimate the fiscal impact of this bill, we compared projected pension contributions under current law to the projected contributions we expect under this bill. To determine the projected contributions under current law, also known as the "base," we relied on the AVR with the most recent economic assumptions. The base projected pension contributions reflect contributions from the current population as well as future new entrants. For the current population, contribution rates from the AVR are multiplied by future payroll. For the future new entrants, contribution rates under the Entry Age Normal Cost method are multiplied by future new entrant payroll. To determine the projected costs under this bill, we modified the base to reflect the provisions of the bill and our assumptions as described above.

Otherwise, we developed these costs using the same methods as disclosed in the AVR.

Special Data Needed

We relied on *The Badge of Life*, a non-profit organization that studies the prevalence and impact of PTSD on police officers, to determine the number of additional duty-related deaths under this bill. We felt this information was appropriate to rely on since suicide fatalities could be considered duty-related under this bill. The source states that police suicide fatalities were approximately 12 per 100,000 of population in 2016. This information was used along with our AVR to estimate two additional duty-related deaths in LEOFF 2. We assumed this suicide fatality rate would be similar for fire fighters so we applied this rate to all of LEOFF.

We analyzed data from DRS to determine the number of additional annual disabilities under this bill. DRS provided us with information on the number of disability requests, by year, related to PTSD. Over a five-year period, on average, DRS received 6.4 annual requests for disability and approved 4.8 of them. If we assume all disability requests would be approved under this bill then we would expect 1.6 additional disabilities a year. For this reason, we assumed two additional disabilities a year. Please see the table below for additional detail.

Number of PTSD Disability Requests

Annual Requests	Duty Approved	Duty Denied	Non-Duty Approved	Non-Duty Denied	Total
2017	5	0	0	0	**5**
2016	7	3	1	0	**11**
2015	4	0	2	1	**7**
2014	2	1	2	0	**5**
2013	1	2	0	1	**4**
Totals	**19**	**6**	**5**	**2**	**32**

Source: Department of Retirement Services

Otherwise, we developed these costs using the same assets and data as disclosed in the AVR.

ACTUARIAL RESULTS

How The Liabilities Changed

This bill will impact the actuarial funding of LEOFF 2 by increasing the present value of future benefits payable under the systems as shown below.

Impact on Pension Liability			
(Dollars in Millions)	**Current***	**Increase**	**Total**
Actuarial Present Value of Projected Benefits			
(The Value of the Total Commitment to All Current Members)			
LEOFF 2	12,683	14.9	12,698
Unfunded Entry Age Accrued Liability			
(The Value of the Total Commitment to All Current Members Attributable to Past Service that is Not Covered by Current Assets)			
LEOFF 2	(628)	0.5	(627)

Note: Totals may not agree due to rounding.
**Current liabilities will not match the 2016 AVR. The liabilities reflect updated economic assumptions adopted by the LEOFF 2 Board after the publication of the AVR.*

How The Assets Changed

This bill does not change asset values, so there is no impact on the actuarial funding of LEOFF due to asset changes.

How The Present Value Of Future Salaries (PVFS) Changed

This bill will impact the actuarial funding of LEOFF 2 by decreasing the PVFS of the members. The impact of the decreasing PVFS for current members is shown below.

Present Value of Future Salaries			
(Dollars in Millions)	**Current***	**Increase**	**Total**
Actuarial Present Value of Future Salaries			
(The Value of the Future Salaries Expected to be Paid to Current Members)			
LEOFF 2	**$19,366**	**($21.0)**	**$19,345**

**Current PVFS will not match the 2016 AVR. The liabilities assume economic assumptions adopted by the LEOFF 2 Board after publication of the AVR.*

The PVFS decreases because we assume an increase in disablements. In other words, members are expected to have a shorter working career.

How Contribution Rates Changed

For LEOFF 2, the rounded increase in the required actuarial contribution rate results in the supplemental contribution rate shown on page one that applies in the current biennium. However, we will use the un-rounded rate increase shown on the next page to measure the budget changes in future biennia.

