

Cambridge Redevelopment Authority Other Postemployment Benefits Plan

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of January 1, 2023

As of the Measurement Date:
December 31, 2023

For the Reporting Date:
December 31, 2023

Delivered April 10, 2024



TABLE OF CONTENTS

	<u>PAGE</u>
<u>EXECUTIVE SUMMARY</u>	I
<u>PRINCIPAL RESULTS OF THE VALUATION</u>	1
<u>EXHIBITS</u>	
A FINANCIAL STATEMENT DISCLOSURES	4
B REQUIRED SUPPLEMENTARY INFORMATION	16
<u>APPENDIX</u>	
I LIABILITIES, ASSETS, & CASH FLOWS	24
II PLAN PROVISIONS	30
III ACTUARIAL METHODS & ASSUMPTIONS	32
IV PLAN DEMOGRAPHICS	40
V OVERVIEW OF GASB 74 & 75	43
VI ASOP 41 DISCLOSURES	45
<u>GLOSSARY</u>	48

April 10, 2024

Personal and Confidential

Ms. Ellen Shore
Operations Director
Cambridge Redevelopment Authority
255 Main Street, 4th Floor
Cambridge, MA 02142

Dear Ms. Shore:

We have performed an actuarial valuation of the Cambridge Redevelopment Authority Other Postemployment Benefits Plan for the Reporting Date & Fiscal Year Ending December 31, 2023 with a Measurement Date of December 31, 2023 and a Valuation Date of January 1, 2023. The figures presented in this report reflect the adoption, by the Cambridge Redevelopment Authority, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75").

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, reflecting the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,



Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary

April 10, 2024

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Cambridge Redevelopment Authority other postemployment benefit programs with a Valuation Date of January 1, 2023 with a Measurement Date of December 31, 2023 for the Reporting Date & Fiscal Year Ending December 31, 2023 in accordance with Government Account Standards Board Statement No. 74 & 75 and Actuarial Standards of Practice as issued by the American Academy of Actuaries. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

The actuarial data is based on the plan benefits verified by the Authority and on participant claims or premium data provided by the Authority and/or vendors employed by the Authority.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may yield results significantly different than those reported here. As such, additional determinations may be needed for other purposes including determining the benefit security at termination and/or adequacy of the funding of an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion represents the information necessary to comply with GASB Statements Number 74 and 75 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries and other professional actuarial organizations and meet their "General Qualification Standards for Statements of Actuarial Opinion" to render the actuarial opinion contained herein. Further, in our opinion, the assumptions as approved by the Authority are reasonably related to the experience and expectations of the postemployment benefits programs.



Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary



Andrew D. Taggart, ASA, EA, FCA, MAAA
Consulting Actuary

EXECUTIVE SUMMARY

How did plan liabilities change from FY 22 to FY 23?

Plan Experience

For the year ending on the Measurement Date of December 31, 2023, the Plan saw an experience gain of \$31,110 or 3.89% of the beginning Total OPEB Liability ("TOL"). This was mainly due to the average Medicare Supplement plan premium increasing by 6% vs the expected 9% increase over the 2-year period.

Assumption Changes

Two key assumptions have changed since the prior valuation. The total impact of these assumption changes decreased disclosed liabilities by approximately \$43 thousand, as detailed below.

- ✓ Due to the GASB 75 standards the discount rate has been changed from 4.84% to 5.51% decreasing the disclosed liability by approximately \$57 thousand.
- ✓ Based on ongoing actuarial research, we have modified our assumption for future increases in healthcare costs using the Getzen model to reflect higher costs in the near-term increasing the disclosed liability by approximately \$14 thousand.

It is important to remember that actuarial assumptions or changes in such do not impact the actual cost of the Plan. Rather, they impact the timing of the recognition of such costs.

Investment Experience

- ✓ During the period investments earned approximately \$1,700 more than expected.

Changes in Benefit Terms

- ✓ To the best of our knowledge there have been no material changes in benefit terms that would impact the figures shown in this report.

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 7.00 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years
- ✓ Changes in benefit terms are to be recognized in full immediately

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans – represent 95.83% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate – We currently assume medical costs increase according to the Getzen Model of Long-Run Medical Cost Trends for Active and Medicare supplement plans, which includes an assumed 9.00% increase in fiscal year 2023 and an ultimate trend rate of 3.63% in fiscal year 2060.
- ✓ Discount Rate (5.51%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing

Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments
- ✓ Municipal Bond Rate – The S&P 20-year high grade municipal bond index was 4.00% as of December 31, 2023.
- ✓ Current Asset Level – The Authority had \$468,940 of OPEB assets as of December 31, 2023.
- ✓ Future Funding Policy – The Authority is expected to contribute \$7,000 annually beyond pay-as-you-go costs.
- ✓ Investment Policy – The Authority is expected to earn 6.19% per year on assets based on its investment policy.

EXECUTIVE SUMMARY

Low Default Risk Obligation Measure (LDRM)

For purposes of this LDRM, we have used a discount rate of 4.00% which represents the 20-year municipal bond index while keeping all other assumptions unchanged from the GASB 74/75 disclosures. Based on this, the LDRM Total OPEB Liability is \$880 thousand vs. the \$750 thousand under the GASB 74/75 measure - the reflection of the Authority's funding and OPEB Trust Investment policy reduced disclosed liabilities by approximately \$130 thousand. Please note that the ultimate cost of the plan is the actual benefits paid plus expenses and any changes in assumptions, including discount rate, do not impact the actual cost of the plan.

Key Plan Metrics

While an actuarial valuation under GASB 74/75 can be very complex with many variables, we find it helpful to look at several key metrics (shown below) to better allow you to manage your plan.

Representative Plan Statistics		
Valuation Date	January 1, 2023	January 1, 2021
Measurement Date & Period Ending	December 31, 2023	December 31, 2022
Reporting Date/Fiscal Year End	December 31, 2023	December 31, 2022
Total OPEB Liability	745,708	799,433
Per Eligible Active Plan Participant	18,463	34,694
Per Retiree/Spouse Plan Participant	67,826	65,697
Total Annual Service Cost (Annual Benefit Accrual)	33,639	39,270
Per Eligible Active Plan Participant	3,058	6,545
Expected Employer Share of Retiree Costs	52,446	51,292
Per Retiree/Spouse Plan Participant	6,556	5,699
Net OPEB Liability as a % of Covered Payroll	33.10%	101.69%

EXECUTIVE SUMMARY

Liabilities & Benefit Payments in Today’s Dollars

With the growth of medical care costs over time, the nominal accrued liabilities (“TOL”) and benefit payments can appear daunting. However, it is important to remember that a dollar paid in the future is worth less than a dollar paid today.

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
December 31, 2023	8	745,708	745,708	52,446	52,446
December 31, 2028	7	941,792	812,398	50,605	43,652
December 31, 2033	6	1,310,837	975,386	59,430	44,222
December 31, 2038	5	1,839,467	1,180,684	59,331	38,082
December 31, 2043	5	2,582,346	1,429,782	68,257	37,792
December 31, 2048	5	3,538,580	1,690,046	106,944	51,077
December 31, 2053	7	4,674,319	1,925,758	152,078	62,654

EXECUTIVE SUMMARY

Continuing OPEB Disclosures

In addition to pension benefits, municipal entities may provide retired employees with healthcare and life insurance benefits. The portion of the cost of such benefit paid by these entities is generally provided on a pay-as-you-go basis.

The pay-as-you-go costs to the Authority for such benefits for the most recent years is as follows:

<u>Fiscal Year Ending</u>		<u>Cost</u>
December 31, 2024	(Projected)	39,056
December 31, 2023		52,446
December 31, 2022		51,292
December 31, 2021		39,950
December 31, 2020		39,887
December 31, 2019		39,773

The Authority performs actuarial valuations of its non-pension post-employment benefits liability in accordance with GASB reporting requirements. As of the December 31, 2023 Measurement Date the Net OPEB Liability ("NOL") was determined to be \$276,768 assuming a discount rate of 5.51%. The Authority has established an OPEB Trust and plans to fund this liability. The Authority is expected to contribute \$7,000 annually beyond pay-as-you-go costs. The balance of this fund as of December 31, 2023 was \$468,940. See the Authority's audit reports for additional information.

PRINCIPAL RESULTS OF THE VALUATION

Cambridge Redevelopment Authority Assuming Funding - 5.51% discount rate Comparison of Plan Liabilities to Prior Valuation

Valuation Date	January 1, 2023	January 1, 2021
For the Measurement Period ending on the Measurement Date of:	December 31, 2023	December 31, 2022
For the Reporting Period & Fiscal Year ending on:	December 31, 2023	December 31, 2022
I. Total OPEB Liability		
A. Actives	203,098	208,163
B. Retirees/Disabled	<u>542,610</u>	<u>591,270</u>
C. Total	745,708	799,433
II. Fiduciary Net Position [Plan Assets]	468,940	53,957
III. Net OPEB Liability (Asset) [I. - II.]	276,768	745,476
IV. Funded Ratio [III. / I.]	62.89%	6.75%
V. Number of Eligible Participants		
A. Actives	11	6
B. Retirees/Disabled & Dependents	8	9
C. Total	19	15
VI. Service Cost	33,639	39,270
VII. Financial Statement Expense/(Income)	21,752	31,959
VIII. Employer OPEB Trust (Contribution)/Withdrawal	(400,000)	(7,000)
IX. Deferred Inflow of Resources	(158,808)	(177,022)
X. Deferred Outflow of Resources	96,462	152,690
XI. Money Weighted Rate of Return	27.24%	(16.10%)
XII. 20-year Municipal Bond Rate (SAPIHG)	4.00%	4.31%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.19%	5.30%
XIV. Crossover Year	2071	2051
XV. Discount Rate	5.51%	4.84%

