



CBIZ Benefits & Insurance Services, Inc.

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November 8, 2023

Jennifer Carlson
Finance Director
411 West 1st Street
Room 107
Duluth, MN 55802

RE: Actuarial Valuation of Other Post-Employment Benefits as of January 1, 2023

Dear Jennifer:

The primary purpose of this report is to:

1. Provide the City with estimated financial disclosures under GASB Statements No. 74 and 75 for fiscal year ended December 31, 2023
2. Determine the Actuarially Determined Contributions (ADC) for fiscal years ending December 31, 2023 and December 31, 2024.

This report is intended for the sole use of the City to comply with the stated purposes and may not be appropriate for other purposes. Additional determinations may be needed for other purposes, such as meeting State and Local reporting requirements or plan funding and forecasts. This report should not be relied upon for other purposes without consulting CBIZ.

Overall, the Total OPEB Liability increased relative to the expectation from the prior valuation. Below is a summary of the primary drivers of the increase:

- Demographic experience
- Updated rates of morbidity based on 2013 SOA Aging Study

Please review the results thoroughly. If you have any further questions or concerns, feel free to reach out to me by phone at 216.525.7063, or by e-mail at Rnin@CBIZ.com.

Respectfully,

A handwritten signature in black ink that reads "Rachel Nin".

Rachel Nin
Senior Actuarial Analyst

Enclosure(s)





City of Duluth

Estimated GASB Statements No. 74 and 75 for measurement period ended December 31, 2023, based on an

Actuarial Valuation of Other Post Employment Benefits (OPEBs) as of January 1, 2023

PREPARED BY

The Retirement & Investment Solutions Practice of
CBIZ, Inc. | November 2023

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Actuarial Certification

To the best of our knowledge, the information supplied in this report is complete and accurate. In our opinion, the methods and assumptions used in the valuation comply with the Governmental Accounting Standards Board (GASB), particularly GASB Statements No. 74 and 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pension", as applicable. Other than prescribed assumptions, the actuarial assumptions have been selected by City of Duluth with input from CBIZ. We believe that each non-prescribed assumption is individually reasonable, and in combination they offer our best estimate of anticipated experience under the Plan. Nevertheless, the actual costs of the plan in the future will differ from the results of the valuation, as the emerging experience varies from the assumptions projected in the valuation.

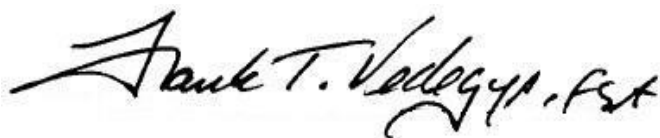
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The potential range of future measurements was not assessed as it is outside the scope of this project.

CBIZ has relied upon participant data and financial information provided to us by the City and other organizations designated by the City. We did not audit this data, but it has been reviewed for reasonableness and consistency with prior years. We believe that the information is sufficiently complete to be relied upon for the purposes intended. To the best of our knowledge, all plan participants on January 1, 2023, and all plan provisions in effect on that date have been reflected in the valuation.

To the best of our knowledge, there have been no events after the measurement date and before the date of communication which necessitated adjustments to the actuarial findings. There are no significant benefits that are excluded from the valuation.

We, the undersigned, are consulting actuaries associated with the firm CBIZ Benefits & Insurance Services, Inc. We are members of the American Academy of Actuaries and meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are qualified to render the actuarial opinion contained herein. The relationship between CBIZ and City of Duluth is strictly professional. There are no aspects of the relationship that may impair or appear to impair the objectivity of our work.

