Washington State

2022 Law Enforcement Officers' and Fire Fighters' Plan 1 Other Postemployment Benefits Actuarial Valuation Report

Office of the State Actuary

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ACKNOWLEDGEMENTS

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Office of the State Actuary

"Supporting financial security for generations."

Actuarial Certification Letter
LEOFF 1 OPEB Actuarial Valuation Report

August 2023

As directed by the Legislature, the Office of the State Actuary (OSA) completed an actuarial valuation of the postemployment medical and Long-Term Care (LTC) benefits provided by local government employers to members of the Law Enforcement Officers' and Fire Fighters' Retirement System Plan 1 (LEOFF 1). The primary purpose of this valuation is to determine the statewide LEOFF 1 Other Postemployment Benefits (OPEB) liability as of June 30, 2022; this valuation should not be used for other purposes. Please replace this analysis with the results of our next valuation when available.

The report is organized into six sections:

- The **Key Results** section summarizes the primary results and provides an explanation for the change in liability since the last valuation.
- The **Actuarial Exhibits** section documents the details of the LEOFF 1 OPEB analysis.
- The **Participant Data** section provides summarized information about the member population and their employers.
- The **Assumptions** section provides an outline of the actuarial assumptions used in this valuation.
- The **Appendix** includes sensitivity analysis about how the results can change under a different set of assumptions and projections of future results.
- The **Resources** section provides links to other relevant reports used to support this analysis.

The results presented in this report are not used for financial reporting, and therefore do not need to be restricted by those requirements under the Governmental Accounting Standards Board Statement No. 75 (GASB 75). LEOFF 1 employers should not use this report to satisfy their individual employer reporting requirements under GASB 75. OSA created an online tool to help small employers calculate their individual reporting requirements. This online tool, available on our website, utilizes the Alternative Measurement Method allowed under GASB 75, and can be used by employers with fewer than 100 total plan members.

The Department of Retirement Systems (DRS) provided the member data, as of June 30, 2022, used in this report. I checked the data for reasonableness as appropriate based on the purpose of the valuation. An audit of the participant data was not performed. I relied on all the information provided as complete and accurate. In my opinion, this data is adequate and complete for the purposes of this valuation. Please see the **Participant Data** section of this report for further details.

The valuation results summarized in this report require assumptions about future economic and demographic events. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan

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experience differing from anticipated economic or demographic assumptions; changes to those assumptions; changes in plan provisions or applicable law.

There is no established trust fund dedicated to these benefits, therefore no assets were accounted for in this valuation. Under that circumstance, GASB 75 requires the discount rate be based on a 20-year, tax exempt, high-quality municipal bond rate. I relied on the Bond Buyer General Obligation 20-Bond Municipal Index at the measurement date for the discount rate. The remaining non-healthcare economic and demographic assumptions are the same as those used in the *June 30, 2021, Actuarial Valuation Report* (AVR) on the DRS pension plans, and were developed from the *2013-2018 Demographic Experience Study* as well as the *2021 Economic Experience Study* performed by OSA. Our office will complete a new economic experience study in the fall of 2023.

The Office of the State Actuary does not employ healthcare actuaries, so we are not qualified to set healthcare assumptions. We contracted with healthcare actuaries at Milliman to prepare healthcare assumptions for this valuation, which include Medical Claims Costs, Medicare Part B Premiums, and LTC Costs, as well as assumed Healthcare Trends associated with those costs. Milliman communicated the recommended healthcare assumptions in a letter dated May 15, 2023. For more information, please see the **Gain/Loss Analysis** section.

I relied on the ProVal® software developed by Winklevoss Technologies to perform this retiree medical valuation. To assess the general operation of this model, I reviewed the output for reasonableness, which includes comparing the results to our simplified estimates done in Microsoft Excel. I am not aware of any known weaknesses or limitations of the model that have a material impact on the results. Additionally, I considered how the use of different inputs to the model (e.g., data, assumptions, or provisions) produce different results and evaluated the relative impacts to our expectations; this allows me to gain a deeper knowledge of the model's important dependencies and major sensitivities. The use of the model for this analysis is appropriate given its intended purpose.