PRINCIPAL RESULTS OF THE VALUATION

**Cambridge Redevelopment Authority
Plan Liabilities as of the December 31, 2023 Measurement Date**

	Authority Employees and Retirees	Total
I. Total OPEB Liability		
A. Actives	203,098	203,098
B. Retirees/Disabled	<u>542,610</u>	<u>542,610</u>
C. Total	745,708	745,708
II. Fiduciary Net Position [Plan Assets]	468,940	468,940
III. Net OPEB Liability (Asset) [I. - II.]	276,768	276,768
For the Reporting Date and Fiscal Year Ending December 31, 2023		
IV. Service Cost	33,639	33,639
V. Financial Statement Expense/(Income)	21,752	21,752
VI. Employer Share of Costs	(52,446)	(52,446)
VII. Employer OPEB Trust (Contribution)/Withdrawal	(400,000)	(400,000)
VIII. Total Employer Contribution [VI. + VII.]	(452,446)	(452,446)

PRINCIPAL RESULTS OF THE VALUATION
CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 5.51% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	II. Fiduciary Net					V. Service Cost	VI. Employer Share of Benefit Payments (With Implicit Cost)	VII. Trust Contributions Beyond Pay-as-you-go	VIII. Gross Trust Contributions [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]
		I. Total OPEB Liability ("TOL") as of Measurement Date	Position as of Measurement Date with an expected 6.19% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [III. / I.]								
2023	December 31, 2023	745,708	468,940	276,768	62.89%	33,639	52,446	400,000	452,446	52,446	0	400,000	
2024	December 31, 2024	787,467	505,181	282,286	64.15%	38,658	39,056	7,000	46,056	39,056	0	7,000	
2025	December 31, 2025	838,068	543,665	294,403	64.87%	42,734	42,666	7,000	49,666	42,666	0	7,000	
2026	December 31, 2026	884,351	584,531	299,820	66.10%	41,246	47,710	7,000	54,710	47,710	0	7,000	
2027	December 31, 2027	941,792	627,927	313,865	66.67%	48,909	48,599	7,000	55,599	48,599	0	7,000	
2028	December 31, 2028	1,004,248	674,009	330,239	67.12%	52,303	50,605	7,000	57,605	50,605	0	7,000	
2029	December 31, 2029	1,073,249	722,944	350,305	67.36%	55,616	50,963	7,000	57,963	50,963	0	7,000	
2030	December 31, 2030	1,146,853	774,908	371,945	67.57%	58,865	53,757	7,000	60,757	53,757	0	7,000	
2031	December 31, 2031	1,226,073	830,088	395,985	67.70%	62,090	55,564	7,000	62,564	55,564	0	7,000	
2032	December 31, 2032	1,310,837	888,684	422,153	67.80%	65,252	57,614	7,000	64,614	57,614	0	7,000	
2033	December 31, 2033	1,401,663	950,907	450,756	67.84%	68,483	59,430	7,000	66,430	59,430	0	7,000	
2034	December 31, 2034	1,496,832	1,016,982	479,850	67.94%	71,114	62,593	7,000	69,593	62,593	0	7,000	
2035	December 31, 2035	1,602,674	1,087,147	515,527	67.83%	74,249	59,439	7,000	66,439	59,439	0	7,000	
2036	December 31, 2036	1,714,709	1,161,655	553,054	67.75%	77,367	61,901	7,000	68,901	61,901	0	7,000	
2037	December 31, 2037	1,839,467	1,240,775	598,692	67.45%	80,316	56,884	7,000	63,884	56,884	0	7,000	
2038	December 31, 2038	1,971,548	1,324,792	646,756	67.20%	83,708	59,331	7,000	66,331	59,331	0	7,000	
2039	December 31, 2039	2,111,721	1,414,010	697,711	66.96%	87,023	61,118	7,000	68,118	61,118	0	7,000	
2040	December 31, 2040	2,258,419	1,508,751	749,668	66.81%	89,540	63,870	7,000	70,870	63,870	0	7,000	
2041	December 31, 2041	2,415,065	1,609,356	805,709	66.64%	94,027	65,964	7,000	72,964	65,964	0	7,000	
2042	December 31, 2042	2,582,346	1,716,189	866,157	66.46%	97,586	66,323	7,000	73,323	66,323	0	7,000	
2043	December 31, 2043	2,759,477	1,829,634	929,843	66.30%	101,265	68,257	7,000	75,257	68,257	0	7,000	
2044	December 31, 2044	2,943,601	1,950,102	993,499	66.25%	104,811	73,727	7,000	80,727	73,727	0	7,000	
2045	December 31, 2045	3,135,004	2,078,027	1,056,977	66.28%	108,880	79,984	7,000	86,984	79,984	0	7,000	
2046	December 31, 2046	3,332,991	2,213,870	1,119,121	66.42%	113,109	87,615	7,000	94,615	87,615	0	7,000	
2047	December 31, 2047	3,538,580	2,358,122	1,180,458	66.64%	117,548	94,698	7,000	101,698	94,698	0	7,000	
2048	December 31, 2048	3,748,318	2,511,303	1,237,015	67.00%	122,542	106,944	7,000	113,944	106,944	0	7,000	
2049	December 31, 2049	3,965,357	2,673,966	1,291,391	67.43%	127,863	116,245	7,000	123,245	116,245	0	7,000	
2050	December 31, 2050	4,191,534	2,846,698	1,344,836	67.92%	133,469	124,204	7,000	131,204	124,204	0	7,000	
2051	December 31, 2051	4,427,775	3,030,122	1,397,653	68.43%	139,336	131,910	7,000	138,910	131,910	0	7,000	
2052	December 31, 2052	4,674,319	3,224,900	1,449,419	68.99%	145,556	140,342	7,000	147,342	140,342	0	7,000	
2053	December 31, 2053	4,930,720	3,431,735	1,498,985	69.60%	153,309	152,078	7,000	159,078	152,078	0	7,000	

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
 (As of the December 31, 2023 Measurement Date)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions require the following disclosures in the financial statements:

1. OPEB Expense Development

Components of the Authority's OPEB Expenses for the Fiscal Year Ending December 31, 2023	
Description	Amount
I. Service Cost	33,639
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	39,066
III. Deferred (Inflows)/Outflows from Plan Experience*	(60,739)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	22,335
V. Projected Earnings on OPEB Plan Investments	(13,319)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	770
VII. OPEB Plan Administrative Expense	0
VIII. Other Changes in Fiduciary Net Position	0
IX. Financial Statement Expense/(Income) Prior to Plan Design Changes [I. + II.+ ... + VII. + VIII.]	21,752
X. Expense Related to Change in Benefit Terms***	0
XI. Financial Statement Expense/(Income) [IX. + X.]	21,752

* Amortized over 7.00 years
 ** Amortized over 5.00 years
 *** Recognized Immediately

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

2. Changes in Net OPEB Liability

Changes in Net OPEB Liability				
		Increase (Decrease)		
		Total OPEB	Plan Fiduciary	Net OPEB
		Liability	Net Position	Liability
I.	Balances for the December 31, 2022 Reporting Date	799,433	53,957	745,476
II.	Prior Period Adjustment	0	0	0
III.	Balances for the December 31, 2022 Reporting Date with Adjustment [I. + II.]	799,433	53,957	745,476
Changes for the year:				
IV.	Service Cost	33,639	0	33,639
V.	Interest on Total OPEB Liability, Service Cost, and Benefit Payments	39,066	0	39,066
VI.	Changes in Benefit Terms *	0	0	0
VII.	Change in Assumptions **	(42,874)	0	(42,874)
VIII.	Differences Between Actual and Expected Experience **	(31,110)	0	(31,110)
IX.	Net Investment Income	0	14,983	(14,983)
X.	Employer Contributions to Trust	0	452,446	(452,446)
XI.	Benefit Payments Withdrawn from Trust	0	(52,446)	52,446
XII.	Benefit Payments Excluding Implicit Cost	(48,391)	0	(48,391)
XIII.	Implicit Cost Amount	(4,055)	0	(4,055)
XIV.	Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(52,446)	0	(52,446)
XV.	Administrative Expense	0	0	0
XVI.	Other Charges	0	0	0
XVII.	Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]	(53,725)	414,983	(468,708)
XVIII.	Balances for the December 31, 2023 Reporting Date [III.+XVII.]	745,708	468,940	276,768

* Recognized Immediately

** Amortized over 7.00 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

3. Changes in Net OPEB Expense

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Differences Between Expected & Actual Experience									
Fiscal Year	Differences			2023	2024	2025	2026	2027	2028
	Between Actual & Expected Experience	Recognition Period (Years)	Remaining Balance						
2017	20,678	3.72	0						
2018	0	5.00	0						
2019	(144,672)	5.00	0	(28,936)					
2020	0	5.00	0	0	0				
2021	(136,796)	5.00	(54,719)	(27,359)	(27,359)	(27,360)			
2022	0	5.00	0	0	0	0	0		
2023	(31,110)	7.00	(26,666)	(4,444)	(4,444)	(4,444)	(4,444)	(4,444)	(4,444)
2024									
2025									
2026									
Total Remaining Balance			(81,385)						
Net increase (decrease) in OPEB Expense				(60,739)	(31,803)	(31,804)	(4,444)	(4,444)	(4,444)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal Year	Differences from Changes in			2023	2024	2025	2026	2027	2028
	Actuarial Assumptions	Recognition Period (years)	Remaining Balance						
2017	0	3.72	0						
2018	(58,482)	5.00	0						
2019	(58,898)	5.00	0	(11,778)					
2020	80,887	5.00	16,179	16,177	16,179				
2021	188,085	5.00	75,234	37,617	37,617	37,617			
2022	(67,787)	5.00	(40,673)	(13,557)	(13,557)	(13,557)	(13,559)		
2023	(42,874)	7.00	(36,750)	(6,124)	(6,124)	(6,124)	(6,124)	(6,124)	(6,124)
2024									
2025									
2026									
Total Remaining Balance			13,990						
Net increase (decrease) in OPEB Expense				22,335	34,115	17,936	(19,683)	(6,124)	(6,124)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
 (As of the December 31, 2023 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of Differences Between Projected & Actual Earnings on OPEB Plan Investments									
Fiscal Year	Differences			2023	2024	2025	2026	2027	2028
	Between Actual & Expected Earnings	Recognition Period (years)	Remaining Balance						
2017	(872)	5.00	0						
2018	2,296	5.00	0						
2019	(2,713)	5.00	0	(541)					
2020	(2,628)	5.00	(524)	(526)	(524)				
2021	(1,970)	5.00	(788)	(394)	(394)	(394)			
2022	12,819	5.00	7,693	2,563	2,563	2,563	2,567		
2023	(1,664)	5.00	(1,332)	(332)	(332)	(332)	(332)	(336)	
2024									
2025									
2026									
Total Remaining Balance			5,049						
Net increase (decrease) in OPEB Expense				770	1,313	1,837	2,235	(336)	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
 (As of the December 31, 2023 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Statement of (Inflows) & Outflows Arising from Current & Prior Reporting Periods for the Measurement Period Ending on December 31, 2023 to be Reported for the Fiscal Year Ending December 31, 2023			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions Made Subsequent to the Measurement Date	0	0	0
II. Differences Between Actual & Expected Experience	0	(81,385)	(81,385)
III. Changes of Assumptions	91,413	(77,423)	13,990
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	5,049	0	5,049
VI. Total [I. + II. + III. + IV.]	96,462	(158,808)	(62,346)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Annual Amortization of Deferred (Inflows) & Outflows	
The balance of deferred (inflows) & outflows as of the Reporting Date of December 31, 2023 will be recognized in future years as shown below.	
Year ending December 31:	
2024	3,625
2025	(12,031)
2026	(21,892)
2027	(10,904)
2028	(10,568)
Thereafter	(10,576)