Respectfully Submitted,



Frank T. Vedegys, FSA, EA, FCA MAAA
Senior Consulting Actuary



Alex J. Johnson, ASA, FCA, MAAA
Actuarial Managing Consultant

Summary of Valuation Results as of January 1, 2023

Fund	Enterprise	General	Total
Participant Data			
Active Employees	178	655	833
Retirees and Covered Spouses	308	1,362	1,670
Total	486	2,017	2,503
Present Value of Future Benefits ("PVFB")			
Active Employees	\$ 11,668,527	42,855,423	\$ 54,523,950
Retirees and Covered Spouses	15,013,467	96,072,646	111,086,113
Total	\$ 26,681,994	138,928,069	\$ 165,610,063
Total OPEB Liability ("TOL")			
Active Employees	\$ 9,599,461	33,664,539	\$ 43,264,000
Retirees and Covered Spouses	15,013,467	96,072,646	111,086,113
Total	\$ 24,612,928	129,737,185	\$ 154,350,113
Fiduciary Net Position ("FNP")			
	(33,954,726)	(50,404,842)	(84,359,568)
Net OPEB Liability ("NOL")			
	\$ (9,341,798)	79,332,343	\$ 69,990,545
FNP as a Percentage of TOL ("Funded Status")			
	137.95%	38.85%	54.65%
Current Year Normal Cost			
	\$ 340,779	1,366,065	\$ 1,706,844
Actuarially Determined Contribution ("ADC") for Year Ending:			
December 31, 2023	\$ 1,688,836	9,172,567	\$ 10,861,403
December 31, 2024	1,848,148	9,565,736	11,413,884

Development of Actuarially Determined Contribution (ADC)

The Actuarially Determined Contribution (ADC) is calculated in accordance with the Employer's funding and investment policy or other state and local statutes, if any exist. Otherwise, it is calculated in accordance with the Employer's substantive history of financing retiree benefits.

The employer does have a qualified, irrevocable OPEB Trust, per GASB Standards. However, the employer's substantive policy is to pay its share of retiree benefits as they come due ('pay-as-you-go'). The employer is expected to have the ability and willingness to make benefit payments from its own resources for the life of the plan.

Year Ending:	12/31/2024	12/31/2023
Actuarially Determined Contribution	\$ 11,413,884	\$ 10,861,403
Expected Covered Payroll	62,844,731	60,719,547
ADC as a % of Covered Payroll	18.16%	17.89%

Schedule of Funding Progress

Actuarial Valuation Date	Fiduciary Net Position (a)	Total OPEB Liability (b)	Net OPEB Liability (Asset) (b - a)	Funded Ratio (a / b)	Annual Covered Payroll (c)	Net OPEB Liability as a Percent of Payroll (b - a) / c
1/1/2005	\$0	\$279,934,736	\$279,934,736	0.0%	N/A	0.0%
6/1/2007	13,700,000	267,381,748	253,681,748	5.1%	44,748,212	566.9%
6/1/2009	16,740,064	224,338,111	207,598,047	7.5%	51,536,853	402.8%
6/1/2011	27,753,929	219,748,555	191,994,626	12.6%	39,716,268	483.4%
1/1/2013	31,743,134	214,255,582	182,512,448	14.8%	35,546,938	513.4%
1/1/2015	43,257,834	172,507,535	129,249,701	25.1%	30,154,437	428.6%
1/1/2017	48,829,195	170,000,969	121,171,774	28.7%	51,597,031	234.8%
1/1/2019	56,404,693	161,317,062	104,912,369	35.0%	54,243,818	193.4%
1/1/2021	82,494,228	148,929,312	66,435,084	55.4%	56,855,329	116.8%
1/1/2023	84,359,568	154,350,113	69,990,545	54.7%	60,719,547	115.3%

10-Year Schedule of Employer Contributions

Fiscal Year Ended	Actuarially Determined Contribution (a)	Historical Contribution (b)	Contribution Deficiency (Excess) (a) - (b)	Covered Payroll (c)	Contributions as a Percentage of Covered Payroll (b) / (c)
12/31/2013	\$14,249,437	\$8,772,788	\$5,476,649	\$35,546,938	24.68%
12/31/2014	14,249,437	9,277,052	4,972,385	35,546,938	26.10%
12/31/2015	10,095,898	10,602,498	(506,600)	30,154,437	35.16%
12/31/2016	10,095,898	9,770,624	325,274	30,154,437	32.40%
12/31/2017	11,456,261	10,222,267	1,233,994	51,597,031	19.81%
12/31/2018	10,536,980	11,678,484	(1,141,504)	51,597,031	22.63%
12/31/2019	9,619,556	11,642,994	(2,023,438)	54,243,818	21.46%
12/31/2020	10,050,122	10,287,850	(237,728)	56,142,352	18.32%
12/31/2021	9,944,016	12,041,435	(2,097,419)	56,855,329	21.18%
12/31/2022	10,196,577	11,346,528	(1,149,951)	58,845,266	19.28%

As of fiscal year ended 2018, the ADC is calculated in accordance the employer's substantive 'pay-as-you-go' contribution policy. For all prior years, the ADC is equal to the Annual Required Contribution (ARC) as calculated under GASB No. 45.