Impact on Contribution Rates (Effective 09/01/2018)	
System/Plan	**LEOFF**
Current Members	
Employee (Plan 2)	0.046%
Employer	0.028%
State	0.018%
New Entrants*	
Employee (Plan 2)	0.047%
Employer	0.028%
State	0.019%

**Rate change applied to future new entrant payroll and used to determine budget impacts only. Current members and new entrants pay the same contribution rate.*

How This Impacts Budgets And Employees

Budget Impacts		
(Dollars in Millions)	**LEOFF**	**Total**
2018-2019		
General Fund	$0.3	$0.3
Non-General Fund	0.0	0.0
Total State	**$0.3**	**$0.3**
Local Government	0.5	0.5
Total Employer	**$0.8**	**$0.8**
Total Employee	**$0.8**	**$0.8**
2019-2021		
General Fund	$0.8	$0.8
Non-General Fund	0.0	0.0
Total State	**$0.8**	**$0.8**
Local Government	1.2	1.2
Total Employer	**$2.0**	**$2.0**
Total Employee	**$2.0**	**$2.0**
2018-2043		
General Fund	$15.8	$15.8
Non-General Fund	0.0	0.0
Total State	**$15.8**	**$15.8**
Local Government	23.6	23.6
Total Employer	**$39.4**	**$39.4**
Total Employee	**$39.4**	**$39.4**

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.

The analysis of this bill does not consider any other proposed changes to the systems. The combined effect of several changes to the systems could exceed the sum of each proposed change considered individually.

As with the costs developed in the actuarial valuation, the emerging costs of the systems will vary from those presented in the AVR or this fiscal note to the extent that actual experience differs from the actuarial assumptions.

Comments On Risk

Our office performs annual risk assessments to help us demonstrate and assess the effect of unexpected experience on pension plans. The risk assessment allows us to measure how affordability and funded status can change if investment experience, expected state revenue growth, and inflation do not match our long-term assumptions. Our annual risk assessment also considers past practices, for funding and benefit enhancements, and their impact on pension plan risk if those practices continue. For more information, please see our *Risk Assessment* webpage.

In terms of risk, we would expect this bill would worsen the affordability and solvency risk measures associated with LEOFF 2 because it increases the obligations of the plan and contributions required to fund it. In the short-term, the funded status would be expected to worsen as a result of the plan becoming more costly. Over the long-term, LEOFF 2 would be expected to return to its long-term funded status level if future assumptions are realized and all required contributions are made.

HOW THE RESULTS CHANGE WHEN THE ASSUMPTIONS CHANGE

Actual duty-related death and disability experience may be different from what we assumed in pricing this bill. For this reason, we considered a different set of assumptions to demonstrate the potential change in cost from this bill:

- **Additional Duty-Related Deaths** – We assume five additional active member duty-related deaths per year above current law. Data from the Center for Disease Control suggests a higher suicide rate than *The Badge of Life*, so we considered the impact of additional duty-related deaths above the assumptions used to price the bill.
- **Additional Duty-Related Disabilities** – We assume eleven additional duty-related disabilities per year above current law. Based on analysis for SB 6214, L&I expects 34 duty-related disability claims related to PTSD. We believe some of the L&I disability claims may already be included in our disability counts so we performed sensitivity on a number between our estimated cost and L&I's expected increase in disability claims.

The table on the next page displays the impact of additional duty-related disabilities and deaths and the 25-year budget impact over the assumptions we used to price this bill.

How the Estimated Cost Can Increase			
Scenario	Estimated Cost	Additional Duty Deaths	Additional Duty Disabilities
Number of Additional Annual Duty Deaths*	2	5	2
Number of Additional Annual Duty Disabilities*	3	3	11
Example Range of 25-Year Budget Impacts			
(Dollars in Millions)			
General Fund-State	$16	$39	$17
Total Employer	**$39**	**$98**	**$42**

*Above current law.

The cost of this bill would increase by more than 150 percent if we expect five additional annual duty-related deaths than under current law. However, eleven additional duty-related disabilities would increase the cost of this bill by approximately five percent. The cost impact is larger for additional duty-related deaths because: 1) each beneficiary would receive a lump sum death benefit in addition to an annuity, payable for the beneficiary's life; and 2) members who go out on disability are expected to have a shorter lifespan (fewer disability retirement payments) than non-disabled retirees.