I believe that the data, assumptions, and methods used in this valuation are reasonable and appropriate for the primary purpose stated above. The use of another set of data, assumptions, and methods, however, could also be reasonable and could produce materially different results. In my opinion, all data, assumptions, methods, and calculations are appropriate and conform to generally accepted actuarial principles and Actuarial Standards of Practice as of the date of this publication.

Michael T. Harbour, ASA, MAAA, meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. While this report is intended to be complete, I am available to offer extra advice and explanations as needed. I encourage you to submit any questions you might have concerning this report to our regular e-mail address: state.actuary@leg.wa.gov.

Michael Harbour	
Michael T. Harbour, ASA, MAAA	Graham Dyer
Actuary	Senior Actuarial Analyst

I. KEY RESULTS

This section summarizes how the statewide LEOFF 1 OPEB liability changed since the prior valuation. For GASB 75, the Actuarial Accrued Liability (AAL) under the Entry Age Normal (EAN) cost method is referred to as the Total OPEB Liability (TOL).

How the Liability Has Changed

Key Results		
	Measurement Date	
(Dollars in Thousands)	6/30/2020	6/30/2022
Total OPEB Liability	$2,534,698	$2,185,474
Benefit Payments/Employer Contributions	$119,366	$123,881

Why the Liability Changed since the Last Measurement

A change in liability occurs between measurement dates due to: 1) the passage of time; 2) unexpected changes in experience; and 3) other significant changes in plan provisions, actuarial assumptions, and methodology. In total, the liability decreased by approximately 14 percent since the prior valuation.

In a plan that is closed to new members, liabilities generally decrease from one measurement date to the next due to diminishing plan membership. However, liabilities can increase when assumptions change or if the cost of benefit increases outweigh the decrease associated with fewer members drawing benefits.

An unexpected change in experience occurs when actual demographic experience differs from what we expected in the valuation. Updated participant data is reflected every two years and a change in liability will emerge as a result of the actual data. In this case, the actual experience led to an increase in liabilities of less than 1 percent.

Assumption changes are another source of significant change to the liabilities of the plan. The discount rate is updated with each valuation and decreased liabilities for this valuation by approximately 12 percent. We also reflected new Medical and LTC cost and trend assumptions provided by Milliman, which increased liabilities by approximately 4 percent.

The above summary is not intended to cover every change. Please see the more detailed **Gain/Loss Analysis** found later in the report.

GASB 75 Results

The primary purpose of this valuation is to determine the statewide LEOFF 1 OPEB liability. The statewide liabilities are not used for financial reporting. We provide more information on GASB 75 tables used by local employers of LEOFF 1 members on our website.

II. ACTUARIAL EXHIBITS

Background

Prior LEOFF 1 OPEB reports contained a detailed Background section. Since this information remains largely consistent from year to year, we have moved it to the OSA website. There you'll find details about the medical benefits provided to LEOFF 1 members, the funding policy used to pay for those costs, and an outline for how we approach our actuarial valuation.

Actuarial Accrued Liability

The EAN cost method is the only actuarial cost method allowed under GASB 75 reporting requirements. The prescribed method allocates plan benefits so they are earned as a level percentage of pay throughout an employee's working lifetime. The liabilities under the EAN cost method are the employer's total accrued (or earned) liability from the retiree medical benefits offered by LEOFF 1 employers. These liabilities are based on all service earned as of the valuation date. The AAL under the EAN cost method is also referred to as the TOL in GASB 75.

The table below shows the TOL, as of the June 30, 2022, valuation date, and the portion that is attributable to Medical and LTC benefits.