Historical payroll reflects that disclosed as of the most recent actuarial valuation date. Through years ending 12/31/2016, only payroll for participants hired prior to the "grandfather" dates was included.

Italicized amounts are yet to be determined

Projected Retiree Benefit Payments

Exhibit A is a graph that shows the 30-year projection of expected benefit payments under the OPEB plan. These payments only reflect those participants who have already been hired or who are retired. Expected benefit payments are equal to the number of retirees each year times the per retiree cost to the employer, and it includes the implicit rate subsidies. The first year's projected benefit payments total \$10,861,403. As the last participants retire and then reach the end of their benefit period, the benefit payments decline and eventually would reach zero. Exhibit B is a table showing the first 10 years of expected benefit payments.

Exhibit A - 30yr Projection of Expected Benefit Payments

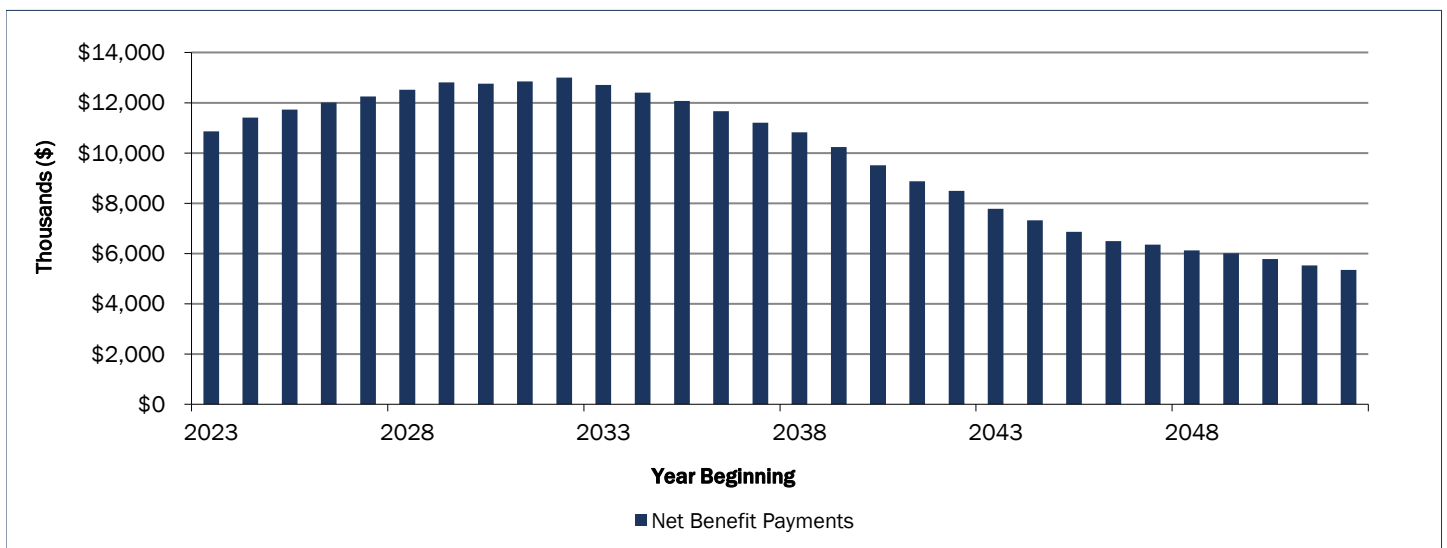


Exhibit B - First 10 Years of Expected Benefit Payments

Plan Year Beginning January 1,	Net Benefit Payments
2023	10,861,403
2024	11,413,884
2025	11,724,890
2026	12,003,345
2027	12,249,663
2028	12,516,226
2029	12,808,517
2030	12,763,503
2031	12,846,242
2032	12,997,110

OPEB Expense (Income)