It's important to note, the cost of members who become disabled under this bill may be higher than estimated in this analysis. We currently assume disabled members will have a shorter lifespan and thus receive fewer benefit payments than healthy members receive. As an example, a 55 year old service retiree is expected to receive 11 more years of benefits than a 55 year old disabled retiree. If the members that become disabled with a mental health condition have similar future health as service retirees then the costs shown on page one of this fiscal note would increase by approximately 10 percent.

We researched the prevalence of PTSD among fire fighters and found the prevalence varied among the data sources[1], from 3.9 percent to 22 percent. For comparison, the prevalence of PTSD among all adults in the U.S. is 3.5 percent. We acknowledge that prevalence is only one step in the process for determining the number impacted under this bill because a member also has to report their disability. We were unable to find research on the rate at which PTSD is reported. For this reason, we provide a wide range in the number of additional annual duty disabilities that result from this bill as part of our sensitivity analysis in this section.

The costs included in this analysis do not reflect changes in retention in LEOFF 2 members. PTSD can occur due to repeated exposures to traumas. Under this bill, members with PTSD via repeated exposures to trauma would be eligible for disablement. Based on the range in prevalence rates of PTSD, this could be 600 to 3,700 current members of LEOFF 2.

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[1]*Firefighting and Mental Health: Experiences of Repeated Exposure to Trauma* by Sara A. Jahnke, Walker S. Carlos Poston, Christopher K. Haddock, Beth Murphy.

Based on input from L&I and DRS, we assume a beneficiary of a member who commits suicide as a result of PTSD would be entitled to duty-related death benefits. The costs of this bill will materially change if beneficiaries of members who committed suicide related to PTSD are determined not eligible for duty-related death benefits. If suicide is not eligible for duty-related benefits, then we would only expect a budget impact for this bill due to additional disabilities.

WHAT THE READER SHOULD KNOW

The Office of the State Actuary ("we") prepared this fiscal note based on our understanding of the bill as of the date shown in the footer. We intend this fiscal note to be used by the Legislature during the 2018 Legislative Session only.

We advise readers of this 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 fiscal note as a whole. Distribution of, or reliance on, only parts of this fiscal note could result in its misuse, and may mislead others.

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 fiscal note is based are sufficient and reliable for the purposes of this pricing exercise.
4. Use of another set of methods, assumptions, and data may also be reasonable, and might produce different results.
5. The risk analysis summarized in this fiscal note involves the interpretation of many factors and the application of professional judgment.
6. We prepared this fiscal note for the Legislature during the 2018 Legislative Session.
7. We prepared this fiscal note and provided opinions in accordance with Washington State law and accepted actuarial standards of practice as of the date shown in the footer of this fiscal note.

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

While this fiscal note is meant to be complete, the undersigned is available to provide extra advice and explanations as needed.

Lisa Won, ASA, FCA, MAAA
Deputy State Actuary

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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. Under this method, all plan costs (for past and future service credit) are included under the normal cost. Therefore, the method does not produce an unfunded actuarial accrued liability outside the normal cost. It's most common for the normal cost to be determined for the entire group rather than on an individual basis for this method.

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 actuarial accrued liability.

The normal cost is most commonly 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 Benefits: Pension benefit amounts that 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 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.

Unfunded EAN Liability: The excess, if any, of the present value of benefits calculated under the EAN cost method over the valuation assets. This is the portion of all benefits earned to date that are not covered by plan assets.

GLOSSARY OF RISK TERMS

Affordability: Measures the affordability of the pension systems. Affordability risk measures the chance that pension contributions will cross certain thresholds with regards to the General-Fund and contribution rates.

"Current Law": Scenarios in which assumptions about legislative behavior are excluded. These scenarios show projections regarding the current state of Washington statutes.

Optimistic: A measurement of the pension system under favorable conditions (above expected investment returns, for example). Optimistic refers to the 75th percentile, where there is a 25 percent chance of the measurement being better and 75 percent chance of the measurement being worse. Very optimistic refers to the 95th percentile.

"Past Practices": Scenarios in which assumptions regarding legislative behavior are introduced. These assumptions include actual contributions below what are actuarially required and improving benefits over time. These scenarios are meant to project past behavior into the future.

Pay-Go: The trust fund runs out of assets, and payments from the General Fund must be made to meet contractual obligations.

