

# MacLeod Watts

May 29, 2024

Jeff Zuba  
Finance & Administrative Services Director  
Ross Valley Fire Department  
777 San Anselmo Avenue  
San Anselmo, CA 94960

Re: Ross Valley Fire Department Other Post-Employment Benefits  
Updated Actuarial Valuation and GASB 75 Report for Fiscal Year Ending June 30, 2024

Dear Mr. Zuba:

We are pleased to enclose our actuarial report regarding the other post-employment benefit (OPEB) liabilities of the Ross Valley Fire Department (the Department). The report's text describes our analysis and assumptions in detail. The primary purposes of this report are to:

- 1) Remeasure plan liabilities as of June 30, 2023, in accordance with GASB 75's biennial valuation requirement,
- 2) Develop Actuarially Determined Contributions levels for prefunding plan benefits,
- 3) Provide information to be submitted to the California Employers' Retiree Benefit Trust (CERBT) to satisfy filing requirements for the trust, and
- 4) Provide information required by GASB 75 ("Accounting and Financial Reporting for Postemployment Benefits Other Than Pension") to be reported in the Department's financial statements for the fiscal year ending June 30, 2024.

The information included in this report reflects our understanding that the Department will contribute 100% or more of the Actuarially Determined Contributions each year and that trust assets will remain invested in CERBT Asset Allocation Strategy 1. We based the valuation on the employee data, details on plan benefits and retiree benefit payments reported to us by the Department. **Note that contributions and payroll for fiscal year 2023/24 are estimates and should be updated to actual amounts after the close of the year.**

As with any analysis, the soundness of the report is dependent on the inputs. Please review our summary of this information to ensure that it matches your records.

We appreciate the opportunity to work on this analysis and acknowledge the efforts of Department employees who provided valuable time and information to enable us to prepare this report. Please let us know if we can be of further assistance.

Sincerely,



Catherine L. MacLeod, FSA, FCA, EA, MAAA  
Principal & Consulting Actuary



*Ross Valley Fire Department*

Actuarial Valuation of Other  
Post-Employment Benefit Programs  
As of June 30, 2023

Development of OPEB Prefunding Levels  
& GASB 75 Report for the FYE June 30, 2024

Submitted May 2024

MacLeod Watts

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## A. Executive Summary

This report presents the results of the June 30, 2023, actuarial valuation and accounting information regarding the other post-employment benefit (OPEB) program of the Ross Valley Fire Department (the Department). The purposes of this report are to 1) summarize the results of the valuation; 2) develop Actuarially Determined Contribution (ADC) levels for prefunding plan benefits; 3) provide information required by the California Employers' Retiree Benefit Trust (CERBT); and 4) assess the OPEB liabilities and provide disclosure information as required by Statement No. 75 of the Governmental Accounting Standards Board (GASB 75) for the fiscal year ending June 30, 2024.

Important background information regarding the valuation process can be found in Appendix 1. We recommend users of the report read this information to familiarize themselves with the process and context of actuarial valuations, including the requirements of GASB 75. The pages following this executive summary present exhibits and other information relevant for disclosures under GASB 75.

The results of the June 30, 2023, valuation will likely be applied to prepare the Department's GASB 75 report for the fiscal year ending June 30, 2025. If there are any significant changes in the employee population, plan benefits or eligibility, however, an earlier valuation may be required or appropriate.

### OPEB Obligations of the Department

The Department offers continuation of medical coverage to retiring employees. This benefit may create one or more of the following types of OPEB liabilities:

- **Explicit subsidy liabilities:** An "explicit subsidy" exists when the employer contributes directly toward the cost of retiree healthcare. In this program, the Department pays a large portion of medical premiums for qualifying retirees. Details are provided in Supporting Information Section 2.
- **Implicit subsidy liabilities:** An "implicit subsidy" exists when premiums are developed using blended active and retiree claims experience. In this situation, premiums charged for retirees may not be sufficient to cover expected medical claims<sup>1</sup> and the premiums charged for active employees are said to "implicitly subsidize" retirees. This OPEB program includes implicit subsidy liabilities for retiree coverage prior to coverage under Medicare.
- **Other subsidy liabilities:** In the CalPERS medical program, the premium rates for Medicare-covered retirees are based only on retiree claims experience of the pool. Pooled plans that do not blend active and retiree premiums likely generate subsidies between employers and retirees within the pool. An actuarial practice note indicates these subsidies should be included in plan liabilities to the extent they are paid by the employer.<sup>2</sup> We generally expect these subsidies to be small and included any such liability with the implicit subsidy liability in this report.

We determine explicit subsidy liabilities using the expected direct payments promised by the plan toward retiree coverage. We determine the implicit and other subsidy liabilities as the projected difference between (a) estimated retiree medical claim costs by age and (b) premiums charged for retiree coverage. For more information on MacLeod Watts' age rating methodology, see Appendix 2.

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<sup>1</sup> In rare situations, premiums for retiree coverage may be high enough that they subsidize active employees' claims.

<sup>2</sup> Exceptions exist for: 1) Medicare Advantage Plans: these plans are treated as if their premiums are age-based due to the nature of the Federal subsidies paid to these plans. 2) Plans with low explicit subsidies to Medicare-covered retirees: in these plans no part of any potential pool subsidy is expected to be paid by the employer.



## Executive Summary

(Continued)

### OPEB Funding Policy

The Department's OPEB funding policy affects the calculation of liabilities by impacting the discount rate that is used to develop the plan liability and expense. "Prefunding" is the term used when an agency consistently contributes an amount based on an actuarially determined contribution (ADC) each year. GASB 75 allows prefunded plans to use a discount rate that reflects the expected earnings on trust assets. Pay-as-you-go, or "PAYGO", is the term used when an agency only contributes the required retiree benefits when due. When an agency finances retiree benefits on a pay-as-you-go basis, GASB 75 requires the use of a discount rate equal to a 20-year high grade municipal bond rate.

The Department continues to prefund its OPEB liability, consistently contributing 100% or more of the Actuarially Determined Contributions each year. With the Department's approval, the discount rate used for accounting purposes and to develop Actuarially Determined Contributions for plan funding is 6.1%. More information about this rate is provided on page 11, Expected Return on Trust Assets.

### Actuarial Assumptions

The actuarial "demographic" assumptions (i.e., rates of retirement, death, disability or other termination of employment) used in this report were chosen, for the most part, to be the same as the actuarial demographic assumptions used for the most recent valuation of the retirement plan(s) covering Department employees. Other assumptions, such as age-related healthcare claims, healthcare trend, retiree participation rates and spouse coverage, were selected based on demonstrated plan experience and/or our best estimate of expected future experience. All these assumptions, and more, impact expected future benefits.

Please note that this valuation has been prepared on a closed group basis. This means that only employees and retirees present as of the valuation date are considered. We do not consider replacement employees for those we project to leave the current population of plan participants until the valuation date following their employment.

We emphasize that this actuarial valuation provides a projection of future results based on many assumptions. Actual results are likely to vary to some extent and we will continue to monitor these assumptions in future valuations. See Section 3 for a description of assumptions used in this valuation.

### Important Dates for GASB 75 in this Report

GASB 75 allows reporting liabilities as of any fiscal year end based on: (1) a *valuation date* no more than 30 months plus 1 day prior to the close of the fiscal year end; and (2) a *measurement date* up to one year prior to the close of the fiscal year. The following dates were used for this report:

Fiscal Year End	June 30, 2024
Measurement Date	June 30, 2023
Measurement Period	June 30, 2022, to June 30, 2023
Valuation Date	June 30, 2023



## Executive Summary

(Continued)

### Updates Since the Prior Report

No benefit changes were reported to MacLeod Watts since the June 2021 valuation was prepared. With the updated employee census and premium data provided for the June 2023 valuation, we determined “plan experience”, the difference from expected plan liability projected from the prior valuation. We then reviewed and updated certain assumptions used to project the OPEB liability. Investment experience, the difference between actual and expected return on trust assets, was also determined.

Section C. Valuation Results as of June 30, 2023, presents the new valuation results and provides additional information on the impact of the new assumptions and plan experience. See *Recognition Period for Deferred Resources* on page 12 for details on how these changes are recognized.

### Impact on Statement of Net Position and OPEB Expense for Fiscal Year Ending 2024

The plan’s impact on Net Position will be the sum of difference between assets and liabilities as of the measurement date plus the unrecognized net outflows and inflows of resources. Different recognition periods apply to deferred resources depending on their origin.

Items	For Reporting At Fiscal Year Ending June 30, 2024
Total OPEB Liability	\$ 10,292,542
Fiduciary Net Position	(5,564,907)
<b>Net OPEB Liability</b>	<b>\$ 4,727,635</b>
<i>Adjustment for Deferred Resources:</i>	
Deferred (Outflows)	(2,084,167)
Deferred Inflows	1,055,255
<b>Impact on Statement of Net Position</b>	<b>\$ 3,698,723</b>
<b>OPEB Expense, FYE 6/30/2024</b>	<b>\$ 546,685</b>

### Important Notices

This report is intended to be used only for the purposes described herein relating to the Department’s other postemployment benefits. The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable. We note that various issues in this report may involve legal analysis of applicable law or regulations. The Department should consult counsel on these matters; MacLeod Watts does not practice law and does not intend anything in this report to constitute legal advice. In addition, we recommend the Department consult with their internal accounting staff or external auditor or accounting firm about the accounting treatment of OPEB liabilities.

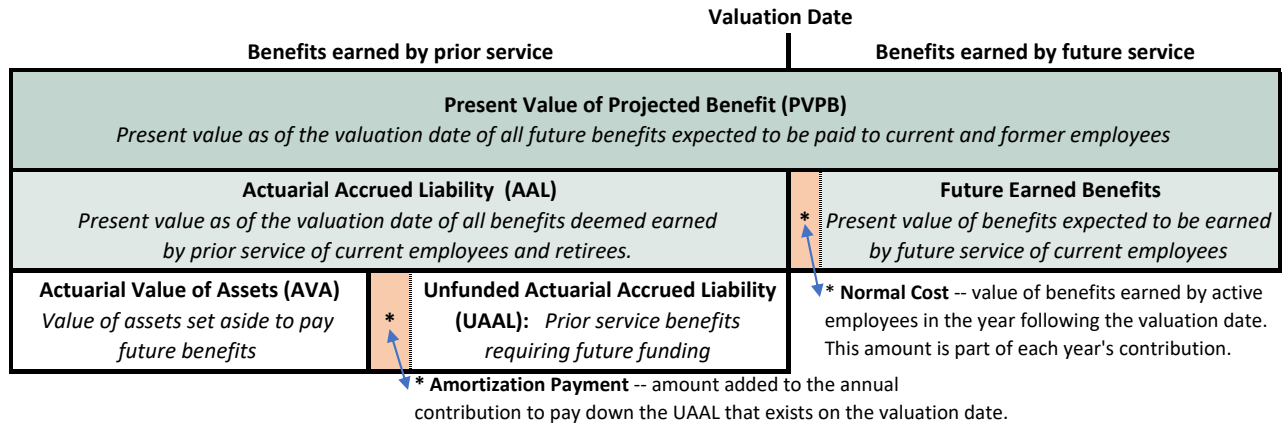


## B. Valuation Process

This valuation is based on employee census data and benefits initially submitted by the Department and clarified in various related communications. A summary of the employee data is provided in Section 1 and a summary of the plan benefits is provided in Section 2. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on the Department as to its accuracy. The valuation has been performed in accordance with the process described below using the actuarial methods and assumptions described in Section 3 and is consistent with our understanding of Actuarial Standards of Practice.

In projecting benefit values and liabilities, we first determine an expected premium or benefit stream over each current retiree’s or active employee’s future retirement. Benefits may include both direct employer payments (explicit subsidies) and any implicit subsidies arising when retiree premiums are expected to be partially subsidized by premiums paid for active employees. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected dates when benefits will end. Assumptions regarding the probability that each employee will remain in service to receive benefits and the likelihood that employees will elect coverage for themselves and their dependents are also applied.

We then calculate the present value of these future benefit streams by discounting the value of each future expected employer payment back to the valuation date using the valuation discount rate. This present value is called the **Present Value of Projected Benefits (PVPB)** and represents the current value of all expected future plan payments to current retirees and current active employees. Note that this long-term projection does not anticipate entry of future employees.



The next step in the valuation process splits the Present Value of Projected Benefits into 1) the value of benefits already earned by prior service of current employees and retirees and 2) the value of benefits expected to be earned by future service of current employees. Actuaries employ an “attribution method” to divide the PVPB into prior service liabilities and future service liabilities. For this valuation we used the **Entry Age Normal** attribution method. This method is the most common method used for government funding purposes and the only attribution method allowed for financial reporting under GASB 75.

We call the value of benefits deemed earned by prior service the **Actuarial Accrued Liability (AAL)**. Benefits deemed earned by service of active employees in a single year is called the **Normal Cost** of benefits. The present value of all future normal costs (PVFNC) plus the Actuarial Accrued Liability will equal the Present Value of Projected Benefits (i.e.,  $PVPB = AAL + PVFNC$ ).



**Valuation Process**  
(Concluded)

The difference between the value of trust assets (i.e., the Market Value of Assets), or a smoothed asset value (i.e., the Actuarial Value of Assets), and the Actuarial Accrued Liability yields the **Unfunded Actuarial Accrued Liability (UAAL)**. The UAAL represents, as of the valuation date, the present value of benefits already earned by past service that remain unfunded. A plan is generally considered “fully funded” when the UAAL is zero. The plan sponsor of a fully funded plan will still need to make future contributions for benefits earned by future service of active employees. But in a fully funded plan, such as the current situation in the Department’s OPEB program, the plan sponsor has set aside sufficient assets to pay for benefits that have been earned by past service of current retirees and active employees, provided that all valuation assumptions are realized.