	Measurement Period Ending	
	12/31/2024	12/31/2023
	<i>Estimate</i>	<i>Estimate</i>
OPEB Expense (Income)		
1. Service Cost	\$ 1,766,584	\$ 1,706,844
2. Interest on the Total OPEB Liability	8,540,930	8,585,696
3. Non-Investment Administrative Expenses	8,916	8,436
4. Employee Contributions	0	0
5. Projected Earnings on Fiduciary Net Position	(5,081,831)	(4,808,255)
6. Recognition of Deferred Outflows/(Inflows) related to:		
Net difference between projected and actual earnings	561,092	(1,638,603)
Differences between expected and actual experience	1,231,045	1,374,584
Changes in assumptions	(1,069,408)	(3,135,317)
7. Ad Hoc Postemployment Benefit Changes	0	0
8. Total	<u>\$ 5,957,328</u>	<u>\$ 2,093,385</u>
Development of Interest on the Total OPEB Liability		
1. Beginning Total OPEB Liability x 100% x Discount Rate	\$ 8,765,531	\$ 8,797,956
2. Service Cost x 100% x Discount Rate	100,695	97,290
3. Benefit Payments x 50% x Discount Rate	(325,296)	(309,550)
4. Total	<u>\$ 8,540,930</u>	<u>\$ 8,585,696</u>
Development of Projected Earnings Fiduciary Net Position		
1. Beginning Fiduciary Net Position x 100% x Rate of Return on Assets	\$ 5,082,085	\$ 4,808,495
2. Employer Contributions x 50% x Rate of Return on Assets	325,296	309,550
3. Employee Contributions x 50% x Rate of Return on Assets	0	0
4. Benefit Payments x 50% x Rate of Return on Assets	(325,296)	(309,550)
5. Administrative Expenses x 50% x Rate of Return on Assets	(254)	(240)
6. Total	<u>\$ 5,081,831</u>	<u>\$ 4,808,255</u>
Key Assumptions for OPEB Expense (Income)		
Discount Rate	5.70%	5.70%
Annual Wage Increase	3.50%	3.50%
Expected Rate of Return on Assets	5.70%	5.70%
Key Assumptions for Net OPEB Liability		
Discount Rate	5.70%	5.70%
Annual Wage Increase	3.50%	3.50%
Expected Rate of Return on Assets	5.70%	5.70%

Net OPEB Liability

	Measurement Period Ending	
	12/31/2024	12/31/2023
	<i>Estimate</i>	<i>Estimate</i>
Reconciliation of Total OPEB Liability		
1. Total OPEB Liability at End of Prior Year	\$ 153,781,250	\$ 151,294,204
2. Service Cost	1,766,584	1,706,844
3. Interest on the Total OPEB Liability	8,540,930	8,585,696
4. Net Benefits Paid by Employer	(11,413,884)	(10,861,403)
5. Ad Hoc Postemployment Benefit Changes	0	0
6. Differences between expected and actual experience	0	615,505
7. Changes in assumptions	0	2,440,404
8. Total OPEB Liability at End of Year	<u>\$ 152,674,880</u>	<u>\$ 153,781,250</u>
Reconciliation of Fiduciary Net Position		
1. Fiduciary Net Position at End of Prior Year	\$ 89,159,387	\$ 84,359,568
2. Projected Earnings on Fiduciary Net Position	5,081,831	4,808,255
3. Difference Between Projected and Actual Earnings	0	0
4. Employer Contributions	11,413,884	10,861,403
5. Employee Contributions	0	0
6. Net Benefits Paid by Employer	(11,413,884)	(10,861,403)
7. Non-Investment Administrative Expenses	(8,916)	(8,436)
8. Fiduciary Net Position at End of Year	<u>\$ 94,232,302</u>	<u>\$ 89,159,387</u>
Money-Weighted Rate of Return	5.70%	5.70%
Net OPEB Liability (Asset)		
1. Total OPEB Liability	\$ 152,674,880	\$ 153,781,250
2. Fiduciary Net Position	<u>(94,232,302)</u>	<u>(89,159,387)</u>
3. Net OPEB Liability (Asset)	\$ 58,442,578	\$ 64,621,863
4. Fiduciary Net Position as % of Total OPEB Liability ("Funded Status")	61.72%	57.98%
5. Covered Payroll	\$ 62,844,731	\$ 60,719,547
6. Net OPEB Liability (Asset) as a % of Covered Payroll	93.00%	106.43%
Sensitivity of Net OPEB Liability (Asset) to Changes in the Discount Rate		
1. 1% increase in the discount rate	\$ 46,025,171	\$ 51,922,687
2. 1% decrease in the discount rate	72,982,244	79,505,395
Sensitivity of Net OPEB Liability (Asset) to Changes in the Healthcare Trend		
1. 1% increase in healthcare trend	76,419,075	81,472,388
2. 1% decrease in healthcare trend	43,131,716	50,244,923

Deferred Outflows (Inflows)