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 5.51% as of December 31, 2023 and 4.84% as of December 31, 2022. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the Authority’s funding policy. Based on these assumptions, the OPEB Plan’s Fiduciary Net Position is projected to be insufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets is applied to the projected benefits payments which the Fiduciary Net Position is expected to be sufficient to cover until Fiscal Year 2071 and the Municipal Bond Rate is applied thereafter. The Municipal Bond Rate is based on the S&P Municipal Bond 20 – Year High Grade Index ("SAPIHG"), which was 4.00% as of December 31, 2023. The S&P Municipal Bond 20 - Year High Grade Index is the index rate for 20 – Year, tax exempt general obligation municipal bonds with an average rate of AA/Aa or higher.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the Authority are established and may be amended through Authority ordinances. For the period ending on the December 31, 2023 Measurement Date, total Authority premiums plus implicit costs for the retiree medical program were \$52,446. The Authority also contributed \$400,000 to an OPEB Trust for a total contribution during the measurement period of \$452,446 to be reported on the financial statement for the fiscal year ending December 31, 2023.

6. Investment Policy

The chart below shows how the long-term rate of return on assets is developed based on the Authority's Investment Policy.

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	37.10%	Domestic Equity - Large Cap	4.91%
Domestic Equity - Small/Mid Cap	0.00%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	15.90%	International Equity - Developed Market	5.32%
International Equity - Emerging Market	0.00%	International Equity - Emerging Market	6.13%
Domestic Fixed Income	39.00%	Domestic Fixed Income	2.30%
International Fixed Income	0.00%	International Fixed Income	2.02%
Alternatives	0.00%	Alternatives	6.35%
Real Estate	8.00%	Real Estate	6.25%
Cash	0.00%	Cash	0.00%
Total	<u>100.00%</u>		
		I. Real Rate of Return	4.06%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	6.56%
		IV. Investment Expense	0.37%
		V. Net Investment Return* [III.-IV.]	<u>6.19%</u>

* Mean Geometric Returns based on 2023 Horizon Survey of Capital Market Assumptions

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

7. Schedule of The Authority's Contributions

For the Fiscal Year Ending	Actuarial Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
December 31, 2023	46,439	(452,446)	(406,007)	836,160	54.11%
December 31, 2022	71,019	(58,292)	12,727	733,089	7.95%
December 31, 2021	51,574	(46,950)	4,624	711,737	6.60%
December 31, 2020	51,317	(46,887)	4,430	522,552	8.97%
December 31, 2019	59,144	(46,773)	12,371	507,332	9.22%
December 31, 2018	74,854	(60,909)	13,945	403,194	15.11%
December 31, 2017	71,434	(80,619)	(9,185)	391,450	20.59%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
 (As of the December 31, 2023 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate on NOL as of the December 31, 2023 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
Net OPEB Liability (Asset)	201,946	276,768	366,854

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate on NOL as of the December 31, 2023 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Net OPEB Liability (Asset)	360,234	5.51% 276,768	207,222

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

10. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - December 31, 2022	53,957	12	1.0000
Monthly net external cash flows:			
January	0	11	0.9167
February	0	10	0.8333
March	0	9	0.7500
April	0	8	0.6667
May	0	7	0.5833
June	0	6	0.5000
July	0	5	0.4167
August	0	4	0.3333
September	0	3	0.2500
October	7,000	2	0.1667
November	0	1	0.0833
<u>December</u>	<u>393,000</u>	0	0.0000
II. Total net external cash flow	400,000		
III. Earnings and increase in fair value	14,983		
IV. Ending value - December 31, 2023 [I.+II.+III.]	468,940		
V. Receivable Contributions	0		
Plan Asset Value - December 31, 2023 [IV.+V.]	468,940		
Money Weighted Rate of Return	27.24%		

EXHIBIT A
FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending December 31, 2023	
	Authority Employees and Retirees	Total
I. Total OPEB Liability as of December 31, 2023	745,708	745,708
II. Fiduciary Net Position as of December 31, 2023	468,940	468,940
III. Net OPEB Liability (Asset) as of December 31, 2023 [I. - II.]	276,768	276,768
IV. Service Cost	33,639	33,639
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	39,066	39,066
VI. Projected Earnings on OPEB Plan Investments	(13,319)	(13,319)
VII. Net Recognition of Deferred (Inflows)/Outflows	(37,634)	(37,634)
VIII. OPEB Plan Administrative Expense	0	0
IX. Expense Related to Change in Benefit Terms	0	0
X. Financial Statement Expense/(Income) [IV. + V. + ... + VIII. + IX.]	21,752	21,752
XI. Employer Share of Costs	(52,446)	(52,446)
XII. Employer (Payments) Withdrawals to/from OPEB Trust	(400,000)	(400,000)
XIII. Total Employer Contribution [XI. + XII.]	(452,446)	(452,446)
XIV. Net OPEB Expense/(Income) [X. + XIII.]	(430,694)	(430,694)

FINANCIAL STATEMENT DISCLOSURES
(As of the December 31, 2023 Measurement Date)

12. OPEB Liability, OPEB Expense and Deferred Inflow/Outflow

Valuation Date	January 1, 2023
For the Measurement Period ending on the Measurement Date of:	December 31, 2023
For the Reporting Period & Fiscal Year ending on:	December 31, 2023

Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(81,385)
II. Deferred (Inflow)/Outflow from Investment Experience	5,049
III. Deferred (Inflow)/Outflow from Changes in Assumptions	13,990

Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	155,463
II. Deferred Outflow created during the period	0
III. Deferred Outflow recognized during the period	56,357
IV. Change in Deferred Outflow (II. - III.)	(56,357)
V. Deferred Outflow at end of the period (I. + IV.)	99,106
VI. Deferred Inflow at the beginning of the period	(179,795)
VII. Deferred Inflow created during the period	(75,648)
VIII. Deferred Inflow recognized during the period	(93,991)
IX. Change in Deferred Inflow (VII. - VIII.)	18,343
X. Deferred Inflow at end of the period (VI. + IX.)	(161,452)

Net OPEB Liability	
I. Net OPEB Liability at beginning of period	745,476
II. Service Cost	33,639
III. Interest on Total OPEB Liability, Service Cost, and Payments	39,066
IV. Projected Investment Income	(13,319)
V. OPEB Plan Administrative Expense	0
VI. Total Employer Contributions	(452,446)
VII. Expense Related to Change in Benefit Terms	0
VIII. Net OPEB Expense/(Income) - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + ... + VI. + VII.)	(393,060)
IX. Deferred Outflow created during the period	0
X. Deferred Inflow created during the period	(75,648)
XI. Net OPEB Liability at end of period (I. + VIII. + IX. + X.)	276,768

Net OPEB Expense	
I. Service Cost	33,639
II. Interest on Total OPEB Liability, Service Cost, and Payments	39,066
III. Projected Investment Income	(13,319)
IV. Recognition of Deferred (Inflow)/Outflow	(37,634)
V. OPEB Plan Administrative Expense	0
VI. Expense Related to Change in Benefit Terms	0
VII. Financial Statement Expense/(Income) (I. + II. + III. + IV. + V. + VI.)	21,752
VIII. Benefit Payments	(52,446)
IX. Contributions to Trust	(400,000)
X. Total Employer Payments (VIII. + IX.)	(452,446)
XI. Total Net OPEB Expense/(Income) under GASB 75 (IX. + X.)	(430,694)

REQUIRED SUPPLEMENTARY INFORMATION
(As of the December 31, 2023 Measurement Date)