Future contributions by the Department will include 1) the remaining part of OPEB benefits earned by past service (the Unfunded Actuarial Accrued Liability) or, will include a credit if assets exceed the AAL; and 2) the value of benefits earned each year by service of active employees. Various strategies might be employed to pay down (credit back) the UAAL such as longer or shorter amortization payments, and flat or escalating payments depending on the plan sponsors goals and funding philosophy.

**Variation in Future Results**

Please note that projections of future benefits over such long periods (frequently 70 or more years) which are dependent on numerous assumptions regarding future economic and demographic variables are subject to substantial revision as future events unfold. While we believe that the assumptions and methods used in this valuation are reasonable for the purposes of this report, the costs to the Department reflected in this report are subject to future revision, perhaps materially. Demonstrating the range of potential future plan costs was beyond the scope of our assignment except to the limited extent of providing liability information at various discount rates.

Finally, certain actuarial terms and GASB 75 terms may be used interchangeably, as shown below.

Actuarial Terminology	GASB 75 Terminology
Present Value of Projected Benefits (PVPB)	<i>No equivalent term</i>
Actuarial Accrued Liability (AAL)	Total OPEB Liability (TOL)
Market Value of Assets (MVA)	Fiduciary Net Position
Actuarial Value of Assets (AVA)	<i>No equivalent term</i>
Unfunded Actuarial Accrued Liability (UAAL)	Net OPEB Liability
Normal Cost	Service Cost

Specific results from this valuation are provided in the following Section C.

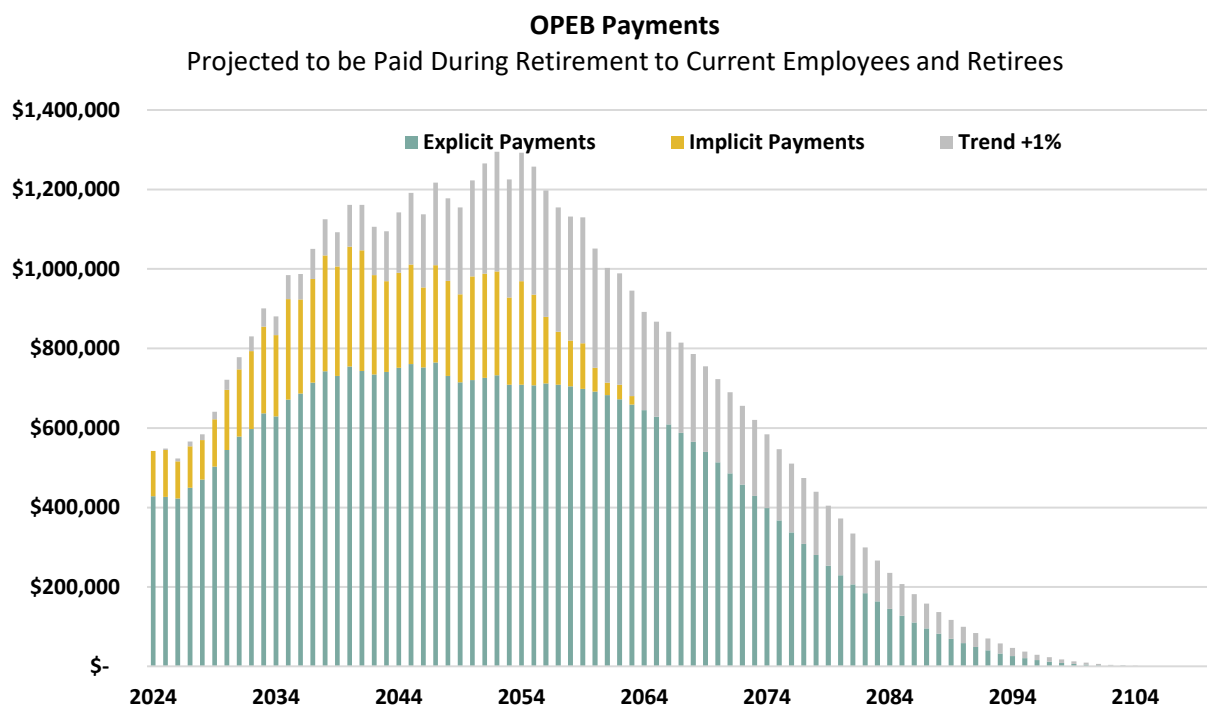


### C. Valuation Results as of June 30, 2023

This section presents the basic results of our recalculation of the OPEB liability using the updated employee data, plan provisions and asset information provided to us for the June 30, 2023, valuation. We described the general process for projecting all future benefits to be paid to retirees and current employees in the preceding section. Expected annual benefits have been projected using the actuarial assumptions outlined in Supporting Information, Section 3.

Lifetime medical benefits are paid for qualifying retirees who continue coverage in the medical plan offered by the Department to its employees. Please see Supporting Information, Section 2 for details.

The following graph illustrates the annual other post-employment benefits projected to be paid on behalf of current retirees and current employees expected to retire from the Department.



The amounts shown in green reflect the expected payment by the Department toward retiree medical premiums while those in yellow reflect the implicit subsidy benefits (i.e., the excess of retiree medical and prescription drug claims over the premiums expected to be charged during the year for retirees' coverage). The projections in gray reflect increases in benefit levels if healthcare trend were 1% higher.

The first 15 years of benefit payments from the graph above are shown in tabular form on page 20.

Liabilities relating to these projected benefits are shown beginning on the following page.



**Valuation Results as of June 30, 2023**

(Continued)

This chart compares the results of the June 30, 2022, measurement date, with the results as of the June 30, 2023, measurement date.

Valuation Date	6/30/2021			6/30/2023		
Fiscal Year Ending	6/30/2023			6/30/2024		
Measurement Date	6/30/2022			6/30/2023		
Discount rate	6.15%			6.10%		
<b>Number of Covered Employees</b>						
Actives	33			33		
Retirees	35			32		
Total Participants	68			65		
OPEB Subsidy Type	Explicit	Implicit	Total	Explicit	Implicit	Total
<b>Actuarial Present Value of Projected Benefits</b>						
Actives	\$ 5,149,599	\$ 2,286,877	\$ 7,436,477	\$ 4,590,761	\$ 1,988,434	\$ 6,579,195
Retirees	4,633,896	573,309	5,207,205	5,215,385	811,682	6,027,067
Total APVPB	9,783,495	2,860,187	12,643,682	9,806,146	2,800,116	12,606,262
<b>Total OPEB Liability (TOL)</b>						
Actives	3,371,088	1,340,485	4,711,573	3,082,923	1,182,552	4,265,475
Retirees	4,633,896	573,309	5,207,205	5,215,385	811,682	6,027,067
TOL	8,004,984	1,913,794	9,918,778	8,298,308	1,994,234	10,292,542
Fiduciary Net Position	5,106,750			5,564,907		
<b>Net OPEB Liability</b>	4,812,028			4,727,635		
<b>Service Cost</b>						
For the period following the measurement date	214,699	96,534	311,233	184,368	82,207	266,575

The funded ratio (ratio of trust assets to the Total OPEB Liability) increased from 51.5% to 54.1% and the Net OPEB Liability (NOL) has decreased by \$84,393 from that reported one year ago. Some of this change was expected and some was unexpected. Reasons for the change in the NOL are discussed on the following page.



## Valuation Results as of June 30, 2023

(Concluded)

**Expected changes:** The NOL was expected to decrease by \$57,495, from additional service and interest costs accruing for the period reduced by employer contributions and earnings on trust assets.

**Unexpected changes** further *decreased* the NOL by \$26,898 in the following categories:

- *Plan experience* decreased the NOL by \$87,474, reflecting results different than expected based on the prior valuation data and assumptions.
- *Assumption changes* collectively increased the NOL by \$70,351. These changes are listed below, with additional information provided on the last page in Supporting Information, Section 3.
- *Investment experience:* Trust asset return slightly exceeded expected earnings by \$9,775.

This chart reconciles results measured on June 30, 2022, to results measured on June 30, 2023.

Reconciliation of Changes During Measurement Period	Total OPEB Liability (a)	Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)
<b>Balance at Fiscal Year Ending 6/30/2023</b> <i>Measurement Date 6/30/2022</i>	\$ 9,918,778	\$ 5,106,750	\$ 4,812,028
<b>Expected Changes During the Period:</b>			
Service Cost	311,233		311,233
Interest Cost	612,753		612,753
Expected Investment Income		318,072	(318,072)
RVFD Contributions		664,891	(664,891)
Administrative Expenses		(1,482)	1,482
Benefit Payments	(533,099)	(533,099)	-
<b>Total Expected Changes During the Period</b>	390,887	448,382	(57,495)
<b>Expected at Fiscal Year Ending 6/30/2024</b> <i>Measurement Date 6/30/2023</i>	\$ 10,309,665	\$ 5,555,132	\$ 4,754,533
<b>Unexpected Changes During the Period:</b>			
Change Due to Investment Experience		9,775	(9,775)
<i>Plan Experience: Liabilities Other Than Expected From</i>			
Premiums and Estimated Claims	127,774		
Active Status Transitions	(41,219)		
Inactive Status Transitions	(138,401)		
Other Plan Experience	(35,628)		
Change Due to Plan Experience			(87,474)
<i>Assumption Changes:</i>			
Updated Demographic Assumptions	98,894		
Updated Discount Rate	60,671		
Added Liability For Medicare Pool Subsidy	3,474		
Updated Healthcare Trend	(92,688)		
Change Due to Assumption Changes			70,351
<b>Total Unexpected Changes During the Period</b>	(17,123)	9,775	(26,898)
<b>Balance at Fiscal Year Ending 6/30/2024</b> <i>Measurement Date 6/30/2023</i>	\$ 10,292,542	\$ 5,564,907	\$ 4,727,635



### D. Accounting Information (GASB 75)

The following exhibits are designed to satisfy the reporting and disclosure requirements of GASB 75 for the fiscal year ending June 30, 2024. *Deferred Contributions and covered payroll for fiscal year 2023/24 shown in this Section are estimates subject to change based on the final reported amounts.*

#### Components of Net Position and Expense

The exhibit below shows the development of Net Position and Expense as of the Measurement Date.

Plan Summary Information for FYE June 30, 2024 <i>Measurement Date is June 30, 2023</i>	Ross Valley FD
<b>Items Impacting Net Position:</b>	
Total OPEB Liability	\$ 10,292,542
Fiduciary Net Position	(5,564,907)
Net OPEB Liability (Asset)	4,727,635
<i>Deferred (Outflows) Due to:</i>	
Assumption Changes	(630,622)
Plan Experience	-
Investment Experience	(709,982)
Deferred Contributions	(743,563)
<i>Deferred Inflows Due to:</i>	
Assumption Changes	-
Plan Experience	701,733
Investment Experience	353,522
<b>Impact on Statement of Net Position, FYE 6/30/2024</b>	<b>\$ 3,698,723</b>
<b>Items Impacting OPEB Expense:</b>	
Service Cost	\$ 311,233
Cost of Plan Changes	-
Interest Cost	612,753
Expected Earnings on Assets	(318,072)
Administrative Expenses	1,482
<i>Recognition of Deferred Outflows:</i>	
Assumption Changes	170,729
Plan Experience	-
Investment Experience	264,297
<i>Recognition of Deferred (Inflows):</i>	
Assumption Changes	-
Plan Experience	(320,932)
Investment Experience	(174,805)
<b>OPEB Expense, FYE 6/30/2024</b>	<b>\$ 546,685</b>



## Accounting Information

(Continued)

### Change in Net Position During the Fiscal Year

The exhibit below shows the year-to-year changes in the components of Net Position.

For Reporting at Fiscal Year End <i>Measurement Date</i>	6/30/2023 <i>6/30/2022</i>	6/30/2024 <i>6/30/2023</i>	Change During Period
Total OPEB Liability	\$ 9,918,778	\$ 10,292,542	\$ 373,764
Fiduciary Net Position	<u>(5,106,750)</u>	<u>(5,564,907)</u>	<u>(458,157)</u>
Net OPEB Liability (Asset)	4,812,028	4,727,635	(84,393)
<i>Deferred (Outflows) Due to:</i>			
Assumption Changes	(731,000)	(630,622)	100,378
Plan Experience	-	-	-
Investment Experience	(974,279)	(709,982)	264,297
Deferred Contributions	(664,891)	(743,563)	(78,672)
<i>Deferred Inflows Due to:</i>			
Assumption Changes	-	-	-
Plan Experience	935,191	701,733	(233,458)
Investment Experience	<u>518,552</u>	<u>353,522</u>	<u>(165,030)</u>
Impact on Statement of Net Position	<u>\$ 3,895,601</u>	<u>\$ 3,698,723</u>	<u>\$ (196,878)</u>

### Change in Net Position During the Fiscal Year

Impact on Statement of Net Position, FYE 6/30/2023	\$ 3,895,601
OPEB Expense (Income)	546,685
RVFD Contributions During Fiscal Year	<u>(743,563)</u>
Impact on Statement of Net Position, FYE 6/30/2024	<u>\$ 3,698,723</u>

### OPEB Expense

RVFD Contributions During Fiscal Year	\$ 743,563
Deterioration (Improvement) in Net Position	<u>(196,878)</u>
OPEB Expense (Income), FYE 6/30/2024	<u>\$ 546,685</u>



## Accounting Information

(Continued)

### Change in Fiduciary Net Position During the Measurement Period

	Prior Authority	Expanded Authority	Total RVFD
<b>Fiduciary Net Position at Fiscal Year Ending 6/30/2023</b>	<b>\$ 921,988</b>	<b>\$ 4,184,762</b>	<b>\$ 5,106,750</b>
<i>Measurement Date 6/30/2022</i>			
<b>Changes During the Period:</b>			
Investment Income	57,789	270,058	327,847
RVFD Contributions	181,770	483,121	664,891
Administrative Expenses	(460)	(1,022)	(1,482)
Benefit Payments	(181,770)	(351,329)	(533,099)
<b>Net Changes During the Period</b>	<b>57,329</b>	<b>400,828</b>	<b>458,157</b>
<b>Fiduciary Net Position at Fiscal Year Ending 6/30/2024</b>	<b>\$ 980,920</b>	<b>\$ 4,583,987</b>	<b>\$ 5,564,907</b>
<i>Measurement Date 6/30/2023</i>			

### Expected Long-term Return on Trust Assets

CalPERS last updated the projected future investment returns for CERBT Strategy 1 in March 2022. The returns were determined using a building-block method and best-estimate ranges of expected future real rates of return for each major asset class (expected returns, net of OPEB plan investment expense and inflation). The target allocation and best estimates of geometric real rates of return published by CalPERS for each major class are split for years 1-5 and years 6 -20. We assumed that the returns for years 6 through 20 would continue in later years.