	Measurement Period Ending	
	12/31/2024	12/31/2023
	<i>Estimate</i>	<i>Estimate</i>
Deferred Outflows of Resources Related to OPEB		
1. Net difference between projected and actual earnings	\$ 6,574,668	\$ 7,135,760
2. Differences between expected and actual experience	1,117,414	2,348,459
3. Changes in assumptions	2,166,934	3,115,852
4. Contributions subsequent to measurement date	0	0
5. Total	<u>\$ 9,859,016</u>	<u>\$ 12,600,071</u>
Deferred Inflows of Resources Related to OPEB		
1. Net difference between projected and actual earnings	\$ 0	\$ 0
2. Differences between expected and actual experience	0	0
3. Changes in assumptions	1,029,347	3,047,673
4. Total	<u>\$ 1,029,347</u>	<u>\$ 3,047,673</u>

Schedule of Deferred Outflows (Inflows)

Amounts reported as deferred outflows or deferred inflows of resources related to OPEBs will be recognized in OPEB expense as follows:

MPE 12/31/2024		MPE 12/31/2023	
2025	\$ 2,703,754	2024	\$ 722,729
2026	5,504,994	2025	2,703,754
2027	608,747	2026	5,504,994
2028	12,174	2027	608,747
2029	-	2028	12,174
2030+	-	2029+	-

Deferred Outflows (Inflows) (cont.)

Deferred Outflows/(Inflows) - Historical Amortization Schedules

Meas. Period Ending	Original Amount	Current-Year Amortization Amount	Original Amortization Period		Outstanding Balance at 12/31/2024	Outstanding Balance at 12/31/2023
Net difference between projected and actual earnings						
2023	\$ 0	\$ 0	5.00	\$	0	\$ 0
2022	22,837,472	4,567,495	5.00		9,134,987	13,702,482
2021	(12,801,615)	(2,560,324)	5.00		(2,560,319)	(5,120,643)
2020	(7,230,403)	(1,446,081)	5.00		0	(1,446,079)
Differences between expected and actual experience						
2023	\$ 615,505	\$ 122,611	5.02	\$	370,283	\$ 492,894
2022	820,051	181,829	4.51		274,564	456,393
2021	4,178,987	926,605	4.51		472,567	1,399,172
Changes in assumptions						
2023	\$ 2,440,404	\$ 486,136	5.02	\$	1,468,132	\$ 1,954,268
2022	2,087,148	462,782	4.51		698,802	1,161,584
2021	(9,102,651)	(2,018,326)	4.51		(1,029,347)	(3,047,673)

Summary of Participant Data as of January 1, 2023

Participant Summary

Metric	Active Employees	Retirees and Spouses
Covered Participants	833	1,670
Average Age	43.7	71.0
Average Service	9.9	N/A
Percentage Male	69.6	48.3

Age / Service Distribution for Active Participants

Attained Age	Years of Credited Service										Total
	<1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40+	
Under 25	19	8	0	0	0	0	0	0	0	0	27
25 to 29	16	36	9	0	0	0	0	0	0	0	61
30 to 34	28	34	45	5	0	0	0	0	0	0	112
35 to 39	20	35	51	26	4	0	0	0	0	0	136
40 to 44	10	17	34	37	19	3	0	0	0	0	120
45 to 49	11	15	12	29	18	33	4	0	0	0	122
50 to 54	5	13	18	15	16	23	24	1	0	0	115
55 to 59	2	10	15	16	11	11	9	3	0	0	77
60 to 64	2	7	9	11	8	7	6	2	1	0	53
65 to 70	1	0	2	4	2	0	0	0	0	0	9
70+	0	1	0	0	0	0	0	0	0	0	1
Total	114	176	195	143	78	77	43	6	1	0	833

Summary of Plan Provisions

- Retiree Benefits and Eligibility**
1. Continuation of medical, pharmacy, and dental benefits under the City's group plan. Pre-Medicare retirees are enrolled in the same self-insured plan as active employees. Medicare eligible employees are enrolled in a fully-ensured Medicare Supplemental plan sponsored by the City.
 2. Life Insurance: \$25,000 life insurance for all eligible retirees.
 3. Long-Term Disability: eligible to continue receiving health benefits and \$50,000 life insurance.
 4. Retirees pay 100% of dental benefit costs, resulting in no liability for the City.

Eligibility

Police & Firefighters
 Any age with 5+ years of service if hired before 1/1/2007
 Age 50 with 5+ years of service if hired after 12/31/2006

All Others
 Age 55 with 5+ years of service. Supervisors may be eligible if involuntarily terminated.