Schedule of Changes in the Authority's Net OPEB Liability and Related Ratios					
Valuation Date	January 1, 2023	January 1, 2021	January 1, 2021	January 1, 2019	January 1, 2019
Measurement Date	December 31, 2023	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019
For the Reporting Period & Fiscal Year Ending on:	December 31, 2023	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019
Total OPEB Liability	745,708	799,433	844,891	777,076	677,305
I. Service Cost	33,639	39,270	21,432	21,423	17,087
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	39,066	34,351	35,044	37,348	42,905
III. Changes in Benefit Terms	0	0	0	0	0
IV. Difference Between Expected & Actual Plan Experience	(31,110)	0	(136,796)	0	(144,672)
V. Changes of Assumptions	(42,874)	(67,787)	188,085	80,887	(58,898)
VI. Benefit Payments Excluding Implicit Cost	(48,391)	(40,721)	(39,950)	(43,162)	N/A
VII. Implicit Cost Amount	(4,055)	(10,571)	0	3,275	N/A
VIII. Total Benefit Payments	(52,446)	(51,292)	(39,950)	(39,887)	(39,773)
IX. Other	0	0	0	0	0
X. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.+IX.]	(53,725)	(45,458)	67,815	99,771	(183,351)
XI. Total OPEB Liability - Beginning of Period	799,433	844,891	777,076	677,305	860,656
XII. Prior Period Adjustment	0	0	0	0	0
XIII. Total OPEB Liability - Beginning of Period with Adjustment [XI.+XII.]	799,433	844,891	777,076	677,305	860,656
XIV. Total OPEB Liability - End of Period [XII.+XIII.]	745,708	799,433	844,891	777,076	677,305
Plan Fiduciary Net Position	468,940	53,957	56,088	44,170	32,446
XV. Earnings from Plan Investments	14,983	(9,131)	4,918	4,724	4,214
XVI. Employer Contribution to Trust	452,446	58,292	46,950	46,887	46,773
XVII. Benefit Payments from Trust, Including Refunds of Member Contributions	(52,446)	(51,292)	(39,950)	(39,887)	(39,773)
XVIII. Administrative Expense	0	0	0	0	0
XIX. Other	0	0	0	0	0
XX. Net Change in Plan Fiduciary Net Position [XV.+XVI.+XVII.+XVIII.+XIX.]	414,983	(2,131)	11,918	11,724	11,214
XXI. Plan Fiduciary Net Position - Beginning of Period	53,957	56,088	44,170	32,446	21,232
XXII. Prior Period Adjustment	0	0	0	0	0
XXIII. Plan Fiduciary Net Position - Beginning of Period with Adjustment [XXI.+XXII.]	53,957	56,088	44,170	32,446	21,232
XXIV. Plan Fiduciary Net Position - End of Period [XXII.+XXIII.]	468,940	53,957	56,088	44,170	32,446
XXV. Net OPEB Liability [XIV.-XXIV.]	276,768	745,476	788,803	732,906	644,859
XXVI. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIV./XIV.]	62.89%	6.75%	6.64%	5.68%	4.79%
XXVII. Covered Employee Payroll	836,160	733,089	711,737	522,552	507,332
XXVIII. Plan NOL as % of Covered Employee Payroll [XXV./XXVII.]	33.10%	101.69%	110.83%	140.26%	127.11%
Single Discount Rate to Calculate Plan Liabilities	5.51%	4.84%	4.00%	4.50%	5.50%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Schedule of Changes in the Authority's Net OPEB Liability and Related Ratios		
Valuation Date	January 1, 2017	January 1, 2017
Measurement Date	December 31, 2018	December 31, 2017
For the Reporting Period & Fiscal Year Ending on:	December 31, 2018	December 31, 2017
Total OPEB Liability	860,656	900,917
I. Service Cost	22,849	19,251
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	49,281	39,355
III. Changes in Benefit Terms	0	0
IV. Difference Between Expected & Actual Plan Experience	0	20,678
V. Changes of Assumptions	(58,482)	0
VI. Benefit Payments Excluding Implicit Cost	(53,371)	N/A
VII. Implicit Cost Amount	(538)	N/A
VIII. Total Benefit Payments	(53,909)	(66,619)
IX. Other	0	0
X. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.+IX.]	(40,261)	12,665
XI. Total OPEB Liability - Beginning of Period	900,917	888,252
XII. Prior Period Adjustment	0	0
XIII. Total OPEB Liability - Beginning of Period with Adjustment [XI.+XII.]	900,917	888,252
XIV. Total OPEB Liability - End of Period [XII.+XIII.]	860,656	900,917
Plan Fiduciary Net Position	21,232	15,510
XV. Earnings from Plan Investments	(1,278)	1,510
XVI. Employer Contribution to Trust	60,909	80,619
XVII. Benefit Payments from Trust, Including Refunds of Member Contributions	(53,909)	(66,619)
XVIII. Administrative Expense	0	0
XIX. Other	0	0
XX. Net Change in Plan Fiduciary Net Position [XV.+XVI.+XVII.+XVIII.+XIX.]	5,722	15,510
XXI. Plan Fiduciary Net Position - Beginning of Period	15,510	0
XXII. Prior Period Adjustment	0	0
XXIII. Plan Fiduciary Net Position - Beginning of Period with Adjustment [XXI.+XXII.]	15,510	0
XXIV. Plan Fiduciary Net Position - End of Period [XXII.+XXIII.]	21,232	15,510
XXV. Net OPEB Liability [XIV.-XXIV.]	839,424	885,407
XXVI. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIV./XIV.]	2.47%	1.72%
XXVII. Covered Employee Payroll	403,194	391,450
XXVIII. Plan NOL as % of Covered Employee Payroll [XXV./XXVII.]	208.19%	226.19%
Single Discount Rate to Calculate Plan Liabilities	5.00%	4.50%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

The Authority’s Actuarially Determined Contribution (ADC) is an amount actuarially determined in accordance with the parameters of GASB Statement No. 74/75 which is composed of the service cost and an amortization of the unfunded liability. For FY 2023 and future years we have used a 30-year amortization increasing by 3.00% per year of the Authority’s unfunded liability for the purpose of calculating ADC. The following table shows the components of the Authority’s annual ADC and the amount actually contributed to the plan:

Actuarially Determined Contribution - Deficiency / (Excess)					
For the Fiscal Year Ending:	<u>December 31, 2023</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>December 31, 2020</u>	<u>December 31, 2019</u>
I. Service Cost	33,639	39,270	21,432	21,423	17,087
II. 30 Year Amortization of NOL Increasing by 3.00% per year	<u>12,800</u>	<u>31,749</u>	<u>30,142</u>	<u>29,894</u>	<u>42,057</u>
III. Actuarial Determined Contribution [I. + II.]	46,439	71,019	51,574	51,317	59,144
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(452,446)</u>	<u>(58,292)</u>	<u>(46,950)</u>	<u>(46,887)</u>	<u>(46,773)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>(406,007)</u>	12,727	4,624	4,430	12,371
Covered Employee Payroll	836,160	733,089	711,737	522,552	507,332
Contributions as a % of Covered Employee Payroll	54.11%	7.95%	6.60%	8.97%	9.22%
Discount Rate	5.51%	4.84%	4.00%	4.50%	5.50%
Money Weighted Rate of Return	27.24%	(16.10%)	11.00%	14.56%	19.36%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Actuarially Determined Contribution - Deficiency / (Excess) (Continued)		
<u>For the Fiscal Year Ending:</u>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
I. Service Cost	22,849	19,251
II. 30 Year Amortization of NOL Increasing by 3.00% per year	<u>52,005</u>	<u>52,183</u>
III. Actuarial Determined Contribution [I. + II.]	74,854	71,434
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(60,909)</u>	<u>(80,619)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>13,945</u>	<u>(9,185)</u>
Covered Employee Payroll	403,194	391,450
Contributions as a % of Covered Employee Payroll	15.11%	20.59%
Discount Rate	5.00%	4.50%
Money Weighted Rate of Return	<u>(7.64%)</u>	11.82%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Notes to Required Supplementary Information:

Valuation Date: Actuarially Determined Contribution was calculated as of January 1, 2023.

Actuarial Cost Method: Individual Entry Age Normal

Asset-Valuation Method: Market Value of Assets as of the Measurement Date, December 31, 2023.

Actuarial Assumptions:

Investment Rate of Return: 6.19%, net of OPEB plan investment expense, including inflation.

Municipal Bond Rate 4.00% as of December 31, 2023 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)

Single Equivalent Discount Rate: 5.51%, net of OPEB plan investment expense, including inflation

Inflation: 2.50% as of December 31, 2023 and for future periods

Salary Increases: 3.00% annually as of December 31, 2023 and for future periods

Cost of Living Adjustment: Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Pre-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females, set forward 1 year for females
Post-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year for females
Disabled Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Plan Membership

At January 1, 2023, OPEB plan membership consisted of the following:

Retirees & Beneficiaries:	8
Actives:	<u>11</u>
Total:	19

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Changes in Assumptions: From December 31, 2022 to December 31, 2023

- ✓ Due to the GASB 75 standards the discount rate has been changed from 4.84% to 5.51%.
- ✓ Based on ongoing actuarial research, we have modified our assumption for future increases in healthcare costs using the Getzen model to reflect higher costs in the near-term.

Contributions/Withdrawals:

The contribution requirements of plan members and the Authority are established and may be amended through Authority ordinances. The Authority contributed \$400,000 beyond the pay-as-you-go cost for the period ending on the December 31, 2023 Measurement Date. For the year ending on the December 31, 2023 Measurement Date total Authority premiums plus implicit costs for the retiree medical program were \$52,446. \$4,055 of the \$52,446 represents implicit cost.

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the December 31, 2023 Measurement Date)

Census Data Manipulation:

In the absence of data, the following was assumed:

Spouse Sex:	Male participants had female spouses and vice versa.
Spouse Age:	Male spouses were three years older than female spouses and same sex spouses were the same age.
Hire Age:	Participants who were not on the previous valuation were hired halfway between last valuation and the current valuation. If we did not have census data related to the last valuation, the participants were assumed to have been hired at age forty.
Retiree Age:	Retirees had the same birth date as they had the prior valuation. If we did not have census data related to the last valuation, retirees who were enrolled in Active plans were assumed to be age sixty-two and retirees who were enrolled in Medicare Supplement plans were assumed to be age seventy-two. Those not enrolled in a medical plan were assumed to be sixty-seven.
School Demographics:	N/A
Other Material Changes:	No other data changes were deemed to be material.