CERBT Strategy 1		Years 1-5			Years 6-20		
Major Asset Classification	Target Allocation	General Inflation Rate Assumption	1-5 Year Expected Real Rate of Return	Compound Return Yrs 1-5	General Inflation Rate Assumption	6-20 Year Expected Real Rate of Return	Compound Return Years 6-20
Global Equity	49%	2.40%	4.40%	6.80%	2.30%	4.50%	6.80%
Fixed Income	23%	2.40%	-1.00%	1.40%	2.30%	2.20%	4.50%
Global Real Estate(REITs)	20%	2.40%	3.00%	5.40%	2.30%	3.90%	6.20%
Treasury Inflation Protected Securities	5%	2.40%	-1.80%	0.60%	2.30%	1.30%	3.60%
Commodities	3%	2.40%	0.80%	3.20%	2.30%	1.20%	3.50%
Volatility	12.1%		weighted	5.1%		weighted	6.3%

To derive the expected future trust return specifically for the Department, we first adjusted CalPERS' future return expectations to align with the 2.5% general inflation assumption used in this report. Then applying the plan specific benefit payments (as determined from the June 30, 2023, valuation) to CalPERS' bifurcated return expectations, we determined the single equivalent long-term rate of return to be 6.1%.



## Accounting Information

(Continued)

### Recognition Period for Deferred Resources

Liability changes due to plan experience which differs from what was assumed in the prior measurement period and/or from assumption changes during the period are recognized over the plan's Expected Average Remaining Service Life ("EARSL"). The EARSL of 7.35 years is the period used to recognize such changes in the OPEB Liability arising during the current measurement period.

When applicable, changes in the Fiduciary Net Position due to investment performance different from the assumed earnings rate are always recognized over 5 years.

Liability changes attributable to benefit changes occurring during the period, if any, are recognized immediately.

### Deferred Resources as of Fiscal Year End and Expected Future Recognition

The exhibit below shows deferred resources as of the fiscal year end June 30, 2024.

Ross Valley FD	Deferred Outflows of Resources	Deferred Inflows of Resources
Changes of Assumptions	\$ 630,622	\$ -
Differences Between Expected and Actual Experience	-	701,733
Net Difference Between Projected and Actual Earnings on Investments	356,460	-
Deferred Contributions	743,563	-
<b>Total</b>	<b>\$ 1,730,645</b>	<b>\$ 701,733</b>

In addition, future recognition of these deferred resources is shown below.

For the Fiscal Year Ending June 30	Recognized Net Deferred Outflows (Inflows) of Resources
2025	\$ (104,372)
2026	(46,142)
2027	277,891
2028	49,987
2029	91,538
Thereafter	16,447



**Accounting Information**

(Continued)

**Sensitivity of Liabilities to Changes in the Discount Rate and Healthcare Cost Trend Rate**

The discount rate used for accounting purposes for the fiscal year end 2024 is 6.1%. Healthcare Cost Trend Rate was assumed to start at 6.5% (increase effective January 1, 2025) and grade down to 3.9% for years 2075 and later. The impact of a 1% increase or decrease in these assumptions is shown in the chart below.

Sensitivity to:			
Change in Discount Rate	Current - 1% 5.10%	Current 6.10%	Current + 1% 7.10%
<b>Total OPEB Liability</b>	11,639,355	10,292,542	9,181,183
Increase (Decrease)	1,346,813		(1,111,359)
% Increase (Decrease)	13.1%		-10.8%
<b>Net OPEB Liability (Asset)</b>	6,074,448	4,727,635	3,616,276
Increase (Decrease)	1,346,813		(1,111,359)
% Increase (Decrease)	28.5%		-23.5%
Change in Healthcare Cost Trend Rate	Current Trend - 1%	Current Trend	Current Trend + 1%
<b>Total OPEB Liability</b>	9,304,398	10,292,542	11,472,967
Increase (Decrease)	(988,144)		1,180,425
% Increase (Decrease)	-9.6%		11.5%
<b>Net OPEB Liability (Asset)</b>	3,739,491	4,727,635	5,908,060
Increase (Decrease)	(988,144)		1,180,425
% Increase (Decrease)	-20.9%		25.0%



**Accounting Information**  
(Continued)

**Schedule of Changes in the Department's Net OPEB Liability and Related Ratios**

Fiscal Year Ending June 30	2024	2023	2022	2021	2020	2019	2018
<i>Measurement Date</i>	6/30/2023	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018	6/30/2017
<i>Discount Rate on Measurement Date</i>	6.10%	6.15%	6.80%	6.80%	6.80%	6.95%	7.25%
<b>Total OPEB liability</b>							
Service Cost	\$ 311,233	\$ 263,345	\$ 265,979	\$ 258,232	\$ 215,840	\$ 194,348	\$ 188,230
Interest	612,753	601,212	602,131	580,614	680,634	654,393	624,234
Changes of benefit terms	-	-	-	-	-	-	-
Differences between expected and actual experience	(87,474)	-	(372,771)	-	(1,694,852)	-	-
Changes of assumptions	70,351	741,660	21,319	-	6,241	345,115	-
Benefit payments	(533,099)	(530,904)	(524,175)	(536,159)	(474,032)	(422,295)	(382,896)
<b>Net change in total OPEB liability</b>	373,764	1,075,313	(7,517)	302,687	(1,266,169)	771,561	429,568
<b>Total OPEB liability - beginning</b>	9,918,778	8,843,465	8,850,982	8,548,295	9,814,464	9,042,903	8,613,336
<b>Total OPEB liability - ending (a)</b>	\$ 10,292,542	\$ 9,918,778	\$ 8,843,465	\$ 8,850,982	\$ 8,548,295	\$ 9,814,464	\$ 9,042,904
<b>Plan fiduciary net position</b>							
Contributions - employer	\$ 664,891	\$ 786,295	\$ 754,259	\$ 901,184	\$ 1,002,745	\$ 1,108,061	\$ 785,990
Net investment income	327,847	(749,910)	1,158,676	133,881	177,139	171,917	167,198
Benefit payments	(533,099)	(530,904)	(524,175)	(536,159)	(474,032)	(422,295)	(382,896)
Administrative Expenses	(1,482)	(1,419)	(1,595)	(1,817)	(642)	(1,151)	(854)
Other Expenses	-	-	-	-	-	(2,858)	-
<b>Net change in plan fiduciary net position</b>	458,157	(495,938)	1,387,165	497,089	705,210	853,674	569,438
<b>Plan fiduciary net position - beginning</b>	5,106,750	5,602,688	4,215,523	3,718,434	3,013,224	2,159,550	1,590,112
<b>Plan fiduciary net position - ending (b)</b>	\$ 5,564,907	\$ 5,106,750	\$ 5,602,688	\$ 4,215,523	\$ 3,718,434	\$ 3,013,224	\$ 2,159,550
<b>Net OPEB liability - ending (a) - (b)</b>	\$ 4,727,635	\$ 4,812,028	\$ 3,240,777	\$ 4,635,459	\$ 4,829,861	\$ 6,801,240	\$ 6,883,354
<b>Covered payroll during measurement period</b>	\$ 4,609,096	\$ 4,251,976	\$ 3,995,857	\$ 4,055,818	\$ 4,099,185	\$ 3,781,313	\$ 3,963,937
<b>Net OPEB liability as a % of covered payroll</b>	102.57%	113.17%	81.10%	114.29%	117.82%	179.86%	173.65%



**Accounting Information**  
(Continued)

**Schedule of Changes in the Department's Net OPEB Liability and Related Ratios**  
(concluded)

Fiscal Year Ending June 30	2024	2023	2022	2021	2020	2019	2018
<i>Measurement Date</i>	6/30/2023	6/30/2022	6/30/2021	6/30/2020	6/30/2019	6/30/2018	6/30/2017
<i>Discount Rate on Measurement Date</i>	6.10%	6.15%	6.80%	6.80%	6.80%	6.95%	7.25%

**Notes to Schedule**

Valuation Date	6/30/2023	6/30/2021	6/30/2019	6/30/2017
Actuarial cost method	Entry Age Normal Level % of Pay	Entry Age Normal Level % of Pay	Entry Age Normal Level % of Pay	Entry Age Normal Level % of Pay
Inflation	2.50%	2.50%	2.50%	2.75%
Healthcare cost trend rates	6.5% in 2025 fluctuating down to 3.9% by 2075	5.7% in 2022 fluctuating down to 4% by 2076	5.4% in 2021 fluctuating down to 4% by 2076	8.0% in 2018 to 5% in steps of 0.5%
Salary increases	3.00%	3.00%	3.00%	3.25%
Retirement age	50 to 75	50 to 75	50 to 75	50 to 75
Mortality	CalPERS 2021 Experience Study	CalPERS 2017 Experience Study	CalPERS 2017 Experience Study	CalPERS 2014 Experience Study
Mortality Improvement	MacLeod Watts Scale 2022	MacLeod Watts Scale 2020	MacLeod Watts Scale 2018	MacLeod Watts Scale 2017



**Accounting Information**  
(Continued)

**Schedule of Contributions**

The Department has been contributing 100% or more of each year's Actuarially Determined Contribution (ADC).

Fiscal Year Ending June 30	2024	2023	2022	2021	2020	2019	2018
Actuarially Determined Contribution (ADC)	\$ 554,371	\$ 536,878	\$ 520,319	\$ 631,593	\$ 750,115	\$ 727,745	\$ 696,858
Contributions in relation to the ADC	743,563	664,891	786,295	754,259	901,184	1,002,745	1,108,061
Contribution deficiency (excess)	\$ (189,192)	\$ (128,013)	\$ (265,976)	\$ (122,666)	\$ (151,069)	\$ (275,000)	\$ (411,203)
Covered payroll during the fiscal year	\$ 4,747,000	\$ 4,609,096	\$ 4,251,976	\$ 3,995,857	\$ 4,055,818	\$ 4,099,185	\$ 3,781,313
Contributions as a % of covered payroll	15.66%	14.43%	18.49%	18.88%	22.22%	24.46%	29.30%
Percent of ADC contributed	134.13%	123.84%	151.12%	119.42%	120.14%	137.79%	159.01%

**Notes to Schedule - assumptions used to develop Actuarially Determined Contributions (ADCs)**

Valuation Date applied	6/30/2023	6/30/2021	6/30/2019	6/30/2017	7/1/2015
Discount rate	6.10%	6.80%	6.80%	7.25%	7.25%
Actuarial cost method	Entry Age Normal Level %	Entry Age Normal Level % of Pay	Entry Age Normal Level %	Entry Age Normal Level % of Pay	Entry Age Normal Level % Pay
Amortization method	Level % of Pay	Level % of Pay	Level % of Pay	Level % of Pay	Level % of Pay
Amortization period	16 Yrs Closed	18 Yrs Closed	19 Yrs Closed	20 Yrs Closed   21 Yrs Closed	22 Yrs Closed
Asset valuation method	Market Value	Market Value	Market Value	Market Value	Market Value
Inflation	2.50%	2.50%	2.50%	2.75%	2.75%
Healthcare cost trend rates	6.5% in 2025 fluctuating down to 3.9% by 2075	5.7% in 2022 fluctuating down to 4% by 2076	5.4% in 2021 fluctuating down to 4% by 2076	8.0% in 2018 to 5% in steps of 0.5%	7.5% in 2017 to 4.5% in steps of 0.5%
Salary increases	3.00%	3.00%	3.00%	3.25%	3.25%
Retirement age	50 to 75	50 to 75	50 to 75	50 to 75	50 to 75
Mortality	CalPERS 2021 Experience Study	CalPERS 2017 Experience Study	CalPERS 2017 Experience Study	CalPERS 2014 Experience Study	CalPERS 2014 Experience Study
Mortality Improvement	MacLeod Watts Scale 2022	MacLeod Watts Scale 2020	MacLeod Watts Scale 2018	MacLeod Watts Scale 2017	MacLeod Watts Scale 2014



**Accounting Information**  
(Continued)

**Detail of Changes to Net Position**

The chart below details changes to all components of Net Position.

Ross Valley FD	Total OPEB Liability (a)	Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) - (b)	(d) Deferred Outflows:			(e) Deferred Inflows:			Impact on Statement of Net Position (f) = (c) - (d) + (e)	
				Assumption Changes	Plan Experience	Investment Experience	Deferred Contributions	Assumption Changes	Plan Experience		Investment Experience
<b>Balance at Fiscal Year Ending 6/30/2023</b> <i>Measurement Date 6/30/2022</i>	\$ 9,918,778	\$ 5,106,750	\$ 4,812,028	\$ 731,000	\$ -	\$ 974,279	\$ 664,891	\$ -	\$ 935,191	\$ 518,552	\$ 3,895,601
<b>Changes During the Period:</b>											
Service Cost	311,233		311,233								311,233
Interest Cost	612,753		612,753								612,753
Expected Investment Income		318,072	(318,072)								(318,072)
RVFD Contributions		664,891	(664,891)								(664,891)
Changes of Benefit Terms	-		-								-
Administrative Expenses		(1,482)	1,482								1,482
Benefit Payments	(533,099)	(533,099)	-								-
Assumption Changes	70,351		70,351	70,351							-
Plan Experience	(87,474)		(87,474)						87,474		-
Investment Experience		9,775	(9,775)							9,775	-
Recognized Deferred Resources				(170,729)	-	(264,297)	(664,891)	-	(320,932)	(174,805)	604,180
Contributions After Measurement Date							743,563				(743,563)
<b>Net Changes in Fiscal Year 2023-2024</b>	373,764	458,157	(84,393)	(100,378)	-	(264,297)	78,672	-	(233,458)	(165,030)	(196,878)
<b>Balance at Fiscal Year Ending 6/30/2024</b> <i>Measurement Date 6/30/2023</i>	\$ 10,292,542	\$ 5,564,907	\$ 4,727,635	\$ 630,622	\$ -	\$ 709,982	\$ 743,563	\$ -	\$ 701,733	\$ 353,522	\$ 3,698,723



**Accounting Information**  
(Continued)

**Schedule of Deferred Outflows and Inflows of Resources**

A listing of all deferred resource bases used to develop the Net Position and OPEB Expense is shown below. Deferred Contributions are not shown.