Dependent Coverage Spouses and Surviving Spouses and children up to age 26 are eligible for healthcare benefits.

Length of Benefits

Retiree : Life
Spouse : Life, or until remarriage

2023 Annual Premium Equivalent Rates

Plan	Single Coverage	Family Coverage
Medica (Pre-65)	\$ 12,936.00	\$ 31,812.00
Freedom/National (Post-65)	3,360.00	6,720.00
Group Term Life Ins.	\$0.27 per \$1,000 of coverage	

Retiree Medical Contributions

City Police & Fire
 Hired after 12/31/2006: 100% of Premium Equivalent Rates
 Hired before 1/1/2007: Percentage of Premium Equivalent Rates according to length of service, as shown below

City Supervisory, LELS, and Confidential
 Hired after 12/31/2005: 100% of Premium Equivalent Rates
 Hired before 1/1/2006: Percentage of Premium Equivalent Rates according to length of service, as shown below

Summary of Plan Provisions

Retiree Medical Contributions (cont.) *All Other City Employees:*
 Hired after 12/31/2006: 100% of Premium Equivalent Rates
 Hired before 1/1/2007 with 15 years of service, and retired before 12/15/2009: City pays full premium.
 Hired before 1/1/2007: Percentage of Premium Equivalent Rates according to length of service, as shown below:

Years of Service	Retiree's Share of Premium	Years of Service	Retiree's Share of Premium
5	75%	13	35%
6	70	14	30
7	65	15	25
8	60	16	20
9	55	17	15
10	50	18	10
11	45	19	5
12	40	20+	0

Retiree Life Insurance Contributions None

Changes Since Prior Valuation 1. Premium equivalent rates were updated to reflect current rates.

Actuarial Assumptions and Methods

Actuarial Valuation Date	January 1, 2023	
Actuarial Cost Method	Individual Entry Age Normal as a level percentage of payroll	
Discount Rate	5.70%	at valuation date
	5.70%	as of measurement period ending December 31, 2023
Annual Wage Increases	3.50%	
Price Inflation	2.20%	
Investment Rate of Return	5.70%	
Actuarial Value of Assets	Market Value	
Healthcare Reform	<p>The excise tax on high-cost healthcare plans (“Cadillac” tax) has been repealed and is no longer factored into this valuation.</p> <p>Other aspects of the Affordable Care Act were included in the valuation only to the extent they have already been implemented in the plan.</p>	

Annual Healthcare Trend

Years after Valuation Date	Medical/Pharmacy	
	Pre-65	Post-65
1	7.50%	4.00%
2	7.00	3.75
3	6.50	3.75
4	6.00	3.75
5	5.50	3.75
6+	5.00	3.75

Actuarial Assumptions and Methods

2023 Annual Per-Capita Claims Costs

Starting pre-Medicare per-capita costs were developed using paid claims and enrollment data from January 1, 2021 through December 31, 2022. Active and retiree plan experience was used due to lack of credibility for retiree-only experience. Medical and pharmacy claims were analyzed separately, and projected to the current claims year at 7.4% and 9.8%, respectively, based on the 2023 Segal Health Plan Cost Trend Survey. 70% of the resulting per-capita costs were blended with 30% of the expected costs based on our credibility analysis to reduce volatility. Consideration was also given to abnormal utilization patterns generated by the COVID-19 pandemic. The resulting costs were then disaggregated into age-specific starting rates using average ages and the morbidity assumptions below to reflect the relationship between costs and increasing age. Fixed costs and fees are shown separately, and include administrative fees as well as specific and aggregate stop-loss premiums.

Starting Medicare-eligible per-capita costs were developed using the fully-insured premium rates as provided by the insurer. The rates were then disaggregated into age-specific starting costs using average ages and the morbidity assumptions above to reflect the relationship between costs and increasing age. Fixed costs and fees are included in these costs to the extent the insurer incorporated them.

Age	Med/Rx	
	Claims	Fixed Costs
40	\$ 8,379	\$ 788
45	9,670	788
50	11,701	788
55	14,470	788
60	17,753	788
64	21,017	788
65	2,869	-
70	3,172	-
75	3,434	-
80	3,637	-
85+	3,739	-

Rates of Morbidity

Age	Rate	Age	Rate
40	2.84%	65	2.11%
45	3.28	70	1.83
50	4.44	75	1.30
55	4.22	80	0.86
60	4.20	85+	0.00

Actuarial Assumptions and Methods

Participation

Future Retirees

100% of employees who receive a City contribution are assumed to elect medical benefits once they are eligible for retirement.