Total OPEB Liability	
(Dollars in Thousands)	
Medical*	$1,120,987
Institutional Long-Term Care	580,038
Non-Institutional Long-Term Care	484,449
Total	**$2,185,474**

Note: Totals may not agree due to rounding.
**Includes Medical Claims Costs and reimbursement of Medicare Part B Premiums.*

The LEOFF 1 OPEB liability will not significantly change if a different actuarial cost method is used due to the maturity of the plan.

Gain/Loss Analysis

The results of this report are based on assumptions about future economic and demographic events. It is important to note over time how actual events differed from those assumptions. An event that causes the plan to cost less than was expected is described as a gain to the plan, whereas an event that causes the plan to cost more than was expected is described as a loss to the plan. An analysis of the gains and losses between the last valuation and this year's valuation shows which events are attributable to the change in expected cost of the plan.

The table below begins with the development of the expected change in the liability since the last valuation (*2020 LEOFF 1 OPEB Actuarial Valuation Report*). Overall, we expected the liability to decrease by about 5 percent due to the passage of time:

- ❖ Two years of expected benefit payments decreased the liability.
- ❖ Two fewer years of discounting (interest) increased the liability.

However, the June 30, 2022, TOL will change by more than just the expected change. The other two major sources of change are Liability (Gain)/Loss and Other Changes.

Liability (Gain)/Loss examines how new census data compares to what we expected. Other Changes include changes in assumptions and methodology since the prior valuation. After the development of the expected liability, the table continues by reconciling the total change in TOL from these sources.

In total, the Liability (Gain)/Loss section increased liabilities by less than 1 percent, which was largely attributable to fewer observed deaths than expected.

In total, the Other Changes decreased liabilities by about 8 percent as summarized below.

- **Discount Rate Change –** The discount rate increased from 2.21 percent to 3.54 percent with the new measurement date which decreased liabilities by 12 percent.
- **Update Costs –** We received new healthcare cost assumptions from Milliman. Updated the healthcare costs increased liabilities by 2 percent and includes assumptions for Medical Claims Costs, Medicare Part B Premiums, and LTC Costs.
- **Update Healthcare Trends –** We received new assumptions for Healthcare Trends from Milliman. The updated Healthcare Trends increased liabilities by 2 percent and includes assumptions for growth in Medical Claims Costs, Medicare Part B Premiums, and LTC Costs.

Change in TOL by Source	
(Dollars in Thousands)	
6/30/2020 TOL	**$2,534,698**
Service Cost	0
Interest	113,272
Benefit Payments	(252,341)
6/30/2022 Expected TOL	**2,395,629**
Expected Change in TOL	**($139,069)**
Liability (Gain)/Loss	
Mortality	
Retired Members	$6,514
Disabled Members	(3,106)
Other Liabilities	100
Total Liability (Gains)/Losses	**$3,509**
Other Changes	
Method Changes	$0
Assumption Changes	
Discount Rate	(304,783)
Medical and LTC Costs	50,520
Healthcare Trends	40,600
Total Other Changes	**($213,663)**
Total Change	**($349,224)**
6/30/2022 TOL	**$2,185,474**