Measurement Date: June 30, 2023

Deferred Outflow or (Inflow)						Balance as of Jun 30, 2023	Recognition of Deferred Outflow or Deferred (Inflow) in Measurement Period:						
Date Created	Source	Impact on Net OPEB Liability (NOL)	Initial Amount	Period (Yrs)	Annual Recognition		2022-23 (FYE 2024)	2023-24 (FYE 2025)	2024-25 (FYE 2026)	2025-26 (FYE 2027)	2026-27 (FYE 2028)	2027-28 (FYE 2029)	Thereafter
6/30/2018	AssumptionChanges	IncreasedNOL	\$ 345,115	6.38	\$ 54,093	\$ 20,557	\$ 54,093	\$ 20,557	\$ -	\$ -	\$ -	\$ -	\$ -
6/30/2019	PlanExperience	DecreasedNOL	(1,694,852)	6.59	(257,185)	(408,927)	(257,185)	(257,185)	(151,742)	-	-	-	-
6/30/2019	AssumptionChanges	IncreasedNOL	6,241	6.59	947	1,506	947	947	559	-	-	-	-
6/30/2019	InvestmentEarnings	IncreasedNOL	50,631	5.00	10,126	-	10,127	-	-	-	-	-	-
6/30/2020	InvestmentEarnings	IncreasedNOL	131,322	5.00	26,264	26,266	26,264	26,266	-	-	-	-	-
6/30/2021	PlanExperience	DecreasedNOL	(372,771)	7.19	(51,846)	(217,233)	(51,846)	(51,846)	(51,846)	(51,846)	(51,846)	(9,849)	-
6/30/2021	AssumptionChanges	IncreasedNOL	21,319	7.19	2,965	12,424	2,965	2,965	2,965	2,965	2,965	564	-
6/30/2021	InvestmentEarnings	DecreasedNOL	(864,252)	5.00	(172,850)	(345,702)	(172,850)	(172,850)	(172,852)	-	-	-	-
6/30/2022	AssumptionChanges	IncreasedNOL	741,660	7.19	103,152	535,356	103,152	103,152	103,152	103,152	103,152	103,152	19,596
6/30/2022	InvestmentEarnings	IncreasedNOL	1,139,528	5.00	227,906	683,716	227,906	227,906	227,906	227,904	-	-	-
6/30/2023	PlanExperience	DecreasedNOL	(87,474)	7.35	(11,901)	(75,573)	(11,901)	(11,901)	(11,901)	(11,901)	(11,901)	(11,901)	(16,068)
6/30/2023	AssumptionChanges	IncreasedNOL	70,351	7.35	9,572	60,779	9,572	9,572	9,572	9,572	9,572	9,572	12,919
6/30/2023	InvestmentEarnings	DecreasedNOL	(9,775)	5.00	(1,955)	(7,820)	(1,955)	(1,955)	(1,955)	(1,955)	(1,955)	-	-



## Accounting Information

(Continued)

### Department Contributions to the Plan

Department contributions to the Plan occur as benefits are paid to or on behalf of retirees and/or as contributions to the OPEB trust. Benefit payments may occur in the form of direct payments for premiums (“explicit subsidies”) and/or indirect payments to retirees in the form of higher premiums for active employees (“implicit subsidies”). Note that the implicit subsidy contribution does not represent cash payments to retirees, but rather the reclassification of a portion of active healthcare expense to be recognized as a retiree healthcare cost. For details, see Appendix 1 – Important Background Information.

Retiree benefits paid during the measurement period are shown below.

For the Measurement Period, Jul 1, 2022 thru Jun 30, 2023	Ross Valley FD
<b>RVFD</b>	
(a) Contribution To CERBT	\$ 131,792
(b) Benefits Paid Directly To or On Behalf of Retirees	405,086
(c) Implicit Subsidy Payment	128,013
<b>CERBT</b>	
(d) Benefits Paid Directly To or On Behalf of Retirees	-
(e) Reimbursements to RVFD	-
<i>Total Benefits Paid During the MP, (b)+(c)+(d)</i>	533,099
<i>RVFD Contribution During the MP, (a)+(b)+(c)-(e)</i>	664,891

We estimate the Department’s OPEB benefits payments/contributions made after the measurement date but prior to the current fiscal year end in the chart below. *These estimates should be updated with the actual amounts once known after the close of the year.*

For the Fiscal Year, Jul 1, 2023 thru Jun 30, 2024	Ross Valley FD
<b>RVFD</b>	
(f) Contribution To CERBT	\$ 209,993
(g) Benefits Paid Directly To or On Behalf of Retirees	428,430
(h) Implicit Subsidy Payment	105,140
<b>CERBT</b>	
(i) Benefits Paid Directly To or On Behalf of Retirees	-
(j) Reimbursements to RVFD	-
<i>Total Benefits Paid During the Current FY, (g)+(h)+(i)</i>	533,570
<i>RVFD Contribution During the Current FY, (f)+(g)+(h)-(j)</i>	743,563



## Accounting Information

(Continued)

### Projected Benefit Payments (15-year projection)

The following is an estimate of other post-employment benefits to be paid on behalf of current retirees and current employees expected to retire from the Department. Expected annual benefits have been projected on the basis of the actuarial assumptions outlined in Section 3.

Projected Annual Benefit Payments							
Fiscal Year Ending June 30	Explicit Subsidy			Implicit Subsidy			Total
	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total	
2024	\$ 428,430	\$ -	\$ 428,430	\$ 105,140	\$ -	\$ 105,140	\$ 533,570
2025	408,865	18,127	426,992	115,924	1,603	117,527	544,519
2026	388,184	34,607	422,791	88,497	5,005	93,502	516,293
2027	392,940	56,487	449,427	94,129	10,525	104,654	554,081
2028	386,198	83,549	469,747	80,189	19,514	99,703	569,450
2029	386,597	115,632	502,229	86,888	32,860	119,748	621,977
2030	396,393	148,255	544,648	101,459	49,775	151,234	695,882
2031	391,958	186,536	578,494	96,909	71,844	168,753	747,247
2032	376,590	220,977	597,567	97,979	97,520	195,499	793,066
2033	379,220	257,319	636,539	91,215	126,758	217,973	854,512
2034	338,699	289,891	628,590	56,300	148,653	204,953	833,543
2035	343,180	328,601	671,781	64,409	188,298	252,707	924,488
2036	314,587	372,031	686,618	6,977	230,261	237,238	923,856
2037	317,150	396,956	714,106	8,481	252,054	260,535	974,641
2038	313,881	428,826	742,707	-	291,720	291,720	1,034,427

The amounts shown in the Explicit Subsidy section of the table reflect the expected payment by the Department toward retiree medical premiums in each of the years shown. The amounts are shown separately, and in total, for those retired on the valuation date ("current retirees") and those expected to retire after the valuation date ("future retirees"). *The explicit subsidy benefit amount shown for FYE 2023 is currently an estimate and will be replaced with the actual amount, once known.*

The amounts shown in the Implicit Subsidy section reflect the estimated excess of retiree medical and prescription drug claims over the premiums expected to be charged during the year for retirees' coverage. These amounts are also shown separately and in total for those currently retired on the valuation date and for those expected to retire in the future.

These projections do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years).



**Accounting Information**  
(Concluded)

**Sample Journal Entries**

<b>OPEB Accounts at Beginning of Fiscal Year</b>	<i>By Source</i>		<i>Sources Combined</i>	
	<b>Debit</b>	<b>Credit</b>	<b>Debit</b>	<b>Credit</b>
Net OPEB Liability		4,812,028		4,812,028
<i>Deferred Outflow:</i>				
Assumption Changes	731,000			
Plan Experience	-			
Investment Experience	974,279			
Contribution Subsequent to MD	664,891			
<b>Deferred Outflows</b>			2,370,170	
<i>Deferred Inflow:</i>				
Assumption Changes		-		
Plan Experience		935,191		
Investment Experience		518,552		
<b>Deferred Inflows</b>				1,453,743
<b>Record Benefits Paid to Retirees</b>	<b>Debit</b>		<b>Credit</b>	
Net OPEB Liability	428,430			
Cash			428,430	
<b>Record Contributions to the Trust</b>	<b>Debit</b>		<b>Credit</b>	
Net OPEB Liability	209,993			
Cash			209,993	
<b>Record Implicit Subsidy Payment</b>	<b>Debit</b>		<b>Credit</b>	
Net OPEB Liability	105,140			
Premium Expense			105,140	
<b>Record End of Year Updates to OPEB Accounts</b>	<i>By Source</i>		<i>Sources Combined</i>	
	<b>Debit</b>	<b>Credit</b>	<b>Debit</b>	<b>Credit</b>
Net OPEB Liability		659,170		659,170
<i>Deferred Outflow:</i>				
Assumption Changes		100,378		
Plan Experience				
Investment Experience		264,297		
Contribution Subsequent to MD	78,672			
<b>Deferred Outflows</b>				286,003
<i>Deferred Inflow:</i>				
Assumption Changes		-		
Plan Experience	233,458			
Investment Experience	165,030			
<b>Deferred Inflows</b>			398,488	
OPEB Expense	546,685		546,685	



## E. Funding Information

The employer's OPEB funding policy and level of contributions to an irrevocable OPEB trust directly affects the discount rate which is used to calculate the OPEB liability to be reported in the employer's financial statements. Prefunding (setting aside funds to accumulate in an irrevocable OPEB trust) has certain advantages, one of which is the ability to (potentially) use a higher discount rate in the determination of liabilities for GASB 75 reporting purposes. Prefunding also improves the security of benefits for current and potential future recipients and contributes to intergenerational taxpayer equity by better matching the cost of the benefits to the service years in which they are "earned" and which correspond to years in which taxpayers benefit from those services.

### Paying Down the UAAL

Once an employer decides to prefund, a decision must be made about how to pay for benefits related to accumulated prior service that have not yet been funded (the UAAL<sup>3</sup>). This is most often, though not always, handled through structured amortization payments. The period and method chosen for amortizing this unfunded liability can significantly affect the Actuarially Determined Contribution (ADC) or other basis selected for funding the OPEB program.

Much like paying off a mortgage, when the AAL exceeds plan assets, choosing a longer amortization period to pay off the UAAL means smaller payments, but the payments will be required for more years; plan investments will have less time to work toward helping reduce required contribution levels. When the plan is in a surplus position, the reverse is true, and a longer amortization period may be preferable.

There are several ways the amortization payment can be determined. The most common methods are calculating the amortization payment as a level dollar amount or as a level percentage of payroll. The employer might also choose to apply a shorter period when the UAAL only when it is positive, i.e., when trust assets are lower than the AAL, but opt for a longer period or to exclude amortization of a negative UAAL, when assets exceed the AAL. The entire UAAL may be amortized as one single component or may be broken into multiple components reflecting the timing and source of each change, such as those arising from assumption changes, benefit changes and/or liability or investment experience.

The amortization period(s) should not exceed the number of years which would allow current trust assets plus future contributions and earnings to be sufficient to pay all future benefits and trust expenses each year. Prefunding of OPEB is optional and contributions at any level are permitted. However, if trust sufficiency is not expected, a discount rate other than the assumed trust return will likely be required for accounting purposes.

### Funding and Prefunding of the Implicit Subsidy

An implicit subsidy liability is created when retiree medical claims are expected to exceed the premiums charged for retiree coverage. Recognition of the estimated implicit subsidy each year is handled by an accounting entry, reducing the amount paid for active employees and shifting that amount to be treated as a retiree healthcare expense/contribution (see Sample Journal Entries). The implicit subsidy is a true benefit to the retiree but can be difficult to see when medical premiums are set as a flat rate for both actives and pre-Medicare retirees.

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<sup>3</sup> We use actuarial, rather than accounting, terminology to describe the components used to develop the ADCs.



## OPEB Funding Information

(Continued)

This might lead some employers to believe the benefit is not real or is merely an accounting construct, and thus to forgo prefunding of retiree implicit benefits.

Consider what would happen if the retiree premiums were based only on expected retiree claims experience. Almost certainly, retiree premiums would increase while premiums for active employees would go down if the active premiums no longer had to help support the higher retiree claims. *Who would pay the increases in retiree premiums?* Current plan documents and bargaining agreements would have to be consulted. Depending on circumstances, the increase in retiree premiums might remain the responsibility of the employer, pass entirely to the retirees, or some blending of the two. The answer would determine whether separate retiree-only premium rates would result in a higher or lower employer OPEB liability. In the current premium structure, with blended active and pre-Medicare retiree premiums, the employer is clearly, though indirectly, paying the implicit retiree cost.

The prefunding decision is complex. OPEB materiality, budgetary concerns, desire to use the full trust rate in developing the liability for GASB 75, and other factors must be weighed by each employer. Since prefunding OPEB benefits is not required, each employer's OPEB prefunding strategy will depend on how they balance these competing perspectives.