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Table 1: Projection of Contributions using a January 1, 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
December 31, 2023	836,160	0	836,160	0	52,446	0	52,446
December 31, 2024	724,837	136,408	861,245	0	39,056	0	39,056
December 31, 2025	656,150	230,932	887,082	0	42,666	0	42,666
December 31, 2026	528,833	384,861	913,694	0	47,710	0	47,710
December 31, 2027	490,354	450,751	941,105	0	48,599	0	48,599
December 31, 2028	460,298	509,040	969,338	0	50,605	0	50,605
December 31, 2029	437,372	561,046	998,418	0	50,963	0	50,963
December 31, 2030	419,570	608,801	1,028,371	0	53,757	0	53,757
December 31, 2031	401,531	657,691	1,059,222	0	55,564	0	55,564
December 31, 2032	387,735	703,264	1,090,999	0	57,614	0	57,614
December 31, 2033	373,801	749,928	1,123,729	0	59,430	0	59,430
December 31, 2034	362,977	794,464	1,157,441	0	61,461	1,132	62,593
December 31, 2035	353,635	838,529	1,192,164	0	56,786	2,653	59,439
December 31, 2036	343,844	884,085	1,227,929	0	57,141	4,760	61,901
December 31, 2037	335,574	929,193	1,264,767	0	48,837	8,047	56,884
December 31, 2038	328,999	973,711	1,302,710	0	47,660	11,671	59,331
December 31, 2039	323,396	1,018,395	1,341,791	0	46,985	14,133	61,118
December 31, 2040	304,826	1,077,219	1,382,045	0	46,745	17,125	63,870
December 31, 2041	303,473	1,120,033	1,423,506	0	45,643	20,321	65,964
December 31, 2042	302,112	1,164,099	1,466,211	0	44,358	21,965	66,323
December 31, 2043	300,744	1,209,453	1,510,197	0	43,782	24,475	68,257
December 31, 2044	296,084	1,259,419	1,555,503	0	45,129	28,598	73,727
December 31, 2045	290,201	1,311,967	1,602,168	0	46,612	33,372	79,984
December 31, 2046	284,880	1,365,353	1,650,233	0	47,922	39,693	87,615
December 31, 2047	277,559	1,422,181	1,699,740	0	46,493	48,205	94,698
December 31, 2048	269,251	1,481,481	1,750,732	0	49,184	57,760	106,944
December 31, 2049	257,955	1,545,299	1,803,254	0	50,885	65,360	116,245
December 31, 2050	246,781	1,610,571	1,857,352	0	50,172	74,032	124,204
December 31, 2051	234,376	1,678,697	1,913,073	0	48,617	83,293	131,910
December 31, 2052	206,965	1,763,500	1,970,465	0	50,613	89,729	140,342
December 31, 2053	186,844	1,842,735	2,029,579	0	54,413	97,665	152,078
December 31, 2054	169,360	1,921,106	2,090,466	0	56,705	107,517	164,222
December 31, 2055	149,703	2,003,477	2,153,180	0	53,576	117,058	170,634
December 31, 2056	121,357	2,096,418	2,217,775	0	58,766	127,963	186,729
December 31, 2057	97,861	2,186,447	2,284,308	0	61,749	140,767	202,516
December 31, 2058	83,502	2,269,335	2,352,837	0	58,730	153,818	212,548
December 31, 2059	63,024	2,360,398	2,423,422	0	61,811	166,966	228,777
December 31, 2060	33,104	2,463,021	2,496,125	0	66,469	180,671	247,140
December 31, 2061	27,776	2,543,233	2,571,009	0	58,652	195,028	253,680
December 31, 2062	22,675	2,625,464	2,648,139	0	61,327	209,496	270,823

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS
CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Table 1: Projection of Contributions using a January 1, 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
December 31, 2063	8,438	2,719,145	2,727,583	0	62,760	224,515	287,275
December 31, 2064	6,917	2,802,493	2,809,410	0	63,409	241,118	304,527
December 31, 2065	5,671	2,888,021	2,893,692	0	65,201	258,193	323,394
December 31, 2066	0	2,980,503	2,980,503	0	67,407	276,017	343,424
December 31, 2067	0	3,069,918	3,069,918	0	70,040	295,486	365,526
December 31, 2068	0	3,162,016	3,162,016	0	70,732	315,345	386,077
December 31, 2069	0	3,256,876	3,256,876	0	71,242	336,190	407,432
December 31, 2070	0	3,354,582	3,354,582	0	73,060	357,684	430,744
December 31, 2071	0	3,455,219	3,455,219	0	74,835	380,061	454,896
December 31, 2072	0	3,558,876	3,558,876	0	76,415	402,882	479,297
December 31, 2073	0	3,665,642	3,665,642	0	76,555	426,129	502,684
December 31, 2074	0	3,775,611	3,775,611	0	75,855	450,553	526,408
December 31, 2075	0	3,888,879	3,888,879	0	76,370	475,429	551,799
December 31, 2076	0	4,005,545	4,005,545	0	75,899	500,921	576,820
December 31, 2077	0	4,125,711	4,125,711	0	74,455	527,647	602,102
December 31, 2078	0	4,249,482	4,249,482	0	73,636	554,876	628,512
December 31, 2079	0	4,376,966	4,376,966	0	71,027	583,151	654,178
December 31, 2080	0	4,508,275	4,508,275	0	68,145	612,307	680,452
December 31, 2081	0	4,643,523	4,643,523	0	66,562	642,393	708,955
December 31, 2082	0	4,782,829	4,782,829	0	63,156	673,338	736,494
December 31, 2083	0	4,926,314	4,926,314	0	59,500	705,100	764,600
December 31, 2084	0	5,074,103	5,074,103	0	55,629	738,097	793,726
December 31, 2085	0	5,226,326	5,226,326	0	51,581	771,927	823,508
December 31, 2086	0	5,383,116	5,383,116	0	47,398	806,525	853,923
December 31, 2087	0	5,544,609	5,544,609	0	43,145	842,948	886,093
December 31, 2088	0	5,710,947	5,710,947	0	38,884	880,603	919,487
December 31, 2089	0	5,882,275	5,882,275	0	34,682	919,151	953,833
December 31, 2090	0	6,058,743	6,058,743	0	30,591	959,626	990,217
December 31, 2091	0	6,240,505	6,240,505	0	26,678	1,001,749	1,028,427
December 31, 2092	0	6,427,720	6,427,720	0	22,970	1,045,026	1,067,996
December 31, 2093	0	6,620,552	6,620,552	0	19,528	1,090,127	1,109,655
December 31, 2094	0	6,819,169	6,819,169	0	16,374	1,137,005	1,153,379
December 31, 2095	0	7,023,744	7,023,744	0	13,533	1,185,495	1,199,028
December 31, 2096	0	7,234,456	7,234,456	0	11,005	1,235,784	1,246,789
December 31, 2097	0	7,451,490	7,451,490	0	8,803	1,288,049	1,296,852

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a January 1 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you-go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust	VII. Trust Withdrawals [V. +VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
December 31, 2023	53,957	52,446	400,000	452,446	0	52,446	52,446	14,983	468,940
December 31, 2024	468,940	39,056	5,891	44,947	0	39,056	39,056	24,610	499,441
December 31, 2025	499,441	42,666	5,178	47,844	0	42,666	42,666	31,073	535,692
December 31, 2026	535,692	47,710	4,051	51,761	0	47,710	47,710	33,283	573,026
December 31, 2027	573,026	48,599	3,647	52,246	0	48,599	48,599	35,581	612,254
December 31, 2028	612,254	50,605	3,324	53,929	0	50,605	50,605	38,000	653,578
December 31, 2029	653,578	50,963	3,066	54,029	0	50,963	50,963	40,550	697,194
December 31, 2030	697,194	53,757	2,856	56,613	0	53,757	53,757	43,243	743,293
December 31, 2031	743,293	55,564	2,654	58,218	0	55,564	55,564	46,091	792,038
December 31, 2032	792,038	57,614	2,488	60,102	0	57,614	57,614	49,103	843,629
December 31, 2033	843,629	59,430	2,329	61,759	0	59,430	59,430	52,292	898,250
December 31, 2034	898,250	61,461	2,195	63,656	0	62,593	62,593	55,669	954,982
December 31, 2035	954,982	56,786	2,076	58,862	0	59,439	59,439	59,177	1,013,582
December 31, 2036	1,013,582	57,141	1,960	59,101	0	61,901	61,901	62,800	1,073,582
December 31, 2037	1,073,582	48,837	1,857	50,694	0	56,884	56,884	66,511	1,133,903
December 31, 2038	1,133,903	47,660	1,768	49,428	0	59,331	59,331	70,242	1,194,242
December 31, 2039	1,194,242	46,985	1,687	48,672	0	61,118	61,118	73,975	1,255,771
December 31, 2040	1,255,771	46,745	1,544	48,289	0	63,870	63,870	77,779	1,317,969
December 31, 2041	1,317,969	45,643	1,492	47,135	0	65,964	65,964	81,628	1,380,768
December 31, 2042	1,380,768	44,358	1,442	45,800	0	66,323	66,323	85,513	1,445,758
December 31, 2043	1,445,758	43,782	1,394	45,176	0	68,257	68,257	89,535	1,512,212
December 31, 2044	1,512,212	45,129	1,332	46,461	0	73,727	73,727	93,647	1,578,593
December 31, 2045	1,578,593	46,612	1,268	47,880	0	79,984	79,984	97,754	1,644,243
December 31, 2046	1,644,243	47,922	1,208	49,130	0	87,615	87,615	101,815	1,707,573
December 31, 2047	1,707,573	46,493	1,143	47,636	0	94,698	94,698	105,734	1,766,245
December 31, 2048	1,766,245	49,184	1,077	50,261	0	106,944	106,944	109,363	1,818,925
December 31, 2049	1,818,925	50,885	1,001	51,886	0	116,245	116,245	112,622	1,867,188
December 31, 2050	1,867,188	50,172	930	51,102	0	124,204	124,204	115,607	1,909,693
December 31, 2051	1,909,693	48,617	858	49,475	0	131,910	131,910	118,236	1,945,494
December 31, 2052	1,945,494	50,613	735	51,348	0	140,342	140,342	120,448	1,976,948
December 31, 2053	1,976,948	54,413	644	55,057	0	152,078	152,078	122,393	2,002,320
December 31, 2054	2,002,320	56,705	567	57,272	0	164,222	164,222	123,961	2,019,331
December 31, 2055	2,019,331	53,576	487	54,063	0	170,634	170,634	125,011	2,027,771
December 31, 2056	2,027,771	58,766	383	59,149	0	186,729	186,729	125,531	2,025,722
December 31, 2057	2,025,722	61,749	300	62,049	0	202,516	202,516	125,401	2,010,656
December 31, 2058	2,010,656	58,730	248	58,978	0	212,548	212,548	124,467	1,981,553
December 31, 2059	1,981,553	61,811	182	61,993	0	228,777	228,777	122,664	1,937,433
December 31, 2060	1,937,433	66,469	93	66,562	0	247,140	247,140	119,930	1,876,785
December 31, 2061	1,876,785	58,652	76	58,728	0	253,680	253,680	116,175	1,798,008
December 31, 2062	1,798,008	61,327	60	61,387	0	270,823	270,823	111,299	1,699,871