III. PARTICIPANT DATA

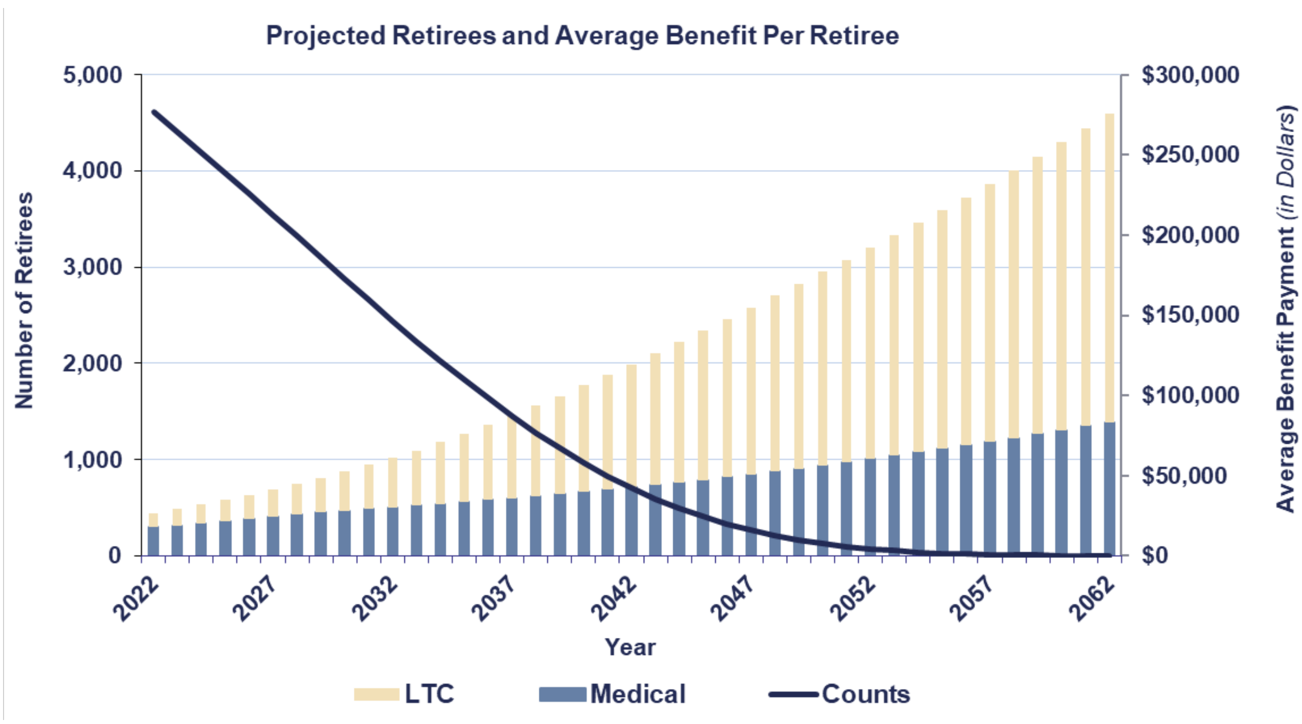
Summary of Plan Participants

Police and fire personnel first employed prior to October 1, 1977, are in LEOFF 1. Members first employed on or after October 1, 1977, are in LEOFF Plan 2. All LEOFF 1 members are eligible for employer-provided retiree medical. The following table includes a breakdown of the active and inactive members that are receiving employer-provided retiree medical care currently or are eligible to receive employer-provided retiree medical care in the future. Any retiree medical benefits offered to members of LEOFF 2 are outside the scope of this report.

Summary of LEOFF 1 Plan Participants *(As of June 30, 2022)*	
Active Members*	
Number	11
Average Age	69
Inactive Members**	
Number	4,597
Average Age	77

For this report, remaining active members valued as retirees. See **Assumptions section for details.*
***Excludes survivors.*

Since LEOFF 1 is a closed plan, meaning new hires cannot enter the plan, the population count is expected to steadily decline in future years. As the population ages, the average amount paid per retiree will increase. A portion of this increase is due to inflation, but the increase is primarily attributable to the aging population and current members entering LTC in the future. The next graph shows the projected population and the average annual healthcare benefit payment (Medical and LTC) per LEOFF 1 retiree.



Summary of Employers

The following table summarizes the LEOFF 1 members as of the measurement date by status, job type, and major employer category.

Employee Count by Employer Type and Status				
Employer Type	Active	Service Retiree	Disability	Total
Police				
First Class City	1	614	479	1,094
Other City	0	306	365	671
County	4	375	339	718
Total Police	**5**	**1,295**	**1,183**	**2,483**
Firefighters				
First Class City	4	372	945	1,321
Other City and Fire Protection Districts	2	386	368	756
County and Port	0	20	28	48
Total Firefighters	**6**	**778**	**1,341**	**2,125**
Total Members	**11**	**2,073**	**2,524**	**4,608**

IV. ASSUMPTIONS

We use both economic and demographic assumptions to determine liabilities for this valuation. This section summarizes our assumptions.