### Development of the Actuarially Determined Contributions

The Department has approved development of ADCs based on the following two components, which are then adjusted with interest to each fiscal year end:

- The amounts attributed to service performed in the current fiscal year (the normal cost) and
- Amortization of the unfunded actuarial accrued liability over a closed 30-year period with level percent of payroll payments; 16 years remain for the fiscal year 2023/24 ADC.

Actuarially Determined Contributions, developed as described above for the Department's fiscal years ending June 30, 2024, 2025 and 2026 are shown in the exhibit on the next page. These ADCs incorporate both explicit (cash benefit) and implicit subsidy benefit liabilities. Contributions credited toward meeting the ADC will be comprised of:

- 1) direct payments to insurers toward retiree premiums, less the total of any reimbursements paid from the trust back to the employer for some or all of those benefit payments; plus
  - 2) each year's implicit subsidy payment;
- and
- 3) contributions to the OPEB trust.

ADCs determined on this basis should provide for trust sufficiency, based on the current plan provisions and census data, *provided all assumptions are exactly realized and if the employer contributes 100% or more of the ADC each year.* When an employer commits to funding the trust at or above the ADC, the expected long-term trust return may be used as the discount rate in determining the plan liability for accounting purposes. Trust sufficiency cannot be guaranteed to a certainty, however, because of the non-trivial risk that the assumptions used to project future benefit liabilities may not be realized.



## OPEB Funding Information

(Continued)

We develop the Actuarially Determined Contributions (ADCs) for fiscal years ending June 30, 2025, and June 30, 2026, from the results of this valuation. The ADC for fiscal year end June 30, 2024, was developed from the prior (2021) valuation, and we have included this for reference as well.

Valuation date	6/30/2021		6/30/2023	
Discount rate	6.80%		6.10%	
<b>Number of Covered Employees</b>				
Actives	33		33	
Retirees	35		32	
Total Participants	68		65	
For fiscal year ending	6/30/2024	6/30/2025	6/30/2026	
<b>Actuarial Present Value of Projected Benefits</b>	\$ 11,673,923	\$ 12,816,503	\$ 13,037,183	
<b>Actuarial Accrued Liability (AAL)</b>				
Actives	4,835,167	4,808,506	5,393,147	
Retirees	4,704,357	5,835,977	5,630,845	
Total AAL	9,539,524	10,644,483	11,023,992	
Actuarial Value of Assets	6,382,338	6,098,085	6,653,461	
<b>Unfunded AAL (UAAL)</b>	3,157,186	4,546,398	4,370,531	
UAAL Amortization method	Level % of Pay	Level % of Pay	Level % of Pay	
Remaining amortization period (years)	16	15	14	
Amortization Factor	12.3639	12.2886	11.6284	
<b>Actuarially Determined Contribution (ADC)</b>				
Normal Cost	\$ 279,384	\$ 274,573	\$ 282,810	
Amortization of UAAL	255,356	369,969	375,851	
Interest to fiscal year end	19,631	39,317	40,178	
<b>Total ADC</b>	<b>554,371</b>	<b>683,859</b>	<b>698,839</b>	

The ADCs for fiscal years ending 2025 and 2026 have increased, primarily due to: (1) the loss in trust asset value between June 30, 2021, and June 30, 2022, and (2) the liability increase because of the lower future expected trust earnings/discount rate, from 6.8% to 6.1%.

As noted on the preceding page, OPEB funding consists of 3 different sources. The chart below shows how these 3 contribution sources apply toward satisfying the ADC for each of these years.

1 Implicit subsidy contribution	\$ 105,140	\$ 117,527	\$ 93,502
2 <i>Estimated agency paid premiums for retirees</i>	\$ 428,430	\$ 426,992	\$ 422,791
3 <i>Estimated agency contribution to OPEB trust</i>	209,993	200,000	182,546
<b>Total Expected Employer Contributions (1+2+3)</b>	<b>\$ 743,563</b>	<b>\$ 744,519</b>	<b>\$ 698,839</b>

The retiree benefit payments shown above for those years are estimates. Estimated trust contributions for fiscal years ending 2024 and 2025 are the budgeted amounts communicated to us.



## OPEB Funding Information

(Continued)

Prior Authority refers to Department members who retired before July 1, 2012. The chart below provides the results of the June 30, 2023, valuation and develops Actuarially Determined Contribution levels *for the Prior Authority members only* for fiscal years ending June 30, 2025, and June 30, 2026. The ADC for fiscal year end June 30, 2024, was developed from the prior (2021) valuation, and we have included this for reference as well.

We assumed that no contribution to the trust would be made on behalf of any Prior Authority members. We also assumed that no reimbursement would be made *from* the trust for any portion of the retiree benefits paid to these members.

Valuation date	Prior Authority		
	6/30/2021	6/30/2023	
Discount rate	6.80%	6.10%	
<b>Number of Covered Employees</b>			
Actives	0	0	
Retirees	22	17	
Total Participants	17	17	
For fiscal year ending	6/30/2024	6/30/2025	6/30/2026
<b>Actuarial Present Value of Projected Benefits</b>	\$ 1,553,091	\$ 1,717,612	\$ 1,669,261
<b>Actuarial Accrued Liability (AAL)</b>			
Actives	-	-	-
Retirees	1,553,091	1,717,612	1,669,261
Total AAL	1,553,091	1,717,612	1,669,261
Actuarial Value of Assets	902,427	1,040,758	1,104,244
<b>Unfunded AAL (UAAL)</b>	650,664	676,854	565,017
UAAL Amortization method	Level % of Pay	Level % of Pay	Level % of Pay
Remaining amortization period (years)	16	15	14
Amortization Factor	12.3639	12.2886	11.6284
<b>Actuarially Determined Contribution (ADC)</b>			
Normal Cost	\$ -	\$ -	\$ -
Amortization of UAAL	52,626	55,080	48,590
Interest to fiscal year end	(1,108)	3,360	2,964
<b>Total ADC</b>	<b>51,518</b>	<b>58,440</b>	<b>51,554</b>

### Funding of the ADC

1 Implicit subsidy contribution	\$ 7,059	\$ 8,888	\$ 10,500
2 Estimated agency paid premiums for retirees	139,814	139,706	143,310
3 Estimated agency contribution to OPEB trust	-	-	-
<b>Total Expected Employer Contributions (1+2+3)</b>	<b>\$ 146,873</b>	<b>\$ 148,594</b>	<b>\$ 153,810</b>



## OPEB Funding Information

(Continued)

Expanded Authority refers to all other Department members who were not retired by July 1, 2012. The chart below provides the results of the June 30, 2023, valuation and develops Actuarially Determined Contribution levels *for the Expanded Authority members only* for fiscal years ending June 30, 2025, and June 30, 2026. The ADC for fiscal year end June 30, 2024, was developed from the prior (2021) valuation, and we have included this for reference as well.

We assumed the entire Department contribution to the trust would be made on behalf of Expanded Authority members.

Valuation date	Expanded Authority		
	6/30/2021	6/30/2023	
Discount rate	6.80%	6.10%	
<b>Number of Covered Employees</b>			
Actives	33	33	
Retirees	13	15	
Total Participants	46	48	
For fiscal year ending	6/30/2024	6/30/2025	6/30/2026
<b>Actuarial Present Value of Projected Benefits</b>	\$ 10,120,832	\$ 11,098,890	\$ 11,367,922
<b>Actuarial Accrued Liability (AAL)</b>			
Actives	4,835,167	4,808,506	5,393,147
Retirees	3,151,266	4,118,365	3,961,584
Total AAL	7,986,433	8,926,871	9,354,731
Actuarial Value of Assets	5,479,910	5,057,327	5,549,217
<b>Unfunded AAL (UAAL)</b>	2,506,523	3,869,544	3,805,514
UAAL Amortization method	Level % of Pay	Level % of Pay	Level % of Pay
Remaining amortization period (years)	16	15	14
Amortization Factor	12.3639	12.2886	11.6284
<b>Actuarially Determined Contribution (ADC)</b>			
Normal Cost	\$ 279,384	\$ 274,573	\$ 282,810
Amortization of UAAL	202,730	314,889	327,261
Interest to fiscal year end	20,739	35,957	37,214
<b>Total ADC</b>	<b>502,853</b>	<b>625,419</b>	<b>647,285</b>

### Funding of the ADC

1 Implicit subsidy contribution	\$ 98,081	\$ 108,639	\$ 83,002
2 Estimated agency paid premiums for retirees	288,616	287,286	279,481
3 Estimated agency contribution to OPEB trust	209,993	200,000	182,546
<b>Total Expected Employer Contributions (1+2+3)</b>	<b>\$ 596,690</b>	<b>\$ 595,925</b>	<b>\$ 545,029</b>

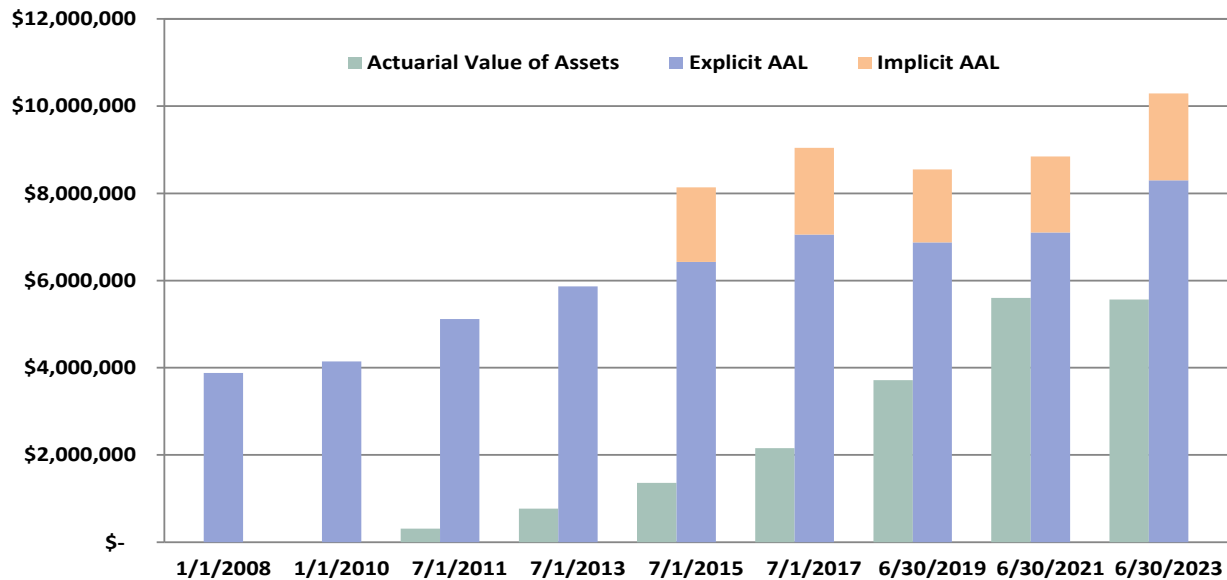


**OPEB Funding Information**  
(Concluded)

In this section, we provide a review of key components of valuation results from 2010 through 2023.

<b>Schedule of Funding Progress</b>							
Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAAL as a Percentage of Covered Payroll ((b-a)/c)	Discount Rate
1/1/2008	\$ -	\$ 3,880,724	\$ 3,880,724	0.0%	\$ 2,334,351	166.2%	7.75%
1/1/2010	\$ -	\$ 4,144,877	\$ 4,144,877	0.0%	\$ 2,638,186	157.1%	7.75%
7/1/2011	\$ 312,209	\$ 5,117,093	\$ 4,804,884	6.1%	\$ 3,161,662	152.0%	7.50%
7/1/2013	\$ 771,411	\$ 5,864,413	\$ 5,093,002	13.2%	\$ 3,453,704	147.5%	7.50%
7/1/2015	\$ 1,361,065	\$ 8,133,603	\$ 6,772,538	16.7%	\$ 3,965,148	170.8%	7.25%
7/1/2017	\$ 2,158,527	\$ 9,042,903	\$ 6,884,376	23.9%	\$ 3,963,937	173.7%	7.25%
6/30/2019	\$ 3,718,434	\$ 8,548,295	\$ 4,829,861	43.5%	\$ 4,099,185	117.8%	6.80%
6/30/2021	\$ 5,602,688	\$ 8,843,465	\$ 3,240,777	63.4%	\$ 3,995,857	81.1%	6.80%
6/30/2023	\$ 5,564,907	\$ 10,292,542	\$ 4,727,635	54.1%	\$ 4,747,000	99.6%	6.10%

**Schedule of Funding Progress**



Significant changes in recent years include:

- July 1, 2015: First time recognition of the implicit subsidy liability relating to medical coverage; decrease in assumed discount rate.
- June 30, 2021: Significantly *higher* than expected return on trust assets decreased the UAAAL.
- June 30, 2023: High 2024 premium rate increases and significantly *lower* trust earnings than expected increased the UAAAL and increased the Actuarially Determined Contributions.



## F. Certification

The purpose of this report is to provide actuarial information of the other postemployment benefits (OPEB) provided by the Ross Valley Fire Department (the Department) in compliance with Statement 75 of the Governmental Accounting Standards Board (GASB 75). We summarized the benefits in this report and our calculations were based on our understanding of the benefits as described herein.

In preparing this report we relied without audit on information provided by the Department. This information includes, but is not limited to, plan provisions, census data, and financial information. We performed a limited review of this data and found the information to be reasonably consistent. The accuracy of this report is dependent on this information and if any of the information we relied on is incomplete or inaccurate, then the results reported herein will be different from any report relying on more accurate information.

We consider the actuarial assumptions and methods used in this report to be individually reasonable under the requirements imposed by GASB 75 and taking into consideration reasonable expectations of plan experience. The results provide an estimate of the plan's financial condition at one point in time. Future actuarial results may be significantly different due to a variety of reasons including, but not limited to, demographic and economic assumptions differing from future plan experience, changes in plan provisions, changes in applicable law, or changes in the value of plan benefits relative to other alternatives available to plan members.