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: Projection of OPEB Plan's Fiduciary Net Position using a January 1 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust	VII. Trust Withdrawals [V. +VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
December 31, 2063	1,699,871	62,760	22	62,782	0	287,275	287,275	105,223	1,580,601
December 31, 2064	1,580,601	63,409	17	63,426	0	304,527	304,527	97,840	1,437,340
December 31, 2065	1,437,340	65,201	14	65,215	0	323,394	323,394	88,972	1,268,133
December 31, 2066	1,268,133	67,407	0	67,407	0	343,424	343,424	78,497	1,070,613
December 31, 2067	1,070,613	70,040	0	70,040	0	365,526	365,526	66,271	841,398
December 31, 2068	841,398	70,732	0	70,732	0	386,077	386,077	52,083	578,136
December 31, 2069	578,136	71,242	0	71,242	0	407,432	407,432	35,787	277,733
December 31, 2070	277,733	73,060	0	73,060	0	430,744	430,744	17,192	0
December 31, 2071	0	74,835	0	74,835	0	454,896	454,896	0	0
December 31, 2072	0	76,415	0	76,415	0	479,297	479,297	0	0
December 31, 2073	0	76,555	0	76,555	0	502,684	502,684	0	0
December 31, 2074	0	75,855	0	75,855	0	526,408	526,408	0	0
December 31, 2075	0	76,370	0	76,370	0	551,799	551,799	0	0
December 31, 2076	0	75,899	0	75,899	0	576,820	576,820	0	0
December 31, 2077	0	74,455	0	74,455	0	602,102	602,102	0	0
December 31, 2078	0	73,636	0	73,636	0	628,512	628,512	0	0
December 31, 2079	0	71,027	0	71,027	0	654,178	654,178	0	0
December 31, 2080	0	68,145	0	68,145	0	680,452	680,452	0	0
December 31, 2081	0	66,562	0	66,562	0	708,955	708,955	0	0
December 31, 2082	0	63,156	0	63,156	0	736,494	736,494	0	0
December 31, 2083	0	59,500	0	59,500	0	764,600	764,600	0	0
December 31, 2084	0	55,629	0	55,629	0	793,726	793,726	0	0
December 31, 2085	0	51,581	0	51,581	0	823,508	823,508	0	0
December 31, 2086	0	47,398	0	47,398	0	853,923	853,923	0	0
December 31, 2087	0	43,145	0	43,145	0	886,093	886,093	0	0
December 31, 2088	0	38,884	0	38,884	0	919,487	919,487	0	0
December 31, 2089	0	34,682	0	34,682	0	953,833	953,833	0	0
December 31, 2090	0	30,591	0	30,591	0	990,217	990,217	0	0
December 31, 2091	0	26,678	0	26,678	0	1,028,427	1,028,427	0	0
December 31, 2092	0	22,970	0	22,970	0	1,067,996	1,067,996	0	0
December 31, 2093	0	19,528	0	19,528	0	1,109,655	1,109,655	0	0
December 31, 2094	0	16,374	0	16,374	0	1,153,379	1,153,379	0	0
December 31, 2095	0	13,533	0	13,533	0	1,199,028	1,199,028	0	0
December 31, 2096	0	11,005	0	11,005	0	1,246,789	1,246,789	0	0
December 31, 2097	0	8,803	0	8,803	0	1,296,852	1,296,852	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Table 3: Actuarial Present Values of Projected Benefit Payments using a January 1, 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.19%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [4.00%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [5.51%]	
December 31, 2023	53,957	52,446	52,446	0	52,446	0	52,446	Sum of Column V.
December 31, 2024	468,940	39,056	39,056	0	36,779	0	37,018	830,384
December 31, 2025	499,441	42,666	42,666	0	37,837	0	38,329	
December 31, 2026	535,692	47,710	47,710	0	39,844	0	40,624	Sum of Column VI.
December 31, 2027	573,026	48,599	48,599	0	38,220	0	39,222	148,055
December 31, 2028	612,254	50,605	50,605	0	37,478	0	38,710	
December 31, 2029	653,578	50,963	50,963	0	35,543	0	36,949	Sum of Column VII.
December 31, 2030	697,194	53,757	53,757	0	35,306	0	36,941	[V. + VI.]
December 31, 2031	743,293	55,564	55,564	0	34,366	0	36,191	978,439
December 31, 2032	792,038	57,614	57,614	0	33,556	0	35,568	
December 31, 2033	843,629	59,430	59,430	0	32,596	0	34,774	
December 31, 2034	898,250	61,461	61,461	0	31,745	0	34,086	
December 31, 2035	954,982	56,786	56,786	0	27,621	0	29,850	
December 31, 2036	1,013,582	57,141	57,141	0	26,173	0	28,469	
December 31, 2037	1,073,582	48,837	48,837	0	21,066	0	23,062	
December 31, 2038	1,133,903	47,660	47,660	0	19,360	0	21,332	
December 31, 2039	1,194,242	46,985	46,985	0	17,973	0	19,933	
December 31, 2040	1,255,771	46,745	46,745	0	16,839	0	18,796	
December 31, 2041	1,317,969	45,643	45,643	0	15,483	0	17,395	
December 31, 2042	1,380,768	44,358	44,358	0	14,170	0	16,023	
December 31, 2043	1,445,758	43,782	43,782	0	13,171	0	14,990	
December 31, 2044	1,512,212	45,129	45,129	0	12,785	0	14,645	
December 31, 2045	1,578,593	46,612	46,612	0	12,435	0	14,337	
December 31, 2046	1,644,243	47,922	47,922	0	12,040	0	13,971	
December 31, 2047	1,707,573	46,493	46,493	0	11,000	0	12,847	
December 31, 2048	1,766,245	49,184	49,184	0	10,958	0	12,881	
December 31, 2049	1,818,925	50,885	50,885	0	10,676	0	12,631	
December 31, 2050	1,867,188	50,172	50,172	0	9,913	0	11,804	
December 31, 2051	1,909,693	48,617	48,617	0	9,046	0	10,842	
December 31, 2052	1,945,494	50,613	50,613	0	8,868	0	10,698	
December 31, 2053	1,976,948	54,413	54,413	0	8,978	0	10,901	
December 31, 2054	2,002,320	56,705	56,705	0	8,811	0	10,767	
December 31, 2055	2,019,331	53,576	53,576	0	7,840	0	9,642	
December 31, 2056	2,027,771	58,766	58,766	0	8,098	0	10,024	
December 31, 2057	2,025,722	61,749	61,749	0	8,013	0	9,984	
December 31, 2058	2,010,656	58,730	58,730	0	7,177	0	9,000	
December 31, 2059	1,981,553	61,811	61,811	0	7,113	0	8,978	
December 31, 2060	1,937,433	66,469	66,469	0	7,203	0	9,151	
December 31, 2061	1,876,785	58,652	58,652	0	5,986	0	7,653	
December 31, 2062	1,798,008	61,327	61,327	0	5,894	0	7,585	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Table 3: Actuarial Present Values of Projected Benefit Payments using a January 1, 2023 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.19%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [4.00%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [5.51%]
December 31, 2063	1,699,871	62,760	62,760	0	5,680	0	7,357
December 31, 2064	1,580,601	63,409	63,409	0	5,404	0	7,045
December 31, 2065	1,437,340	65,201	65,201	0	5,233	0	6,866
December 31, 2066	1,268,133	67,407	67,407	0	5,095	0	6,728
December 31, 2067	1,070,613	70,040	70,040	0	4,985	0	6,626
December 31, 2068	841,398	70,732	70,732	0	4,741	0	6,342
December 31, 2069	578,136	71,242	71,242	0	4,497	0	6,055
December 31, 2070	277,733	73,060	73,060	0	4,343	0	5,885
December 31, 2071	0	74,835	0	74,835	0	11,389	5,714
December 31, 2072	0	76,415	0	76,415	0	11,183	5,530
December 31, 2073	0	76,555	0	76,555	0	10,772	5,251
December 31, 2074	0	75,855	0	75,855	0	10,263	4,931
December 31, 2075	0	76,370	0	76,370	0	9,935	4,706
December 31, 2076	0	75,899	0	75,899	0	9,494	4,433
December 31, 2077	0	74,455	0	74,455	0	8,956	4,121
December 31, 2078	0	73,636	0	73,636	0	8,516	3,863
December 31, 2079	0	71,027	0	71,027	0	7,899	3,532
December 31, 2080	0	68,145	0	68,145	0	7,287	3,212
December 31, 2081	0	66,562	0	66,562	0	6,844	2,974
December 31, 2082	0	63,156	0	63,156	0	6,244	2,674
December 31, 2083	0	59,500	0	59,500	0	5,656	2,388
December 31, 2084	0	55,629	0	55,629	0	5,085	2,116
December 31, 2085	0	51,581	0	51,581	0	4,533	1,860
December 31, 2086	0	47,398	0	47,398	0	4,006	1,620
December 31, 2087	0	43,145	0	43,145	0	3,506	1,397
December 31, 2088	0	38,884	0	38,884	0	3,038	1,194
December 31, 2089	0	34,682	0	34,682	0	2,606	1,009
December 31, 2090	0	30,591	0	30,591	0	2,210	844
December 31, 2091	0	26,678	0	26,678	0	1,853	697
December 31, 2092	0	22,970	0	22,970	0	1,534	569
December 31, 2093	0	19,528	0	19,528	0	1,254	459
December 31, 2094	0	16,374	0	16,374	0	1,011	364
December 31, 2095	0	13,533	0	13,533	0	804	285
December 31, 2096	0	11,005	0	11,005	0	628	220
December 31, 2097	0	8,803	0	8,803	0	483	167

APPENDIX II – PLAN PROVISIONS

<u>Plan Year</u>	January 1 through December 31.
<u>Premium Effective Date</u>	Medicare Supplement Plans: effective July 1, 2023 Active Plans: effective July 1, 2023 Dental Plans: N/A
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Comprehensive Medical, Dental & \$5,000 of Life Insurance.
<u>Medicare Part A</u>	To the best of our knowledge the Authority does not pay any Medicare Part A premiums or penalties.
<u>Medicare Part B</u>	Medicare Part B Premium reimbursements by the Authority were not reflected in this valuation. Medicare Part B Penalty reimbursements by the Authority were not reflected in this valuation.
<u>Surviving Spouse Coverage</u>	Surviving spouses pay 10% of premiums.