Economic Assumptions

The economic assumptions are used in the actuarial valuation to estimate liabilities and benefit payments in the future. For presentation purposes, they are shown separately for non-healthcare and healthcare.

The **non-healthcare** economic assumptions are summarized in the following table.

Non-Healthcare Economic Assumptions		
Discount Rate*	Beginning of Period (June 30, 2020)	2.21%
	End of Period (June 30, 2022)	3.54%
Inflation**		2.75%

**Per Bond Buyer General Obligation 20-Bond Municipal Index.*
***Based on the CPI: Urban Wage Earners & Clerical Workers, Seattle-Tacoma-Bellevue, WA - All Items.*

The inflation assumption is a component of the healthcare trend rates and reflects our office's current assumption for future inflation. This assumption is studied by our office every two years as part of the economic experience study. Please see our website for the most recent study. All other non-healthcare economic assumptions are consistent with those presented in the 2021 AVR.

As for the **healthcare** economic assumptions, costs are expected to grow in the future for Medical Claims, Medicare Part B Premiums, and LTC. We project future growth using the healthcare trend rates. The Healthcare Trends vary for each type of cost and by year as shown in the following table.

Healthcare Trends			
Over Age 65			
Year	Medical Claims Costs	Medicare Part B Premiums	LTC
2022	5.9%	2.0%	4.75%
2023	6.4%	7.5%	4.75%
2024	6.5%	8.4%	4.75%
2025	6.0%	8.6%	4.75%
2026	5.4%	7.1%	4.75%
2027	5.0%	6.0%	4.75%
2028	4.8%	5.6%	4.75%
2029	4.6%	5.7%	4.75%
2030	4.4%	5.9%	4.75%
2031	4.3%	5.7%	4.75%
2032	4.2%	5.7%	4.75%
2033-2038	4.2%	5.7%	4.75%
2039	4.2%	4.9%	4.75%
2040-2048	4.2%	4.2%	4.75%
2049	4.2%	4.0%	4.75%
2050-2058	4.2%	3.9%	4.75%
2059-2064	4.2%	3.8%	4.75%
2065-2066	4.1%	3.8%	4.75%
2067-2068	4.0%	3.8%	4.75%
2069-2071	3.9%	3.8%	4.75%
2072-2088	3.8%	3.8%	4.75%
2089	3.8%	3.7%	4.75%
2090+	3.8%	3.6%	4.75%

The retiree Medical Claims Costs and the Medicare Part B Premiums are displayed in the following table. For this valuation, we assume all LEOFF 1 employers reimburse the Medicare Part B Premiums.

Annual Retiree Costs by Age (As of June 30, 2022)		
Medicare		
Age	Medical Claims Costs	Medicare Part B Premiums
65	$13,057	$2,010
66	$13,370	$2,010
67	$13,690	$2,010
68	$14,018	$2,010
69	$14,353	$2,010
70	$14,697	$2,010
71	$15,049	$2,010
72	$15,409	$2,010
73	$15,735	$2,010
74	$16,068	$2,010
75	$16,408	$2,010
76	$16,756	$2,010
77	$17,111	$2,010
78	$17,205	$2,010
79	$17,299	$2,010
80	$17,395	$2,010
81	$17,490	$2,010
82	$17,587	$2,010
83	$17,306	$2,010
84	$17,030	$2,010
85	$16,759	$2,010
86	$16,491	$2,010
87	$16,228	$2,010
88	$15,970	$2,010
89+	$15,715	$2,010

Note: Table displays the average annual cost per person (in dollars).