Alternative assumptions may also be reasonable; however, demonstrating the range of potential plan results based on alternative assumptions was beyond the scope of our assignment except to the limited extent required by GASB 75 and in accordance with the Department's stated OPEB funding policy. Results for accounting purposes may be materially different than results obtained for other purposes such as plan termination, liability settlement, or underlying economic value of the promises made by the plan.

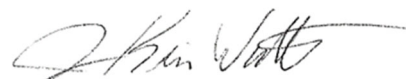
This report is prepared solely for the use and benefit of the Department and may not be provided to third parties without prior written consent of MacLeod Watts. Exceptions: The Department may provide copies of this report to their professional accounting and legal advisors who are subject to a duty of confidentiality, and the Department may provide this work to any party if required by law or court order. No part of this report should be used as the basis for any representations or warranties in any contract or agreement without the written consent of MacLeod Watts.

The undersigned actuaries are unaware of any relationship that might impair the objectivity of this work. Nothing within this report is intended to be a substitute for qualified legal or accounting counsel. Both actuaries are members of the American Academy of Actuaries and meet the qualification standards for rendering this opinion.

Signed: May 29, 2024



Catherine L. MacLeod, FSA, FCA, EA, MAAA



J. Kevin Watts, FSA, FCA, MAAA



## G. Supporting Information

### Section 1 - Summary of Employee Data

**Active employees:** The Department reported 33 active members in the data provided to us for the June 2023 valuation. There were 32 enrolled in the medical program on the valuation date while 1 was waiving coverage.

Distribution of Benefits-Eligible Active Employees								
Current Age	Years of Service						Total	Percent
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 & Up		
Under 25							0	0%
25 to 29		2					2	6%
30 to 34		2	3				5	15%
35 to 39		1	3	1			5	15%
40 to 44				1	2	2	5	15%
45 to 49		2		4	2	2	10	30%
50 to 54		1		2	2		5	15%
55 to 59				1			1	3%
60 to 64							0	0%
65 to 69							0	0%
70 & Up							0	0%
<b>Total</b>	0	8	6	9	6	4	<b>33</b>	<b>100%</b>
<b>Percent</b>	0%	24%	18%	27%	18%	12%	<b>100%</b>	

<u>Valuation</u>	<u>June 2021</u>	<u>June 2023</u>
Average Attained Age for Actives	41.3	42.4
Average Years of Service	9.8	10.6

**Retired members:** There are also 28 retirees and 7 surviving spouses currently receiving benefits under this program. Average age and service values are summarized in the chart below.

Retirees by Age				
Current Age	Misc	Fire	Total	Percent
Below 50	0	0	0	0%
50 to 54	0	3	3	9%
55 to 59	1	4	5	16%
60 to 64	0	6	6	19%
65 to 69	0	4	4	13%
70 to 74	0	6	6	19%
75 to 79	0	3	3	9%
80 & up	1	4	5	16%
<b>Total</b>	<b>2</b>	<b>30</b>	<b>32</b>	<b>100%</b>
<b>Average Age:</b>				
On 6/30/2023	69.1	68.3	68.3	
At retirement	53.1	52.7	52.7	

**Summary of Plan Member Counts:** The number of members currently or potentially eligible to receive benefits under the OPEB plan are required to be reported in the notes to the financial statements.

Summary of Plan Member Counts	
Number of active plan members	33
Number of inactive plan members currently receiving benefits	32
Number of inactive plan members entitled to but not receiving benefits	6



**Supporting Information**

(Continued)

**Section 1 - Summary of Employee Data**

The chart below reconciles the number of actives and retirees included in the June 2021 valuation of the Department plan with those included in the June 2023 valuation.

Reconciliation of Department Plan Members Between Valuation Dates						
Status	Covered Actives	Waiving Actives	Covered Service Retirees	Covered Disabled Retirees	Covered Surviving Spouses	Total
Number reported as of June 30, 2021	32	1	13	15	7	68
New employees	3	1				4
Separated employees	(2)					(2)
New retiree, elected coverage	(2)			2		0
Previously covered, now waiving			(1)		(1)	(2)
Previously waiving, now covered				1		1
Updated retirement type			(1)	1		
Deceased				(2)	(2)	(4)
<b>Number reported as of June 30, 2023</b>	<b>31</b>	<b>2</b>	<b>11</b>	<b>17</b>	<b>4</b>	<b>65</b>

The total number of plan members decreased by 3, representing roughly a 5% decrease in plan population size. The Department saw 2 new retirements between valuations with both new retirees electing coverage (which is what we assumed).

Retiree benefits and the Department’s OPEB liability vary based on each member’s employment date. The chart below shows the number of active and retired employees in each benefit “tier”. A description of each tier begins in the next section.

Counts by Benefit Tier				
Tier	Active	Pre-65 Retired	Post-65 Retired	Total
1	16	14	18	48
2	17	0	0	17
<b>Total</b>	<b>33</b>	<b>14</b>	<b>18</b>	<b>65</b>



## Supporting Information

(Continued)

### Section 2 - Summary of Retiree Benefit Provisions

**OPEB provided:** The Department reported that it provides lifetime retiree medical coverage.

**Access to coverage:** Medical coverage is currently provided through CalPERS as permitted under the Public Employees' Medical and Hospital Care Act (PEMHCA). This coverage requires the employee to satisfy the requirements for retirement under CalPERS: either (a) attainment of age 50 (age 52, if a miscellaneous PEPR employee) with 5 years of State or public agency service or (b) an approved disability retirement.

The employee must begin his or her retirement warrant within 120 days of terminating employment with the Department to be eligible to continue medical coverage through the Department and be entitled to the employer subsidy described below. If an eligible employee is not already enrolled in the medical plan, he or she may enroll within 60 days of retirement or during any future open enrollment period. Coverage may be continued at the retiree's option for his or her lifetime. A surviving spouse and other eligible dependents may also continue coverage.

**Benefits provided:** As a condition of participation in the CalPERS medical program, the Department is obligated to contribute toward the cost of retiree medical coverage for the retiree's lifetime or until coverage is discontinued, as well as to a surviving spouse, if the spouse is entitled to survivor pension benefits.

- According to the Department's current PEMHCA resolution, executed in 2013, all employees who satisfy the requirements under "Access to Coverage" above and continue their medical coverage through the Department in retirement will receive the PEMHCA minimum employer contribution (MEC)<sup>4</sup>. The MEC was \$151 per month in 2023 and increased to \$157 per month in 2024.
- Instead of the minimum contribution described above, employees first covered by the Ross Valley Firefighters Association or the Ross Valley Fire Chief Officers Association prior to April 1, 2013 and Miscellaneous employees hired prior to April 1, 2013 will be reimbursed an amount equal to the Department's share of CalPERS medical premiums as of January 1, 2013, increased annually by a maximum of \$100 per month *but not more than* the Basic Family Kaiser rate in the Department's CalPERS rate region. This chart shows the maximum amounts payable per month during 2023:

Plan	2023 Cap
Blue Shield Access+	\$ 2,180.44
Kaiser	2,157.77
PERS Platinum	2,216.16
PERS Gold	2,216.16

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<sup>4</sup> The Department confirmed that it maintains a pre-tax flexible benefit (a.k.a. "Cafeteria plan") for active employees providing medical and other healthcare benefits in excess of the PEMHCA minimum. It is our understanding that these additional payments are not required to be provided to retired employees to meet PEMHCA requirements.



## Supporting Information

(Continued)

### Section 2 - Summary of Retiree Benefit Provisions

**Current premium rates:** The 2024 CalPERS monthly medical plan rates in the Region 1 rate group are shown in the table below. If different rates apply where the member resides outside of this area, those rates are reflected in the valuation, but not listed here. The additional CalPERS administration fee is assumed to be separately expensed and was not projected as an OPEB liability in the valuation.

<b>Region 1 2024 Health Plan Rates</b>						
Plan	Actives and Pre-Med Retirees			Medicare Eligible Retirees		
	Ee Only	Ee & 1	Ee & 2+	Ee Only	Ee & 1	Ee & 2+
Anthem Traditional HMO	1,339.70	2,679.40	3,483.22	405.83	811.66	1,217.49
Kaiser HMO*	1,021.41	2,042.82	2,655.67	386.55	773.10	1,159.65
PERS Platinum PPO	1,314.27	2,628.54	3,417.10	448.15	896.30	1,344.45
PERS Gold PPO	914.82	1,829.64	2,378.53	406.60	813.20	1,219.80

*\*Medicare rates shown are for Kaiser Medicare Advantage Summit*



## Supporting Information

(Continued)

### Section 3 - Actuarial Methods and Assumptions

The ultimate real cost of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These payments depend only on the terms of the plan and the administrative arrangements adopted. The actuarial assumptions are used to estimate the cost of these benefits; the funding method spreads the expected costs on a level basis over the life of the plan.

#### Important Dates

Fiscal Year End	June 30, 2024
GASB 75 Measurement Date	Last day of the current fiscal year (June 30, 2024)
Valuation Date	June 30, 2023

#### Valuation Methods

Funding Method	Entry Age Normal Cost, level percent of pay
Asset Valuation Method	Market value of assets
Participants Valued	Only current active employees and retired participants and covered dependents are valued. No future entrants are considered in this valuation.

#### Development of Age-related Medical Premiums

Actual premium rates for retirees and their spouses were adjusted to an age-related basis by applying medical claim cost factors developed from the data presented in the report, "Health Care Costs – From Birth to Death", sponsored by the Society of Actuaries. A description of the use of claims cost curves can be found in MacLeod Watts's Age Rating Methodology provided in Appendix 2 to this report.

Pre-Medicare retiree premiums are blended with premiums for active members. Medicare-eligible retirees are covered by plans which are rated solely on the experience of Medicare retirees with no subsidy by active employee premiums.

Monthly baseline premium costs were set equal to the active single premiums shown in the chart in Section 2. Representative claims costs derived from the dataset provided by CalPERS are shown in the chart on the following page. Estimated age-based claims were applied (a) for all retirees not yet eligible for Medicare and (b) for Medicare retirees receiving benefits in excess of the PEMHCA minimum *and* who are covered by Medicare Supplement plans.



**Supporting Information**  
(Continued)

**Section 3 - Actuarial Methods and Assumptions**

Monthly age-based medical claims at selected ages

		Expected Monthly Claims by Medical Plan for Selected Ages - Male											
Region	Medical Plan	Non-Medicare Retirees					Medicare Retirees						
		50	53	56	59	62	65	70	75	80	85	90	95
Region 1	Anthem Traditional HMO	1,295	1,527	1,774	2,033	2,311	406	406	406	406	406	406	406
	Kaiser HMO	934	1,102	1,280	1,467	1,667	387	387	387	387	387	387	387
	PERS Gold PPO	886	1,045	1,213	1,391	1,581	349	391	425	445	439	420	416
	PERS Platinum PPO	1,299	1,531	1,779	2,039	2,318	381	427	464	486	480	458	454
Out of State	PERS Platinum	819	965	1,121	1,285	1,461	381	427	464	486	480	458	454
		Expected Monthly Claims by Medical Plan for Selected Ages - Female											
Region	Medical Plan	Non-Medicare Retirees					Medicare Retirees						
		50	53	56	59	62	65	70	75	80	85	90	95
Region 1	Anthem Traditional HMO	1,605	1,763	1,897	2,049	2,259	406	406	406	406	406	406	406
	Kaiser HMO	1,158	1,272	1,368	1,479	1,630	387	387	387	387	387	387	387
	PERS Gold PPO	1,098	1,206	1,298	1,402	1,546	335	378	410	428	432	423	416
	PERS Platinum PPO	1,609	1,768	1,902	2,055	2,266	365	413	447	467	471	462	454
Out of State	PERS Platinum	1,014	1,114	1,199	1,295	1,428	365	413	447	467	471	462	454



**Supporting Information**  
(Continued)

**Section 3 - Actuarial Methods and Assumptions**

**Economic Assumptions**

Long Term Return on Assets 6.1% as of June 30, 2023, and 6.15% as of June 30, 2022  
net of plan investment expenses

Discount Rate for Funding 6.1% as of June 30, 2023, and 6.15% as of June 30, 2022

General Inflation Rate 2.5% per year

Salary Increase 3.0% per year; since benefits do not depend on salary, this is  
used to allocate the cost of benefits between service years.

Healthcare Trend Medical plan premiums and estimated claims costs by age are  
assumed to increase once each year. Increases over the prior  
year’s levels are assumed to be effective on the dates shown in  
the chart below.

Effective January 1	Premium Increase	Effective January 1	Premium Increase
2024	Actual	2040-2043	4.8%
2025	6.5%	2044-2049	4.7%
2026	6.0%	2050-2059	4.6%
2027	5.5%	2060-2065	4.5%
2028	5.4%	2066-2067	4.4%
2029	5.3%	2068-2069	4.3%
2030	5.2%	2070	4.2%
2031	5.1%	2071-2072	4.1%
2032-2037	5.0%	2073-2074	4.0%
2038-2039	4.9%	2075 & Later	3.9%

The healthcare trend shown above was developed using the Getzen Model 2023 published by the Society of Actuaries using the following settings: CPI 2.5%; Real GDP Growth 1.4%; Excess Medical Growth 1.0%; Expected Health Share of GDP in 2032 20%; Resistance Point 21%; Year after which medical growth is limited to growth in GDP 2075.

The PEMHCA minimum employer contribution is assumed to increase by 4.0% per year.

Medicare Eligibility Absent contrary data, all individuals are assumed to be eligible  
for Medicare Parts A and B at age 65.