40% of employees who pay the full premium are assumed to elect medical benefits once they are eligible for retirement.

Current Retirees

Based on current coverage election. It is assumed that no one will opt in or opt out of coverage once initial retirement election is made.

Marital Status

Future Retirees: 65% of participating retirees are assumed to be married at retirement and will cover their spouse.

Current Retirees: Based on current coverage election.

Spouse Age

Male spouses are assumed to be 3 years older, and female spouses are assumed to be 3 years younger. Actual age is used for spouses of current retirees, if provided.

Mortality

Pre-Retirement:

Police/Fire: Pub-2010 Safety Employees Heacount-Weighted Table

Others: Pub-2010 General Employees Heacount-Weighted Table

Healthy Retirees and Covered Spouses:

Police/Fire: Pub-2010 Safety Retirees Heacount-Weighted Table

Others: Pub-2010 General Retirees Heacount-Weighted Table

Surviving Spouses

Police/Fire: Pub-2010 Safety Contingent Survivor Heacount-Weighted Table

Others: Pub-2010 General Contingent Survivor Heacount-Weighted Table

Disabled Retirees:

Police/Fire: Pub-2010 Safety Disabled Retiree Heacount-Weighted Table

Others: Pub-2010 General Disabled Retiree Heacount-Weighted Table

The mortality assumptions include a margin for future mortality improvements using Scale MP-2021 projected fully-generationally from the central year of data, 2010.

Actuarial Assumptions and Methods

Retirement

Active employees are assumed to retire in accordance with annual rates varying by bargaining unit, age, and points. Rates are only applicable if a participant is eligible to retire with a benefit. Sample rates are as follows:

Police & Fire		All Others			
Age	Rate	Age	Not Rule of 90 <19 YOS	19+ YOS	Rule of 90
50	7.5%	55-59	5%	15%	67%
51-52	5.0	60	5	35	67
53	7.5	61	5	35	67
54	30.0	62	20	70	67
55	50.0	63	10	35	67
56	20.0	64	15	45	67
57	22.5	65	50	50	67
58	25.0	66-69	40	40	67
59	40.0	70	100	100	67
60-61	75.0	71+	100	100	100
62-64	80.0				
65	100.0				

Disability

Active employees are assumed to become disabled in accordance with annual rates varying by age. Sample rates are as follows:

Age	Rate
20	0.03%
30	0.03
40	0.04
50	0.21
60	1.01

Actuarial Assumptions and Methods

Termination

Active employees are assumed to terminate employment for reasons other than death, disability or retirement in accordance with annual rates varying by service and bargaining unit. Sample rates are as follows:

Yrs of Service	Police &	
	Fire	All Others
0	9.60%	8.60%
1	6.40	6.67
2	4.40	4.72
3	4.00	3.92
4	4.00	3.36
5	3.60	3.04
10	2.80	1.90
15	2.40	1.26
20	1.60	0.86
25	1.60	0.72
30+	1.60	0.48

Changes Since Prior Valuation

1. Per-capita costs were updated to reflect experience since the previous valuation, including the assumed rates of morbidity.
2. Participation percentage for future retirees that pay 100% of the premium rates was increased from 25% to 40%.
3. Retirement rates were updated based on the results of the 2023 Actuarial Experience Study.
4. Termination rates were updated based on the results of the 2023 Actuarial Experience Study.

Rationale for Key Assumptions

Investment Rate of Return

The investment policy of the Employer is determined based on the goals and objectives of the Plan and the risk tolerance of the Employer. As new information regarding the economic environment becomes available the investment policy may need to be revised. Asset allocations fluctuate due to market performance, however, the targeted OPEB asset allocation is as described below. The Employer's objective in selecting the Expected Long-Term rate of return on Assets is to estimate the single rate of return that reflects the historical returns, future expectations for each asset class, and the asset mix of the plan assets.

Asset Classes	Target Allocation	Real Rate of Return
Domestic Fixed Income	30%	0.80%
Domestic Equity	70%	4.70%
Other	0%	0.00%
Expected Real Rate of Return		3.50%
Inflation Rate	+	2.20%
Total Investment Rate of Return		5.70%

Discount Rate

The discount rate is the single rate that reflects (1) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments and OPEB plan assets are expected to be invested using a strategy to achieve that return, and (2) a 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 scale), to the extent that the conditions for use of the long-term expected rate of return are not met.