Long-Term Care is also available to eligible LEOFF 1 retirees. There are two main types of LTC covered under LEOFF 1 OPEB (please see our website for additional details):

1. **Institutional –** Care provided in a nursing home or wing of a hospital designed to provide nursing care services or an assisted living facility.
2. **Non-Institutional –** Includes all home health and adult day-care services.

The three primary assumptions for LTC are the incidence rate (likelihood of entering LTC), the duration (length of stay), and the annual cost. The following table shows these assumptions separately for Institutional Care and Non-Institutional Care.

Long-Term Care Assumptions *(As of June 30, 2022)*						
	Institutional Care			Non-Institutional Care		
Age	**Annual Incidence Rate**	**Duration** *(in Years)*	**Annual Cost***	**Annual Incidence Rate**	**Duration** *(in Years)*	**Annual Cost**
62	0.14%	2.25	$97,200	0.51%	2.01	$82,884
69	0.34%	2.20	$97,200	0.93%	2.15	$82,884
76	1.18%	2.15	$97,200	1.92%	2.20	$82,884
83	3.65%	2.16	$97,200	4.04%	2.25	$82,884
90	9.13%	1.97	$97,200	7.84%	2.07	$82,884
97	15.04%	1.59	$97,200	9.73%	1.80	$82,884

Note: Table displays the average annual cost per person (in dollars).
**Based on an assumed blend of: 50% in Assisted Living Facilities with an average cost of $75,600, and 50% in Nursing Facilities with an average cost of $118,800.*

The LTC table can be interpreted as follows: A 76-year-old LEOFF 1 retiree has a 1.18 percent chance of entering institutional care this year. If the member enters institutional care this year, the member is expected to stay approximately 26 months (2.15 years) at an anticipated cost of $97,200 in the first year. The annual LTC cost increases each year in our valuation model by 4.75 percent.

Demographic Assumptions

Demographic assumptions include all other non-economic assumptions. The rates of mortality are consistent with those presented in the 2021 AVR, which were updated during our *2013-18 Demographic Experience Study* for the Washington State retirement systems.

We also made a couple simplifying assumptions for purposes of this valuation:

1. We did not value one year of pre-Medicare expected costs for 7 members who are age 64 as of the valuation date. However, all expected costs starting at age 65, or Medicare eligibility, are captured in our valuation for these members. This results in an immaterial decrease to the liabilities.
2. We assumed the 11 remaining active members retired as of the valuation date. All active members are eligible to retire and have a high expected probability of retiring in the near-term. This results in an immaterial increase to the liability.

The Participation Percentage assumption refers to how many current active members will choose to use the employer-subsidized medical coverage, and the Medicare Coverage assumption refers to how many retirees are covered by Medicare. By virtue of our simplifying assumptions and consistent with Milliman's expectations, we assume 100 percent for both of these assumptions.

V. APPENDIX

Sensitivity Analysis

A single point estimate is only the start of understanding the liabilities. This estimate will only be realized if future economic and demographic experience match our assumptions. It is equally important to understand what will happen if the economic and demographic experience are different than we assumed.

GASB 75 is not applicable to the valuation of statewide LEOFF 1 OPEB liabilities since the liabilities are not used for financial reporting. However, we consider the same sensitivity analysis for this report as required under GASB 75. Below, we analyze the impact of changing the Medical/LTC Trends and Discount Rate assumptions by 100 basis points.

Sensitivity Analysis — Medical and LTC Trends			
(Dollars in Thousands)	**1% Decrease**	**Current Trend Rate**	**1% Increase**
Total OPEB Liability	**$1,995,893**	**$2,185,474**	**$2,401,915**