## Supporting Information

(Continued)

### Section 3 - Actuarial Methods and Assumptions

#### Participant Election Assumptions

Participation Rate	<p><i>Active employees:</i> 100% of those hired prior to April 1, 2013, and 80% of those hired on or after that date are assumed to continue their current medical plan election in retirement. These percentages reflect the different benefit levels provided.</p> <p><i>Retired participants:</i> Existing medical plan elections are assumed to be continued until the retiree's death.</p>
Spouse Coverage	<p><i>Active employees:</i> 80% of those hired prior to April 1, 2013, and 60% of those hired after that date are assumed to be married and to elect coverage for their spouse in retirement. Surviving spouses are assumed to retain coverage until their death. Husbands are assumed to be 3 years older than their wives.</p> <p><i>Retired participants:</i> Existing elections for spouse coverage are assumed to be continued through retirement until the spouse's death. Actual spouse ages are used, where known; if not, husbands are assumed to be 3 years older than their wives.</p>
Dependent Coverage	<p>Other Dependent Coverage <i>Tier 1 Active employees and retirees</i> covering dependent children are assumed to end such coverage when the youngest currently covered dependent reaches age 26.</p>



**Supporting Information**

(Continued)

**Section 3 - Actuarial Methods and Assumptions**

**Demographic Assumptions**

*Demographic actuarial assumptions used in this valuation are based on the 2021 experience study of the California Public Employees Retirement System using data from 1997 to 2019, except for a different basis used to project future mortality improvements. Rates for selected age and service are shown below and on the following pages. The representative mortality rates were the published CalPERS rates, then projected as described below.*

Mortality Before Retirement  
(before improvement applied)

**Miscellaneous Employees**

CalPERS Public Agency Miscellaneous Non-Industrial Deaths		
Age	Male	Female
15	0.00018	0.00010
20	0.00039	0.00014
30	0.00044	0.00019
40	0.00075	0.00039
50	0.00134	0.00081
60	0.00287	0.00179
70	0.00594	0.00404
80	0.01515	0.01149

**Fire Employees**

CalPERS Public Agency Police & Fire Combined Industrial & Non-Industrial		
Age	Male	Female
15	0.00018	0.00010
20	0.00042	0.00016
30	0.00047	0.00028
40	0.00061	0.00047
50	0.00102	0.00081
60	0.00246	0.00168
70	0.00673	0.00398
80	0.02247	0.01565

Mortality After Retirement  
(before improvement applied)

Disabled Fire			Healthy Lives			Disabled Miscellaneous		
CalPERS Public Agency Disabled Fire Post-Retirement Mortality			CalPERS Public Agency Miscellaneous, Police & Fire Post Retirement Mortality			CalPERS Public Agency Disabled Miscellaneous Post-Retirement Mortality		
Age	Male	Female	Age	Male	Female	Age	Male	Female
20	0.00173	0.00071	40	0.00075	0.00039	20	0.00411	0.00233
30	0.00243	0.00144	50	0.00271	0.00199	30	0.00452	0.00301
40	0.00331	0.00267	60	0.00575	0.00455	40	0.00779	0.00730
50	0.00602	0.00456	70	0.01340	0.00996	50	0.01727	0.01439
60	0.01117	0.00982	80	0.04380	0.03403	60	0.02681	0.01962
70	0.02352	0.01950	90	0.14539	0.11086	70	0.04056	0.02910
80	0.06090	0.05252	100	0.36198	0.31582	80	0.08044	0.06112
90	0.16745	0.12819	110	1.00000	1.00000	90	0.16770	0.14396

Mortality Improvement

MacLeod Watts Scale 2022 applied generationally from 2017  
(see Appendix 3)



## Supporting Information

(Continued)

### Section 3 - Actuarial Methods and Assumptions

#### Termination Rates

These rates reflect the assumed probability that an employee will leave the Department in the next 12 months for reasons other than a service or disability retirement or death.

<b>Male Miscellaneous Employees: Sum of Vested Terminated &amp; Refund Rates</b> From CalPERS Experience Study Report Issued November 2021						
Attained	Years of Service					
Age	0	3	5	10	15	20
15	0.1851	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1851	0.0927	0.0843	0.0000	0.0000	0.0000
25	0.1769	0.0927	0.0843	0.0377	0.0000	0.0000
30	0.1631	0.0802	0.0804	0.0377	0.0180	0.0000
35	0.1493	0.0677	0.0715	0.0366	0.0180	0.0141
40	0.1490	0.0583	0.0627	0.0337	0.0180	0.0141
45	0.1487	0.0538	0.0562	0.0309	0.0166	0.0141

<b>Female Miscellaneous Employees: Sum of Vested Terminated &amp; Refund Rates</b> From CalPERS Experience Study Report Issued November 2021						
Attained	Years of Service					
Age	0	3	5	10	15	20
15	0.1944	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1944	0.1085	0.1074	0.0000	0.0000	0.0000
25	0.1899	0.1085	0.1074	0.0502	0.0000	0.0000
30	0.1824	0.0977	0.1041	0.0502	0.0252	0.0000
35	0.1749	0.0869	0.0925	0.0491	0.0252	0.0175
40	0.1731	0.0777	0.0809	0.0446	0.0252	0.0175
45	0.1713	0.0710	0.0730	0.0401	0.0213	0.0175

<b>Male Fire Safety Employees: Sum of Vested Terminated &amp; Refund Rates</b> From CalPERS Experience Study Report Issued November 2021						
Attained	Years of Service					
Age	0	3	5	10	15	20
15	0.1022	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1022	0.0272	0.0181	0.0000	0.0000	0.0000
25	0.1022	0.0272	0.0181	0.0081	0.0000	0.0000
30	0.1022	0.0272	0.0181	0.0081	0.0048	0.0000
35	0.1022	0.0272	0.0181	0.0081	0.0048	0.0035
40	0.1022	0.0272	0.0181	0.0081	0.0048	0.0035
45	0.1022	0.0272	0.0181	0.0081	0.0048	0.0035



**Supporting Information**  
(Concluded)

**Section 3 - Actuarial Methods and Assumptions**

Termination rates  
(concluded)

<b>Female Fire Safety Employees: Sum of Vested Terminated &amp; Refund Rates</b> From CalPERS Experience Study Report Issued November 2021						
Attained Age	Years of Service					
	0	3	5	10	15	20
15	0.1317	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1317	0.0524	0.0438	0.0000	0.0000	0.0000
25	0.1317	0.0524	0.0438	0.0164	0.0000	0.0000
30	0.1317	0.0524	0.0438	0.0164	0.0120	0.0000
35	0.1317	0.0524	0.0438	0.0164	0.0120	0.0088
40	0.1317	0.0524	0.0438	0.0164	0.0120	0.0088
45	0.1317	0.0524	0.0438	0.0164	0.0120	0.0088

Service Retirement Rates

Each rate in these tables reflects the assumed probability that an employee at that age and service will take a service retirement from the Department in the next 12 months.

The following 4 retirement formulas apply for Department members:

<b>Fire Safety Employees: 3.0% at 55 formula</b> From CalPERS Experience Study Report Issued November 2021						
Current Age	Years of Service					
	5	10	15	20	25	30
50	0.0030	0.0060	0.0130	0.0190	0.0250	0.0280
53	0.0050	0.0340	0.0240	0.0380	0.0690	0.1380
56	0.0100	0.0630	0.0440	0.0690	0.1270	0.2530
59	0.1370	0.0530	0.0840	0.1460	0.1770	0.1770
62	0.6210	0.2400	0.2400	0.2400	0.2400	0.2400
65 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

<b>Fire Safety Employees: 2.7% at 57 formula</b> From CalPERS Experience Study Report Issued November 2021						
Current Age	Years of Service					
	5	10	15	20	25	30
50	0.0070	0.0070	0.0070	0.0070	0.0100	0.0150
53	0.0440	0.0440	0.0440	0.0440	0.0680	0.1020
56	0.0740	0.0740	0.0740	0.0740	0.1140	0.1710
59	0.0730	0.0730	0.0730	0.0730	0.1120	0.1680
62	0.1140	0.1140	0.1140	0.1140	0.1750	0.2620
65 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



**Supporting Information**  
(Continued)

**Section 3 - Actuarial Methods and Assumptions**

Service Retirement Rates  
(concluded)

<b>Miscellaneous Employees: 2.7% at 55 formula</b> From CalPERS Experience Study Report Issued November 2021						
Current Age	Years of Service					
	5	10	15	20	25	30
50	0.0110	0.0160	0.0220	0.0330	0.0340	0.0380
55	0.0450	0.0580	0.0820	0.1380	0.2080	0.2780
60	0.0870	0.0840	0.0960	0.1420	0.1650	0.1980
65	0.1820	0.2010	0.2420	0.2640	0.2930	0.2930
70	0.2270	0.2270	0.2270	0.2270	0.2270	0.2270
75 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

<b>Miscellaneous "PEPRA" Employees: 2% at 62 formula</b> From CalPERS Experience Study Report Issued November 2021						
Current Age	Years of Service					
	5	10	15	20	25	30
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
55	0.0100	0.0190	0.0280	0.0360	0.0610	0.0960
60	0.0310	0.0510	0.0710	0.0910	0.1110	0.1380
65	0.1080	0.1410	0.1730	0.2060	0.2390	0.3000
70	0.1200	0.1560	0.1930	0.2290	0.2650	0.3330
75 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Disability Retirement Rates

CalPERS Public Agency Miscellaneous Disability From Nov 2021 Experience Study Report		
Age	Male	Female
20	0.00007	0.00004
25	0.00007	0.00009
30	0.00017	0.00033
35	0.00035	0.00065
40	0.00091	0.00119
45	0.00149	0.00185
50	0.00154	0.00193
55	0.00139	0.00129
60	0.00124	0.00094

CalPERS Public Agency Fire Combined Disability From Nov 2021 Experience Study Report	
Age	Unisex
20	0.00013
25	0.00027
30	0.00064
35	0.00127
40	0.00233
45	0.00414
50	0.02118
55	0.03120
60	0.04429



## Supporting Information

(Concluded)

### Section 3 - Actuarial Methods and Assumptions

#### Software and Models Used in the Valuation

**ProVal** - MacLeod Watts utilizes ProVal, a licensed actuarial valuation software product from Winklevoss Technologies (WinTech) to project future retiree benefit payments and develop the OPEB liabilities presented in this report. ProVal is widely used by the actuarial community. We review results at the plan level and for individual sample lives and find them to be reasonable and consistent with the results we expect. We are not aware of any material inconsistencies or limitations in the software that would affect this actuarial valuation.

**Age-based premiums model** – developed internally and reviewed by an external consultant at the time it was developed. See discussion on Development of Age-Related Medical Premiums in Appendices.

**Getzen model** – published by the Society of Actuaries; used to derive medical trend assumptions described earlier in this section.

#### Changes in assumptions or methods since the prior Measurement Date

Trust rate of return  
and discount rate

Decreased from 6.15% to 6.1%, reflecting the most recently published long term rates of return provided by CalPERS as applied to the annual benefit cash flows determined in the June 30, 2023, valuation.

Demographic Assumptions

We updated demographic assumptions from those in the 2017 CalPERS experience study to those recommended in the CalPERS 2021 Experience Study report issued November 2021.

The mortality improvement scale was updated from MacLeod Watts Scale 2020 to MacLeod Watts Scale 2022, reflecting continued updates in available information (see Appendices).

Healthcare Trend

We updated the base healthcare trend scale from Getzen Model 2021\_b to Getzen Model 2023, as published by the Society of Actuaries.



## Appendix 1: Important Background Information

### General Types of Other Post-Employment Benefits (OPEB)

Post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are medical, prescription drug, dental, vision, and/or life insurance coverage. Other OPEB may include outside group legal, long-term care, or disability benefits outside of a pension plan. OPEB does not generally include COBRA, vacation, sick leave (unless converted to defined benefit OPEB), or other direct retiree payments.

A direct employer payment toward the cost of OPEB benefits is referred to as an “explicit subsidy”. In addition, if claims experience of employees and retirees are pooled when determining premiums, retiree premiums are based on a pool of members which, on average, are younger and healthier. For certain types of coverage such as medical insurance, this results in an “implicit subsidy” of retiree premiums by active employee premiums since the retiree premiums are lower than they would have been if retirees were insured separately. GASB 75 and Actuarial Standards of Practice generally require that an implicit subsidy of retiree premium rates be valued as an OPEB liability.

Expected retiree claims		
Premium charged for retiree coverage		<i>Covered by higher active premiums</i>
Retiree portion of premium	Agency portion of premium Explicit subsidy	Implicit subsidy

*This chart shows the sources of funds needed to cover expected medical claims for pre-Medicare retirees. The portion of the premium paid by the Department does not impact the amount of the implicit subsidy.*

### Valuation Process

The valuation was based on employee census data and benefits provided by the Department. A summary of the employee data is provided in Section 1 and a summary of the benefits provided under the Plan is provided in Section 2. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on the Department as to its accuracy. The valuation was also based on the actuarial methods and assumptions described in Section 3.

In developing the projected benefit values and liabilities, we first determine an expected premium or benefit stream over the employee’s future retirement. Benefits may include both direct employer payments (explicit subsidies) and/or an implicit subsidy, arising when retiree premiums are expected to be subsidized by active employee premiums. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected date(s) when benefits will end. We then apply assumptions regarding:

- The probability that each individual employee will or will not continue in service to receive benefits.
- The probability of when such retirement will occur for each retiree, based on current age, service and employee type; and
- The likelihood that future retirees will or will not elect retiree coverage (and benefits) for themselves and/or their dependents.



## Important Background Information

(Continued)

We then calculate a present value of these benefits by discounting the value of each future expected benefit payment, multiplied by the assumed expectation that it will be paid, back to the valuation date using the discount rate. These benefit projections and liabilities have a very long time horizon. The final payments for currently active employees may not be made for many decades.

The resulting present value for each employee is allocated as a level percent of payroll each year over the employee's career using the entry age normal cost method and the amounts for each individual are then summed to get the results for the entire plan. This creates a cost expected to increase each year as payroll increases. Amounts attributed to prior fiscal years form the "Total OPEB Liability". The OPEB cost allocated for active employees in the current year is referred to as "Service Cost".