Pessimistic: A measurement of the pension system under unfavorable conditions (below expected investment returns, for example). Pessimistic refers to the 25th percentile, where there is a 75 percent chance of the measurement being better and 25 percent chance of the measurement being worse. Very pessimistic refers to the 5th percentile.

Premature Pay-Go: Pay-go payments, measured in today's value, which might be considered "significant" in terms of the potential impact on the General Fund.

Risk: Measures the risk metrics of the pension systems, including the chance that the pension systems will prematurely run out of assets, the amount of potential pay-go contributions, and the chance that the funded status will cross a certain threshold.

Risk Tolerance: The amount of risk an individual or group is willing to accept with regards to the likelihood and severity of unfavorable outcomes.

LEOFF

Plan 2 Retirement Board

Supplemental Rate Introduction

May 23, 2018

Issue

- A supplemental rate may be necessary due to the passage of Senate Bill 6214 which adds Post-traumatic Stress Disorder (PTSD) to the list of presumptive occupational diseases for Workers' Compensation.

About Supplemental Rates

- Temporary rate increases to prefund the cost of benefit improvements not included in basic rates
- Supplemental rates determined for each bill independently
- Rates are usually effective September 1
  - Can vary depending on effective date of legislation
  - 30 day notice to employers
- Roll into basic rates next rate-setting cycle
  - Benefit improvements included in actuarial valuation

Supplemental Rate Development

- OSA calculates cost for all pension legislation = Fiscal Note
  - Not all benefit improvements increase contribution rate
- Assumptions about affect on future benefit payments and experience
- Contributions necessary to offset increased plan liabilities
- Assumption development may differ from valuation assumptions

Supplemental Rate History

- **Considered supplemental increase for 14 benefit improvements with cost**
- **Adopted supplemental increase for 10 improvements**

LEGISLATION	RATE INCREASE (Member, Employer, State)	ADOPTED	EFFECTIVE
HB 1205 (2003) - Fish & Wildlife Enforcement Officer LEOFF Membership	0.02%, 0.01%, 0.01%	12/17/2003	2/1/2004
HB 2418 (2004) - Duty Disability Benefits	0.01%, 0.01%, 0.00%	7/28/2004	9/1/2004
HB 2419 (2004) - Duty Death Benefits	0.01%, 0.01%, 0.00%		
SB 5615 (2005) - Duty Disability Benefits	0.23%, 0.14%, 0.09%	7/27/2005	9/1/2005
HB 1936 (2005) - EMT LEOFF Membership	0.01%, 0.01%, 0.00%		
HB 2932 (2006) Catastrophic Disability	0.02%, 0.01%, 0.01%	5/24/2006	9/1/2006
SHB 2933 (2006) Occupational Disease Death Special Benefit	0.01%, 0.01%, 0.00%		
SB 6723 (2006) Survivor Health Care Insurance Reimbursement	0.03%, 0.02%, 0.01%		
HB 1833 (2007) Occupational Disease Presumption	0.04%, 0.02%, 0.02%	7/23/2007	9/1/2007
HB 1953 (2009) – Fish & Wildlife Enforcement Officer Svc Credit Transfer	0.01%, 0.01%, 0.00%	7/22/2009	9/1/2009

Fiscal Note

- **Substitute Senate Bill 6214 – PTSD/Occupational Disease Presumption**
- **Increase in duty related benefits; more costly than non-duty benefits**

Impact on Contribution Rates (Effective 9/1/2018)	
Fiscal Year 2019 State Budget	**LEOFF**
Member	0.05%
Employer	0.03%
State	0.02%

Budget Impacts *(Dollars in Millions)*			
	2018-2019	**2019-2021**	**25-Year**
General Fund-State	$0.3	$0.8	$15.8
Local Government	$0.5	$1.2	$23.6
Total Employer	$0.8	$2.0	$39.4

Fiscal Note Audit

- Board practice to audit fiscal notes for legislation passed with a cost
- Bartel & Associates/Marilyn Oliver retained by Board
  - Completed previous audits for Board
- Results of audit will be provided at June 20, 2018 meeting

Next Steps

- Outside actuary completes fiscal note audit; results provided June 20, 2018
- Options presented to the Board June 20, 2018
- Possible adoption of supplemental contribution rate July 25, 2018

Thank You

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Jackson, Jessie (LEOFF)

From: Kevin Van De Wege <kevinvandewege@hotmail.com>
Sent: Saturday, April 28, 2018 7:58 PM
To: Nelsen, Steve (LEOFF); Dennis Lawson; bud@wacops.org
Subject: Idea for LEOFF 2 Board

Hi Steve,

As we spoke about on the phone I could like to ask the board to explore a small retire/rehire LEOFF 2 program. It became apparent through a budget request this past session that some rural departments are having trouble recruiting candidates and having money to pay additional employees. This was in addition to my own anecdotal experience.