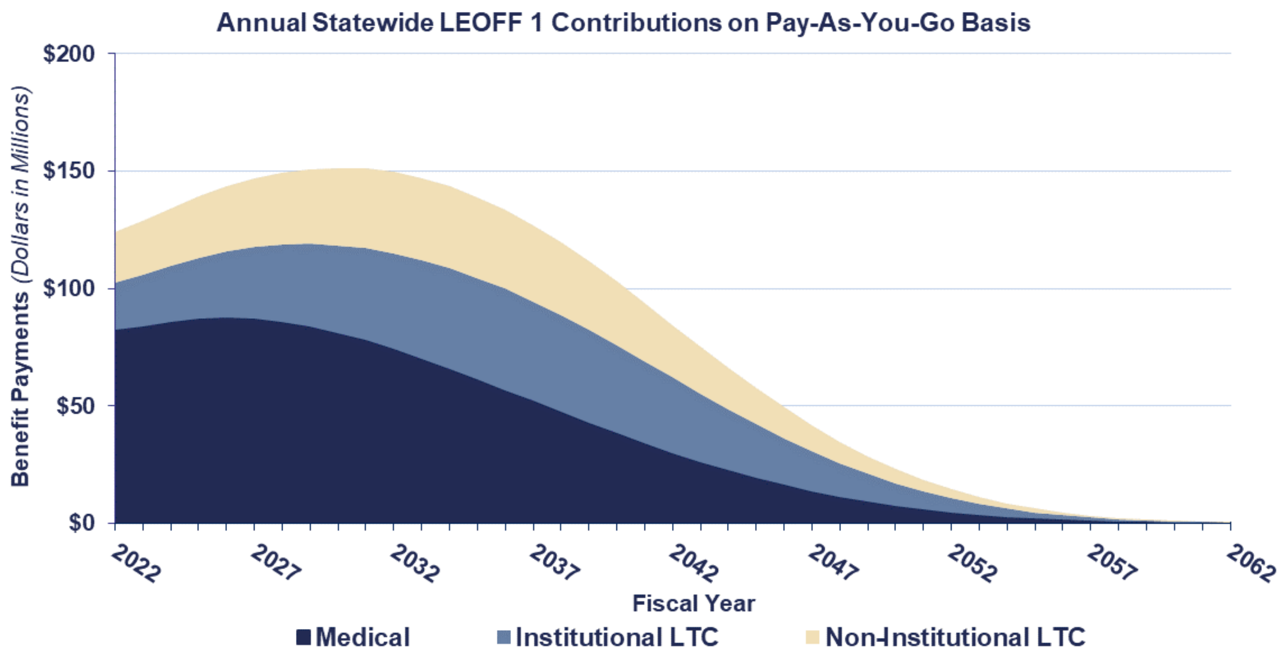
Sensitivity Analysis — Discount Rate			
(Dollars in Thousands)	**1% Decrease**	**Current Discount Rate**	**1% Increase**
Total OPEB Liability	**$2,419,136**	**$2,185,474**	**$1,985,531**