APPENDIX II – PLAN PROVISIONS

Eligibility

Hire Date	Eligibility
Before April 2, 2012	<ul style="list-style-type: none"> • Age 55 with 10 years of creditable service • 20 years of service regardless of age
On or after April 2, 2012	<ul style="list-style-type: none"> • Age 60 with 10 years of creditable service

Participant Contributions

Group	Individual	Two-Person / Family
Medical	<ul style="list-style-type: none"> • Participants who retire on or after October 1, 2009 pay 20% • Participants who retire between July 1, 1994 and October 1, 2009 pay 15% • All others pay 10% • Retirees who elect CIC coverage shall pay 100% of the incremental cost of such coverage 	<ul style="list-style-type: none"> • Participants who retire on or after October 1, 2009 pay 20% • Participants who retire between July 1, 1994 and October 1, 2009 pay 15% • All others pay 10% • Retirees who elect CIC coverage shall pay 100% of the incremental cost of such coverage
Dental	100%	100%
Life	Same as Medical	0%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

<u>Pre-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females, set forward 1 year for females
<u>Post-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year for females
<u>Disabled Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year
<u>Assumption Experience Study</u>	The actuarial assumptions used to calculate the actuarial accrued liability and the service cost primarily reflect the latest experience studies of the Massachusetts PERAC issued in 2014 and their most recent analysis of retiree mortality during 2015 and 2016.
<u>Discount Rate</u>	5.51% per annum (previously 4.84%)
<u>Net Long Term Rate of Return</u>	6.19% (based on investment policy)
<u>Municipal Bond Rate</u>	4.00% as of December 31, 2023 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
<u>Actuarial Cost Method</u>	Individual Entry Age Normal
<u>Asset-Valuation Method</u>	Market Value of Assets as of the Measurement Date, December 31, 2023

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

Age	0-4 Years of Service (Males)	0-4 Years of Service (Females)	5-9 Years of Service (Males)	5-9 Years of Service (Females)	10+ Years of Service (Males)	10+ Years of Service (Females)
20	27.00%	27.00%	12.00%	12.00%	6.00%	6.00%
30	23.00%	23.00%	10.00%	10.00%	5.50%	5.50%
40	16.00%	16.00%	8.00%	8.00%	3.50%	3.50%
50	18.00%	18.00%	6.00%	6.00%	3.00%	3.00%
60	18.00%	18.00%	5.00%	5.00%	3.50%	3.50%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

Age	Standard Male	Standard Female
45 - 49	0.00%	0.00%
50 - 51	3.00%	3.00%
52	3.00%	3.00%
53	3.00%	3.00%
54	3.00%	3.50%
55	3.50%	5.00%
56	3.50%	5.00%
57	4.00%	5.50%
58	5.00%	6.00%
59	6.00%	6.50%
60	9.00%	7.50%
61	11.00%	10.00%
62	15.00%	15.00%
63	15.00%	15.00%
64	16.00%	15.00%
65	20.00%	20.00%
66	20.00%	20.00%
67	20.00%	20.00%
68	20.00%	20.00%
69	20.00%	20.00%
70	100.00%	100.00%
71	100.00%	100.00%
72	100.00%	100.00%

Permanent Disability Rates

Age	Standard
20	0.01%
30	0.01%
40	0.07%
50	0.13%
60	0.12%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Trend Rate

Medicare Part A & B Premiums & Penalties: N/A

Medical Plans: Rates were developed using the SOA Getzen Model of Long-Run Medical Cost Trends with the following model input variables:

Inflation (CPI):	2.50%
Real GDP (per capita):	1.10%
Excess Medical Cost Growth:	1.10%
Expected Health Share of GDP in 2030:	21%
Health Share of GDP Resistance Point:	22.5%
Year for Limiting Cost Growth to GDP Growth:	2060

See below for a table of trend rates for select years:

Year	Rate
2021	9.00%
2022	8.00%
2023	6.50%
2024	5.00%
2025	4.96%
2026	4.92%
2027	4.88%
2028	4.84%
2029	4.81%
2030 - 2037	4.77%
2050	4.38%
2060+	3.63%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

Spouse Participation Rate

It was assumed that 80% of male employees and 70% of female employees who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement.

Medicare Eligibility

It was assumed that retirees who were over age 66 on the valuation date and were enrolled in an Active plan were ineligible for Medicare and all other participants would be eligible for Medicare at age 65, absent any information to the contrary.

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

COVID-19

We recognize that COVID-19 may impact plan experience. We have reviewed the assumptions used in this report. Based on the data that is currently available, we have not made any adjustments to these assumptions to reflect the impact of COVID-19. We will continue to monitor the impact of COVID-19 to determine if adjustments to valuation assumptions are warranted.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

The implicit subsidy arises because retirees who are not eligible for Medicare are charged the same premium as active employees, even though their actual medical costs are higher on average. Consequently, a portion of the premiums being paid for active employees are being used to “subsidize” the premiums of retirees. Actuarial Standards of Practice and GASB standards require the liability associated with this implicit subsidy to be valued. The chart below shows a breakdown of how implicit cost impacts reported cash flows and liabilities. Actuarial Standard of Practice No. 6 (“ASOP 6”) requires us to recognize this implicit subsidy while the plan sponsor may only pay the premiums billed by an insurance provider.

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>December 31, 2023</u>	<u>December 31, 2022</u>
I. Total OPEB Liability	745,708	799,433
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>611,708</u>	<u>645,520</u>
III. Liability from Implicit Subsidy [I. - II.]	134,000	153,913

	For the Measurement Period Ending	
Impact on Payments	<u>December 31, 2023</u>	<u>December 31, 2022</u>
IV. Employer Payments (Including Implicit Subsidy)	52,446	51,292
V. Actual Employer Payments	<u>48,391</u>	<u>40,721</u>
VI. Implicit Subsidy [IV. - V.]	4,055	10,571

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-65 and post-65 per capita costs were developed using fully insured premium rates.

ANNUAL PER CAPITA CLAIMS*

ACTIVE EMPLOYEES			RETIREE - NOT MEDICARE ELIGIBLE			RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male	Age Bracket	Female	Male	Age Bracket	Female	Male
24 & Under	4,431	2,794	44 & Under	8,710	5,707	65 to 69	3,650	3,748
25 to 29	6,538	2,907	45 to 49	9,568	7,206	70 to 74	4,306	4,492
30 to 34	8,262	3,648	50 to 54	11,255	9,491	75 to 79	4,996	5,304
35 to 39	8,511	4,581	55 to 59	13,011	12,339	80 to 84	5,731	6,097
40 to 44	8,710	5,707	60 to 64	15,483	15,834	85 to 89	6,405	6,792
45 to 49	9,568	7,206	65 to 69	18,560	19,750	90 & Over	6,405	6,792
50 to 54	11,255	9,491	70 to 74	21,887	23,669			
55 to 59	13,011	12,339	75 to 79	25,418	27,954			
60 to 64	15,483	15,834	80 to 84	29,144	32,131			
65 to 69	18,560	19,750	85 to 89	33,267	36,779			
70 & Over	21,887	23,669	90 & Over	33,267	36,779			

*Based on SOA 'Health Care Costs--From Birth to Death' study published in 2013

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Open Group Forecast

For the projection of plan liabilities in future years, it was assumed that the number of active employees will remain constant and those who terminate employment or retire will be replaced with new employees with the demographics below:

Open Group Forecast Population Demographics		
Age	Male	Female
20	8.0%	5.0%
30	7.0%	14.0%
40	20.0%	19.0%
50	10.0%	10.0%
60	<u>3.0%</u>	<u>4.0%</u>
Total	48.0%	52.0%

Additional Comments

The liabilities being reported as of the Measurement Date of December 31, 2023 reflect a closed group and do not reflect any new entrants after the valuation date.

To the best of our knowledge all employees who are eligible on the valuation date are included in the actuarial valuation.

APPENDIX IV – PLAN DEMOGRAPHICS

Active Employees

Valuation Date	January 1, 2023	January 1, 2021
A. Average Age at Hire	35.96	43.58
B. Average Service	<u>2.15</u>	<u>2.99</u>
C. Average Current Age	38.11	46.57

Retired Employees & Spouses

Valuation Date	January 1, 2023	January 1, 2021
A. Under Age 65	1	1
B. Age 65 & Over	<u>7</u>	<u>8</u>
C. Total	8	9

Average Service Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-24										
25-29	3									3
30-34	2	1								3
35-39	2									2
40-44	1									1
45-49										
50-54		1								1
55-59										
60-64										
65-69		1								1
70+										
Total	8	3								11

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

Number of Contracts

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Harvard Pilgrim Access America				0
Harvard Pilgrim Explorer	1			1
Harvard Pilgrim Quality	1		2	3
Health New England				0
Mass General Brigham Health Plan Complete				0
UniCare Total Choice				0
UniCare PLUS			2	2
UniCare Community Choice	2		1	3
Unicare Medicare Extension	2	2		4
Harvard Pilgrim Medicare Enhance		1		1
Total	6	3	5	14

Per Contract Costs (monthly)

	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Harvard Pilgrim Access America	1,180.40		2,629.04
Harvard Pilgrim Explorer	976.42		2,412.86
Harvard Pilgrim Quality	721.33		1,829.24
Health New England	735.00		1,757.61
Mass General Brigham Health Plan Complete	892.50		2,352.42
UniCare Total Choice	1,348.43		2,983.18
UniCare PLUS	883.99		2,097.98
UniCare Community Choice	676.74		1,669.16
Unicare Medicare Extension	425.11	850.22	
Harvard Pilgrim Medicare Enhance	421.84	843.68	
Dental Plan	N/A		N/A