Where contributions have been made to an irrevocable OPEB trust, the accumulated value of trust assets ("Fiduciary Net Position") is applied to offset the "Total OPEB Liability", resulting in the "Net OPEB Liability". If a plan is not being funded, then the Net OPEB Liability is equal to the Total OPEB Liability.

It is important to remember that an actuarial valuation is, by its nature, a projection of one possible future outcome based on many assumptions. To the extent that actual experience is not what we assumed, future results will differ. Some possible sources of future differences may include:

- A significant change in the number of covered or eligible plan members
- A significant increase or decrease in the future premium rates
- A change in the subsidy provided by the Department toward retiree premiums
- Longer life expectancies of retirees
- Significant changes in expected retiree healthcare claims by age, relative to healthcare claims for active employees and their dependents
- Higher or lower returns on plan assets or contribution levels other than were assumed, and/or
- Changes in the discount rate used to value the OPEB liability



## Important Background Information

(Continued)

### Requirements of GASB 75

The Governmental Accounting Standards Board (GASB) issued GASB Statement No. 75, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This Statement establishes standards for the measurement, recognition, and disclosure of OPEB expense and related liabilities (assets), note disclosures, and, required supplementary information (RSI) in the financial reports of state and local governmental employers.

### Important Dates

GASB 75 requires that the information used for financial reporting falls within prescribed timeframes. Actuarial valuations of the total OPEB liability are generally required at least every two years. If a valuation is not performed as of the Measurement Date, then liabilities are required to be based on roll forward procedures from a prior valuation performed no more than 30 months and 1 day prior to the most recent year-end. In addition, the net OPEB liability is required to be measured as of a date no earlier than the end of the prior fiscal year (the "Measurement Date").

### Recognition of Plan Changes and Gains and Losses

Under GASB 75, gains and losses related to changes in Total OPEB Liability and Fiduciary Net Position are recognized in OPEB expense systematically over time.

- *Timing of recognition:* Changes in the Total OPEB Liability relating to changes in plan benefits are recognized immediately (fully expensed) in the year in which the change occurs. Gains and Losses are amortized, with the applicable period based on the type of gain or loss. The first amortized amounts are recognized in OPEB expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to OPEB and are to be recognized in future OPEB expense.
- *Deferred recognition periods:* These periods differ depending on the source of the gain or loss.

Difference between projected  
and actual trust earnings:

5 year straight-line recognition

All other amounts:

Straight-line recognition over the expected average remaining service lifetime (EARSL) of all members that are provided with benefits, determined as of the beginning of the Measurement Period. In determining the EARSL, all active, retired and inactive (vested) members are counted, with the latter two groups having 0 remaining service years.



## Important Background Information

(Continued)

### Implicit Subsidy Plan Contributions

An implicit subsidy occurs when expected retiree claims exceed the premiums charged for retiree coverage. When this occurs, we expect part of the premiums paid for active employees to cover a portion of retiree claims. This transfer represents the current year's "implicit subsidy". Because GASB 75 treats payments to an irrevocable trust *or directly to the insurer* as employer contributions, each year's implicit subsidy is treated as a contribution toward the payment of retiree benefits.

The following hypothetical example illustrates this treatment:

Hypothetical Illustration of Implicit Subsidy Recognition	For Active Employees	For Retired Employees
<i>Prior to Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Accounting Treatment	Compensation Cost for Active Employees	Contribution to Plan & Benefits Paid from Plan
<i>After Implicit Subsidy Adjustment</i>		
Premiums Paid by Agency During Fiscal Year	\$ 411,000	\$ 48,000
Implicit Subsidy Adjustment	(23,000)	23,000
Accounting Cost of Premiums Paid	\$ 388,000	\$ 71,000
Accounting Treatment Impact	Reduces Compensation Cost for Active Employees	Increases Contributions to Plan & Benefits Paid from Plan

The example above shows that total payments toward active and retired employee healthcare premiums is the same, but for accounting purposes part of the total is shifted from actives to retirees. This shifted amount is recognized as an OPEB contribution and reduces the current year's premium expense for active employees.



## **Important Background Information**

(Continued)

### **Discount Rate**

When the financing of OPEB liabilities is on a pay-as-you-go basis, GASB 75 requires that the discount rate used for valuing liabilities be based on the yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). When a plan sponsor makes regular, sufficient contributions to a trust in order to prefund the OPEB liabilities, GASB 75 allows use of a rate up to the expected rate of return of the trust. Therefore, prefunding has an advantage of potentially being able to report overall lower liabilities due to future expected benefits being discounted at a higher rate.

### **Actuarial Funding Method and Assumptions**

The “ultimate real cost” of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These expenditures are dependent only on the terms of the plan and the administrative arrangements adopted, and as such are not affected by the actuarial funding method.

The actuarial funding method attempts to spread recognition of these expected costs on a level basis over the life of the plan, and as such sets the “incidence of cost”. GASB 75 specifically requires that the actuarial present value of projected benefit payments be attributed to periods of employee service using the Entry Age Actuarial Cost Method, with each period’s service cost determined as a level percentage of pay.

The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable.



## Appendix 2: MacLeod Watts Age Rating Methodology

Both accounting standards (e.g. GASB 75) and actuarial standards (e.g. ASOP 6) require that expected retiree claims, not just premiums paid, be reflected in most situations where an actuary is calculating retiree healthcare liabilities. Unfortunately, the actuary is often required to perform these calculations without any underlying claims information. In most situations, the information is not available, but even when available, the information may not be credible due to the size of the group being considered.

Actuaries have developed methodologies to approximate healthcare claims from the premiums being paid by the plan sponsor. Any methodology requires adopting certain assumptions and using general studies of healthcare costs as substitutes when there is a lack of credible claims information for the specific plan being reviewed.

Premiums paid by sponsors are often uniform for all employee and retiree ages and genders, with a drop in premiums for those participants who are Medicare-eligible. While the total premiums are expected to pay for the total claims for the insured group, on average, the premiums charged would not be sufficient to pay for the claims of older insureds and would be expected to exceed the expected claims of younger insureds. An age-rating methodology takes the typically uniform premiums paid by plan sponsors and spreads the total premium dollars to each age and gender intended to better approximate what the insurer might be expecting in actual claims costs at each age and gender.

The process of translating premiums into expected claims by age and gender generally follows the steps below.

1. *Obtain or Develop Relative Medical Claims Costs by Age, Gender, or other categories that are deemed significant.* For example, a claims cost curve might show that, if a 50 year old male has \$1 in claims, then on average a 50 year old female has claims of \$1.25, a 30 year male has claims of \$0.40, and an 8 year old female has claims of \$0.20. The claims cost curve provides such relative costs for each age, gender, or any other significant factor the curve might have been developed to reflect. Section 3 provides the source of information used to develop such a curve and shows sample relative claims costs developed for the plan under consideration.
2. *Obtain a census of participants, their chosen medical coverage, and the premium charged for their coverage.* An attempt is made to find the group of participants that the insurer considered in setting the premiums they charge for coverage. That group includes the participant and any covered spouses and children. When information about dependents is unavailable, assumptions must be made about spouse age and the number and age of children represented in the population. These assumptions are provided in Section 3.
3. *Spread the total premium paid by the group to each covered participant or dependent based on expected claims.* The medical claims cost curve is used to spread the total premium dollars paid by the group to each participant reflecting their age, gender, or other relevant category. After this step, the actuary has a schedule of expected claims costs for each age and gender for the current premium year. It is these claims costs that are projected into the future by medical cost inflation assumptions when valuing expected future retiree claims.

The methodology described above is dependent on the data and methodologies used in whatever study might be used to develop claims cost curves for any given plan sponsor. These methodologies and assumptions can be found in the referenced paper cited as a source in the valuation report.



### Appendix 3: MacLeod Watts Mortality Projection Methodology

Actuarial standards of practice (e.g., ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, and ASOP 6, Measuring Retiree Group Benefits Obligations) indicate that the actuary should reflect the effect of mortality improvement (i.e., longer life expectancies in the future), both before and after the measurement date. The development of credible mortality improvement rates requires the analysis of large quantities of data over long periods of time. Because it would be extremely difficult for an individual actuary or firm to acquire and process such extensive amounts of data, actuaries typically rely on large studies published periodically by organizations such as the Society of Actuaries or Social Security Administration.

As noted in a recent actuarial study on mortality improvement, key principles in developing a credible mortality improvement model would include the following:

- (1) Short-term mortality improvement rates should be based on recent experience.
- (2) Long-term mortality improvement rates should be based on expert opinion.
- (3) Short-term mortality improvement rates should blend smoothly into the assumed long-term rates over an appropriate transition period.

The **MacLeod Watts Scale 2022** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2021 Report, published in October 2021 and (2) the demographic assumptions used in the 2021 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published August 2021.

MacLeod Watts Scale 2022 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2021 which has two segments – (1) historical improvement rates for the period 1951-2017 and (2) an estimate of future mortality improvement for years 2018-2020 using the Scale MP-2021 methodology but utilizing the assumptions used in generating Scale MP-2015. The MacLeod Watts scale then transitions from the 2020 improvement rate to the Social Security Administration (SSA) Intermediate Scale linearly over the 10-year period 2021-2030. After this transition period, the MacLeod Watts Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2030-2044. The SSA's Intermediate Scale has a final step in 2045 which is reflected in the MacLeod Watts scale for years 2045 and thereafter. Over the ages 95 to 117, the age 95 improvement rate is graded to zero.

Scale MP-2021 can be found at the SOA website and the projection scales used in the 2021 Social Security Administrations Trustees Report at the Social Security Administration website.



## Glossary

Actuarial Funding Method – A procedure which calculates the actuarial present value of plan benefits and expenses, and allocates these expenses to time periods, typically as a normal cost and an actuarial accrued liability

Actuarial Present Value of Projected Benefits (APVPB) – The amount presently required to fund all projected plan benefits in the future. This value is determined by discounting the future payments by an appropriate interest rate and the probability of nonpayment.

CalPERS – Many state governments maintain a public employee retirement system; CalPERS is the California program, covering all eligible state government employees as well as other employees of other governments within California who have elected to join the system

Defined Benefit (DB) – A pension or OPEB plan which defines the monthly income or other benefit which the plan member receives at or after separation from employment

Deferred Contributions – When an employer makes contributions after the measurement date and prior to the fiscal year end, recognition of these contributions is deferred to a subsequent accounting period by creating a deferred resource. We refer to these contributions as Deferred Contributions.

Defined Contribution (DC) – A pension or OPEB plan which establishes an individual account for each member and specifies how contributions to each active member's account are determined and the terms of distribution of the account after separation from employment

Discount Rate - Interest rate used to discount future potential benefit payments to the valuation date. Under GASB 75, if a plan is prefunded, then the discount rate is equal to the expected trust return. If a plan is not prefunded (pay-as-you-go), then the rate of return is based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Expected Average Remaining Service Lifetime (EARSL) – Average of the expected remaining service lives of all employees that are provided with benefits through the OPEB plan (active employees and inactive employees), beginning in the current period

Entry Age Actuarial Cost Method – An actuarial funding method where, for each individual, the actuarial present value of benefits is levelly spread over the individual's projected earnings or service from entry age to the last age at which benefits can be paid

Explicit Subsidy – The projected dollar value of future retiree healthcare costs expected to be paid directly by the Employer, e.g., the Employer's payment of all or a portion of the monthly retiree premium billed by the insurer for the retiree's coverage

Fiduciary Net Position –The value of trust assets used to offset the Total OPEB Liability to determine the Net OPEB Liability.

Government Accounting Standards Board (GASB) – A private, not-for-profit organization which develops generally accepted accounting principles (GAAP) for U.S. state and local governments; like FASB, it is part of the Financial Accounting Foundation (FAF), which funds each organization and selects the members of each board

Health Care Trend – The assumed rate(s) of increase in future dollar values of premiums or healthcare claims, attributable to increases in the cost of healthcare; contributing factors include medical inflation, frequency or extent of utilization of services and technological developments.



**Glossary**  
(Continued)

Implicit Subsidy – The projected difference between future retiree claims and the premiums to be charged for retiree coverage; this difference results when the claims experience of active and retired employees are pooled together and a ‘blended’ group premium rate is charged for both actives and retirees; a portion of the active employee premiums subsidizes the retiree premiums.

Net OPEB Liability (NOL) – The liability to employees for benefits provided through a defined benefit OPEB. Only assets administered through a trust that meet certain criteria may be used to reduce the Total OPEB Liability.

Net Position – The Impact on Statement of Net Position is the Net OPEB Liability adjusted for deferred resource items

OPEB Expense – The OPEB expense reported in the Department’s financial statement. OPEB expense is the annual cost of the plan recognized in the financial statements.

Other Post-Employment Benefits (OPEB) – Post-employment benefits other than pension benefits, most commonly healthcare benefits but also including life insurance if provided separately from a pension plan

Pay-As-You-Go (PAYGO) – Contributions to the plan are made at about the same time and in about the same amount as benefit payments and expenses coming due

Plan Assets – The value of cash and investments considered as ‘belonging’ to the plan and permitted to be used to offset the AAL for valuation purposes. To be considered a plan asset, GASB 75 requires (a) contributions to the OPEB plan be irrevocable, (b) OPEB assets to dedicated to providing OPEB benefit to plan members in accordance with the benefit terms of the plan, and (c) plan assets be legally protected from creditors, the OPEB plan administrator and the plan members.

Public Agency Miscellaneous (PAM) – Non-safety public employees.

Select and Ultimate – Actuarial assumptions which contemplate rates which differ by year initially (the select period) and then stabilize at a constant long-term rate (the ultimate rate)

Service Cost – Total dollar value of benefits expected to be earned by plan members in the current year, as assigned by the actuarial funding method; also called normal cost

Total OPEB Liability (TOL) – Total dollars required to fund all plan benefits attributable to service rendered as of the valuation date for current plan members and vested prior plan members; a subset of “Actuarial Present Value”

Vesting – As defined by the plan, requirements which when met make a plan benefit nonforfeitable on separation of service before retirement eligibility