The idea I came up with would allow police or fire departments the ability to hire a small number of retirees for a short period and would include the following restrictions:

Retirees would have to eligible for LEOFF 2 retirement (age 50 with minimum 20 years of service or age 53).

Retirees could only go to work for a department that is outside the county they retired from.

Retirees could only be rehired for a maximum of 24 months.

Departments would have a minimum and maximum pay to pay rehires (say 3,000/month and 4,000/month).

The goal of this program would be to allow rural departments (but urban departments would not specifically be exempted) to rehire retirees that are desiring to help out the community in which they live or planning to retire to for a short period. These retirees would be able to collect their pension and also be receiving additional pay for a couple of years. The target would be line personnel but again, administrative positions would not be specifically exempted.

For this to come to fruition in any form I think the LEOFF 2 board would need to support as would police and fire labor groups (I cc’d Dennis and Bud on this email). In addition I think a study of its usefulness and success would need to coincide with the program. Lastly I think an expiration date in case it is abused would need to be included (for instance a start date of January 1, 2020 with an expiration of January 1, 2024; thus, if it is not renewed by the Legislature the last retire/rehire would need to leave employment by December 31, 2025.)

I think this is something that potentially could be useful for retirees and rural departments but of course do not want to do anything without support of labor. The goal here would not be minimizing additional positions but actually to maximize positions. Rural departments are having recruiting issues. Retirees could fill some of those positions, pass on their experience and knowledge, while at the same time free up a position in the department that they are leaving and actually encourage them to retire. A maximum age to enter the retire/rehire program, like 55, might also be worth consideration. I think the LEOFF 2 board is well positioned to explore this option. I hope you will consider.

Thanks,

Kevin Van De Wege

Sent from Outlook

STATE OF WASHINGTON
DEPARTMENT OF RETIREMENT SYSTEMS
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May 17, 2018

Dennis Lawson, Chair
Law Enforcement Officers' and Fire Fighters'
Plan 2 Retirement Board
PO Box 40918
Olympia, WA 98504

Dear Chair Lawson and Members of the LEOFF Plan 2 Retirement Board:

The Department of Retirement Systems respectfully requests that the LEOFF Plan 2 Retirement Board study and consider endorsing legislative action on the following issues this interim:

1. **Remove Spousal Consent Requirements for Certain Survivorship Selections**
Under current law, a member who is retiring must provide written consent from his or her spouse for any retirement survivorship option he or she selects – except in the case of a joint 50% survivorship option. This means that even when a member is providing a 100% or 66.67% survivorship option, the spouse must provide written consent, even though these options are greater than the default option of joint 50%. (The default option is in place because of Washington state's community property laws.) DRS would like the LEOFF Board to consider endorsing the Department's suggestion that written spousal consent be required only when the member chooses to have no survivor benefit go to the spouse.

2. **Eliminate Pro Ration of Month of Death Benefit Payment**
When a retiree or survivor passes away, the last monthly benefit payment must be pro-rated based on the number of days the person was alive in the month. For example, an individual who passes away on the 10th of the month will have accrued 1/3 of his or her monthly payment. In most cases, however, DRS isn't aware of a death until after the full monthly payment has been processed. In these instances, DRS bills the family or the estate to recover the pro-rated overpayment. This comes at a time when survivors are already navigating through paperwork and other difficult issues related to the member's death. Additionally, pro-rating the last payment can cause hardships for health insurance payments. DRS requests that the LEOFF Board consider endorsing the Department's suggestion that the pro ration of month of death benefit payments be discontinued.

Please let us know how we can assist the board in reviewing these issues. We are available to answer questions and provide additional background and data as needed.

Thank you for your consideration.

Sincerely,

Tracey Guerin
Director

cc: Steve Nelsen, Executive Director