APPENDIX IV – PLAN DEMOGRAPHICS

	Pooled Active Plan Premium Calculation*					
	Single	Two-Person	Family	Number of Participants	Total Premiums Paid	Claims Without Children
Harvard Pilgrim Access America	55		74	203	259,470.96	239,621.20
Harvard Pilgrim Explorer	44		58	160	182,908.36	156,227.20
Harvard Pilgrim Quality	76		81	238	202,989.52	171,676.54
Health New England	154		246	646	545,562.06	474,810.00
Mass General Brigham Health Plan Complete	201		227	655	713,391.84	584,587.50
UniCare Total Choice	21		2	25	34,283.39	33,710.75
UniCare PLUS	36		58	152	153,506.48	134,366.48
UniCare Community Choice	75		114	303	241,039.74	205,052.22
Total	662	0	860	2,382	2,333,152.35	2,000,051.89
Blended Average Monthly Rate:						\$ 855.26

*Active premiums for Housing Authorities are calculated based on aggregate data across the state to better reflect long term demographics

	Medicare Supplement Plan Average Premium Calculation					
	Single	Two-Person	Family	Number of Participants	Total Premiums Paid	Claims Without Children
Unicare Medicare Extension	2	2		6	30,607.92	30,607.92
Harvard Pilgrim Medicare Enhance		1		2	10,124.16	10,124.16
Total	2	3	0	8	40,732.08	40,732.08
Blended Average Monthly Rate:						\$ 424.29

APPENDIX V – OVERVIEW OF GASB 74 & 75

Before Statements 74 and 75, GASB statement 45 established the reporting standards for Other Postemployment Benefit (“OPEB”) plans. It was designed to recognize the Other Postemployment Benefits earned by employees throughout their working career vs. when they are paid in retirement – accrual accounting vs. “pay-as-you-go” accounting. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Service Cost”. These amounts are reflected in your financial statement each year so that OPEB benefits for an eligible employee shall be fully charged to the financial statement when that eligible employee terminates employment.

In 2012 GASB issued GASB Statements 67 and 68 to update and standardize the financial reporting of pension liabilities. This increased the transparency of pension liabilities by moving them to the balance sheet and made financial statement disclosures of pension liabilities more comparable between municipal entities. GASB Statements 74 and 75 are designed to have the same effect on OPEB plans.

GASB 74 and 75 require retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 74 only applies in situations where a separate trust is established to prefund these benefits. GASB 75 requires employers to perform periodic actuarial valuations to determine annual accounting costs and to keep a running tally of the extent to which these amounts are over or under funded.

GASB 74 and 75 apply to those benefits provided after retirement, except for pension benefits, such as medical, dental and life insurance. The philosophy behind the accounting standard is that these postemployment benefits are part of the compensation earned by employees in return for their services, and the cost of these benefits should be recognized while employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 74 and 75 extend this practice to all other postemployment benefits.

APPENDIX V – OVERVIEW OF GASB 74 & 75

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

Turnover and retirement rates – How likely is it that an employee will qualify for postemployment benefits and when will they start?

Medical inflation and claims cost assumptions – When an employee starts receiving postemployment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

Mortality assumption – How long is a retiree likely to receive benefits?

Discount rate assumption – What is the present value of those future benefit payments in terms of today’s dollars?

Since the liability is being recognized over the employee’s whole career with the Authority, the present value is divided into three pieces: the part that is attributed to past years (the “Total OPEB Liability” or “Past Service Liability”), the part that is being earned this year (the “Service Cost”), and the part that will be earned in future years (the “Future Service Liability”).

Once the Accrued Liability and the Service Cost have been calculated, the next step is to determine an actuarially determined contribution. This is an amount that if paid annually would fully prefund the benefits for current active and retired employees. This consists of two pieces:

- ✓ Service Cost – because the benefits earned by active employees each year should be paid for each year
- ✓ Past Service Cost – a catch-up payment to fund the Accrued Liability over a period of time determined by an actuary

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the Authority’s financial statements as the Net OPEB Liability (NOL). If you decide to fully fund the NOL this will appear in the financial statement as a Net OPEB Asset. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

APPENDIX VI – ASOP 41 DISCLOSURES

The Actuarial Standards Board (the “ASB”), vested by the U.S.-based actuarial organizations¹, promulgates actuarial standards of practice (“ASOPs”) for use by actuaries when providing professional services in the United States. Each of these organizations requires its members, through its Code of Professional Conduct², to observe the ASOPs of the ASB when practicing in the United States.

The ASOPs are not narrowly prescriptive and neither dictate a single approach nor mandate a particular outcome. ASOPs are intended to provide actuaries with a framework for performing professional assignments and to offer guidance on relevant issues, recommended practices, documentation, and disclosure. Each ASOP articulates a process of analysis, documentation, and disclosure that, in the ASB’s judgment, constitutes appropriate practice within the scope and purpose of the ASOP.

ASOP 41 provides guidance to actuaries with respect to actuarial communications and requires certain disclosures which are contained in this Appendix.

Identification of the Responsible Actuary

The responsible actuary is Parker Elmore, ASA, EA, FCA, MAAA of Odyssey Advisors. This actuary is available to provide supplementary information and explanation.

Identification of Actuarial Documents

The date of this document is April 10, 2024 and its subject is the Cambridge Redevelopment Authority's GASB 75 OPEB liabilities.

¹The American Academy of Actuaries (the “Academy”), the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, the Conference of Consulting Actuaries, and the Society of Actuaries.

²These organizations adopted identical *Codes of Professional Conduct* effective January 1, 2001

APPENDIX VI – ASOP 41 DISCLOSURES

Disclosures in Actuarial Reports

- ✓ The contents of this report are intended for the use of the officers, employees, and elected officials of the Authority and the Authority's appointed auditor. The Authority may distribute this report to those parties that have a legal right to require the Authority to provide it, in which case it will be provided in its entirety including all assumptions, caveats, and limitations. In addition, we request that the Authority notify Odyssey Advisors to whom it was distributed.
- ✓ The purpose of this engagement was to provide the Authority with analysis of the GASB 75 OPEB liabilities.
- ✓ The responsible actuary identified above is qualified as specified in the Qualification Standards of the American Academy of Actuaries.
- ✓ Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.
- ✓ Actuarial computations under GASB 75 are for purposes of fulfilling financial accounting requirements of the Authority. Determinations for purposes other than meeting these financial accounting requirements may be significantly different from the results contained in this report. These communications should not be relied upon for any other purpose.
- ✓ The Cambridge Redevelopment Authority has agreed to pay Odyssey Advisors a fee for preparing this report. Other than with regard to that contract, we are financially and organizationally independent from the Authority and any entity or individual related to the Authority. There is nothing in our relationship with the Authority that would impair or seem to impair the objectivity of our work.
- ✓ The Authority provided the employee/retiree data, premium rates and other information used to prepare our report. We have reviewed the data for reasonableness but have not audited it. To the extent that there are material inaccuracies in the data, our results may be accordingly affected.
- ✓ The date through which data or other information has been considered in developing the findings included in this report is December 31, 2023.
- ✓ The various documents comprising the actuarial report are contained within the document to which these disclosures are attached.

APPENDIX VI – ASOP 41 DISCLOSURES

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Actuarial Findings

The actuarial findings of the report can be found in the report to which these disclosures are attached.

Methods, Procedures, Assumptions, and Data

The methods, procedures, assumptions and data used by the actuary can be found in the report to which these disclosures are attached.

Assumptions or Methods Prescribed by Law

While not legally binding, our determinations were made in accordance with our understanding of Statement No. 75 of the Governmental Accounting Standards Board. Actuarial computations under GASB 75 are for purposes of fulfilling employer accounting requirements. Determinations for purposes other than meeting such requirements may be significantly different from these results. Accordingly, additional determinations may be needed for other purposes.

Responsibility for Assumptions and Methods

The actuary does not disclaim responsibility for any material assumption(s) or method(s).

Deviation from the Guidance of an ASOP

The actuary has not deviated materially from the guidance set forth in an applicable ASOP.

Rounding

Results in this report are shown to the nearest dollar. Due to the predictive nature of these results, no implication is made as to the degree of precision in these unrounded figures. Clients should work with their auditors to decide if it would be prudent to round these results when applying them to the financial statements.

GLOSSARY

Accrual Accounting – A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

Actuarially Determined Contribution – Amount of funding required annually to fully fund plan benefits. Determined by the actuary using a consistent methodology.

Amortization – Allows the recognition of liability over a fixed period of time.

Cash Basis Accounting – A system of accounting in which revenues are recorded when received and outlays are recorded when payment is made.

Deferred Inflows/Outflows of Resources – Amounts arising from experience gains and losses that have not been recognized into the OPEB Expense but will be recognized in the future.

Discount Rate – The interest rate used to calculate the present value of future cash flows. Under GASB 75, the rate should be the expected long-term rate of return on investments for a plan that is being fully funded, the 20-year municipal bond index for a pay-as-you-go plan, and a blend of the two rates for a plan that is being partially funded.

Entry Age Normal – Under this method, the annual service cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement. The annual service cost for each active member is a level percent of payroll. The total OPEB liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Fiduciary Net Position – The value of cash, investments, other assets and property belonging to an OPEB trust.

GLOSSARY

Government Accounting Standards Board (GASB) – “The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities.”

Implicit Subsidy – The liability that arises because retirees who are not eligible for Medicare are charged the same premium as active employees even though their actual medical costs are higher on average.

Irrevocable Contribution – The transfer of assets to a qualified trust in which assets may only be withdrawn for the purpose of providing retiree other postemployment benefits.

Net OPEB Liability (NOL) – Total OPEB Liability less the Fiduciary Net Position.

Other Postemployment Benefits (OPEB) – Benefits that an employee will begin to receive at the start of retirement. This does not include pension benefits paid to the retired employee.

OPEB Trust – An entity which holds assets for the sole purpose of funding OPEB. All contributions and earning within this entity must be irrevocable and protected from creditors.

Pay-as-you-go funding – Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

Service Cost – The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Service cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

Total OPEB Liability (TOL) – That portion, as determined by the Individual Entry Age Normal Actuarial Cost Method, of the Actuarial Present Value of benefits and expenses which are not provided for by future Service Costs.