Projections

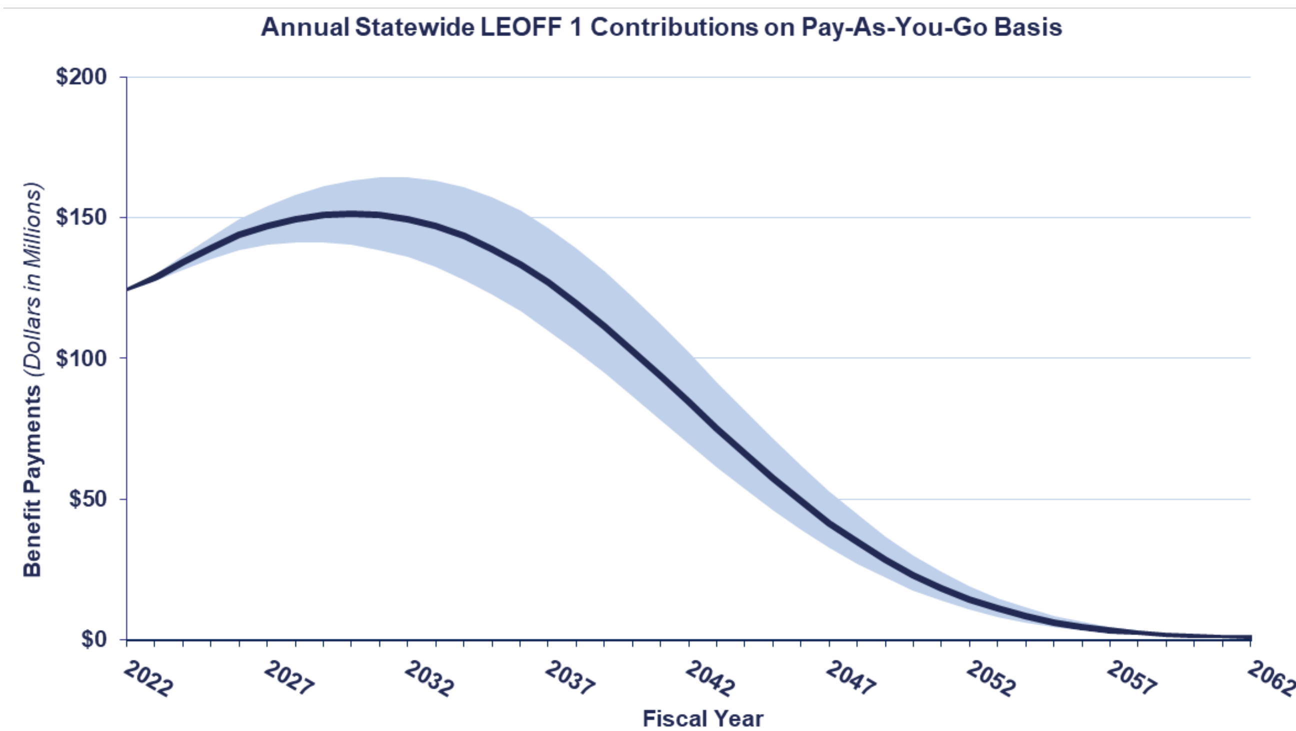
It is also important to look at the projections of the benefit payments in order to determine whether the payments are manageable. Projections allow decision makers to prepare for these obligations by illustrating what costs could lie ahead.

We project what the stream of contributions will look like with a pay-as-you-go funding policy for the current members over the next 40 years. Up until year 2030, the annual benefit payments increase as a result of high assumed medical inflation and the aging of the population. After year 2030, the annual benefit payments will reach a peak and decrease to zero in the long run as the retiree population starts to decline and the assumed projected medical inflation slows down.

In addition to total benefit payments, the following graph shows the breakdown between Medical, Institutional LTC, and Non-Institutional LTC.



The previous graph focuses on our current expectations for healthcare trend. However, the results can vary under a different set of assumptions. The following graph displays how the projected benefit payments can change if the Medical and LTC trends are either 1 percent lower or 1 percent higher than assumed, as illustrated by the shaded region.



VI. RESOURCES

The Office of the State Actuary's Website

Our website contains additional information and educational material not included in this report. The site also contains an archive of prior actuarial valuation reports and other recent studies that OSA has produced. The following is a list of materials found on our website that could be useful to the reader.

Glossary

Definitions for frequently used actuarial and pension terms.

Prior OPEB Valuations

Archive of prior OPEB valuations.

OPEB Tools

LEOFF 1 employers should not use this report to satisfy their individual employer reporting requirements under GASB 75. OSA created an online tool to help certain small employers calculate their individual reporting requirements. This online tool utilizes the Alternative Measurement Method allowed under GASB 75 and can be used by eligible employers with fewer than one hundred total plan members.

2013-2018 Demographic Experience Study

Most recent report examining demographic behavior within each of the retirement systems.

2021 Actuarial Valuation Report

Actuarial Valuation for Washington State pension systems.

2021 Report on Financial Condition and Economic Experience Study

Report examining the financial health of the retirement systems and long-term economic assumptions.

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