For purposes of calculating the discount rate, it is assumed that all future Employer contributions will be equal to the projected net retiree benefit payments, consistent with the Employer's substantive historical 'pay-as-you-go' funding policy.

Single Equivalent Interest Rate (SEIR)

Long-Term Expected Rate of Return	5.70%
S&P Municipal Bond 20-Year High-Grade Rate Index	4.31%
Administrative Expenses Paid from the Trust	0.01%
Year in which Fiduciary Net Position is Depleted	N/A
Single Equivalent Interest Rate	5.70%

Rationale for Key Assumptions

Annual Healthcare Trend

Trend rates are based on plan experience, historical trends, and industry norms. The immediate trend rates are assumed to decrease to an ultimate trend rate over a period of 5 to 15 years. Healthcare costs are currently approximately 18.3% of the Gross Domestic Product (GDP), according to the Center for Medicare & Medicaid Services. The ultimate rate is decreased over time to maintain this relationship.

Termination, Retirement, Medical Plan Participation, Spouse Participation, and Spouse Age Difference

These assumptions were selected based on the results of the June 2023 actuarial experience study. This study analyzed Plan experience from 1/1/2015 through 1/1/2021.

Mortality

The mortality assumption is the most recent "PUB-2010" headcount-weighted table from the Society of Actuaries with any collar adjustments selected based on the actuary's experience with plans of a similar size, plan design, workforce composition, and discussions with the Employer. The most recent fully-generational "MP" improvement scale is used to reflect future mortality improvements.

Definitions

Actuarial Present Value of Projected Benefits	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation Date	The date as of which the service cost, total OPEB liability, and related actuarial present value of projected benefit payments is determined in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarially Determined Contribution (ADC)	A target or recommended contribution to a defined benefit plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Closed Period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Contributions	Additions to a OPEB plan's fiduciary net position for amounts from employers, nonemployer contributing entities (for example, state government contributions to a local government plan), or employees. Contributions can result from cash receipts by the OPEB plan or from recognition by the OPEB plan of a receivable from one of these sources.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Covered Employee Payroll	The payroll of employees that are provided with OPEBs through the OPEB plan.
Deferred Outflows and Inflows of Resources Related to OPEBs	Deferred outflows of resources and deferred inflows of resources related to OPEBs arising from certain changes in the net OPEB liability.

Definitions

Defined Benefit OPEB	OPEB for which the benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The OPEB may be stated as (a) a specified dollar amount; (b) an amount that is calculated based on one or more factors such as age, years of service, and compensation; or (c) a type or level of coverage such as prescription drug coverage or a percentage of health insurance
Defined Contribution OPEB	OPEB having terms that (a) provide an individual account for each employee; (b) define the contributions that an employer or nonemployer contributing entity is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (c) provide that the OPEB an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earning on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as OPEB plan administrative costs, that are allocated to the employee's account.
Discount Rate	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <p>(a) The actuarial present value of benefit payments projected to be made in future periods in which (1) the amount of the OPEB plan's fiduciary net position is projected (under the requirements of Statement 75) to be greater than the benefit payments that are projected to be made in that period and (2) OPEB plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on OPEB plan investments.</p> <p>(b) The actuarial present value of projected benefit payments not included in (a), calculated using a 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).</p>

Definitions

Entry Age Actuarial Cost Method	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the <i>normal cost</i> . The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the <i>actuarial accrued liability</i> .
Healthcare Cost Trend Rates	The rates of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
Money-Weighted Rate of Return	A method of calculating period-by-period returns on OPEB plan investments that adjusts for the changing amounts actually invested. For purposes of Statement 74, money-weighted rate of return is calculated as the internal rate of return on OPEB plan investments, net of OPEB plan investment expense.
Net OPEB Liability	The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit OPEB plan.
OPEB Expense	OPEB expense arising from certain changes in the net OPEB liability.
Other Postemployment Benefits (OPEB)	Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
Postemployment Healthcare Benefits	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.

Definitions

Projected Benefit Payments	All benefits (including refunds of employee contributions) estimated to be payable through the OPEB plan (including amounts to be paid by employers or nonemployer contributing entities as the benefits come due) to current active and inactive employees as a result of their past service and their expected future service.
Real Rate of Return	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Termination Benefits	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total OPEB Liability	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 75. The total OPEB liability is the liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit OPEB plan that is not administered through a trust that meets the criteria of paragraph 4 of Statement 75.