

**POST RETIREMENT BENEFITS ACTUARIAL VALUATION
OF
THE CITY OF SOMERVILLE**

June 30, 2022 Actuarial Valuation Report

GASB 74 & 75

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Introduction

This report presents the Governmental Accounting Standards Statements 74 & 75 based on the findings of an actuarial valuation as of June 30, 2022, of the Somerville OPEB Plan.

The actuarial valuation is based on:

- Plan Provisions as of June 30, 2022.
- Employee data provided by the City as of June 30, 2022
- Asset provided by the City as of June 30, 2022
- Actuarial assumptions approved by the Sherman Actuarial Services and the City

The valuation and forecast do not account for any subsequent changes in the plan.

GASB Statements No. 74 and No. 75

Effective for periods beginning after June 15, 2015, the Governmental Accounting Standards Board (GASB) requires the disclosure of Other Post Employment Benefits (OPEB) related liabilities for public employer financial statements in accordance with Statements 74 and 75. These statements, which amend GASB Statements No. 43 and No. 45, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

The statement requires the system to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the following items as of the end of the plan’s reporting period, as applicable:

- Assets
- Deferred outflows of resources (consumption of net assets by the employers that is applicable to a future reporting period)
- Liabilities
- Deferred inflows of resources (acquisition of net assets by the employers that is applicable to a future reporting period)
- Fiduciary net position (Assets + Deferred outflows – Liabilities – Deferred inflows)

The system is considered a single employer OPEB plan since obligations exist for employees of one employer and plan assets can be used to pay the benefits of the employees the employer.

This report does not include all items required under GASB Statements No. 74 and No. 75. Rather, it provides all items required that are not readily available from other sources and investment reports prepared by the plan’s investment consultant.

Discount Rate

The discount rate, and all other actuarial assumptions, are the as those described in Exhibit 4. The discount rate was selected based on a projection of employer and employee contributions, benefit payments (with and without subsidy), expenses and the long term expected rate of return on trust assets.

Based on these laws and assumptions, the OPEBs plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

The City selected 7.5% as the long-term expectation of investment returns. For the FYE22, the Money Weighted Rate of Return was 0.55%

Net Position Restricted for OPEB

The Net Position Restricted for OPEB Plan Benefits as of June 30, 2022 is \$16,673,914.

June 30, 2021 Net Position	13,270,449
Employer Contributions	11,984,065
Employee Contributions	0
Other Payments	0
Benefit Payments	(8,655,912)
Expenses	0
Investment Income	<u>75,311</u>
June 30, 2022 Net Position	16,673,914

OPEB Liability as of June 30, 2022

The following presents the changes in the OPEB liability during FYE 2022.

June 30, 2021 Liability	165,014,137
Service Cost	3,940,156
Interest on Liability and Service Cost	12,335,447
Change in Plan Provisions	0
Experience (Gain) and Loss	26,607
Change in Assumptions	0
Benefit Payments	(9,128,356)
Other	<u>0</u>
June 30, 2022 Liability	172,187,991

Net OPEB Liability as of June 30, 2022

The following presents the net OPEB liability of the system calculated using the discount rate of 7.5%, as well as what the system's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.5%) or 1-percentage-point higher (8.5%) than the current rate. The Plan Fiduciary Net Position as a percentage of the Total OPEB Liability is 9.7%.

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
Total OPEB Liability	202,830,895	172,187,991	161,292,302
Plan Fiduciary Net Position	<u>16,673,914</u>	<u>16,673,914</u>	<u>16,673,914</u>
Net OPEB Liability	177,401,101	155,514,077	144,618,389

Water

Total OPEB Liability	809,961	687,595	644,085
Plan Fiduciary Net Position	<u>66,584</u>	<u>66,584</u>	<u>66,584</u>
Net OPEB Liability	743,377	621,011	577,502

Sewer

Total OPEB Liability	229,208	194,580	182,267
Plan Fiduciary Net Position	<u>18,842</u>	<u>18,842</u>	<u>18,842</u>
Net OPEB Liability	210,366	175,738	163,425

The following presents the net OPEB liability of the system calculated using the current trend rates, as well as what the system's net OPEB liability would be if it were calculated using trend rates 1-percentage-point lower for all years or 1-percentage-point higher than the current rates.

	1% Decrease	Current Trend	1% Increase
Total OPEB Liability	158,394,730	172,187,991	206,848,021
Plan Fiduciary Net Position	<u>16,673,914</u>	<u>16,673,914</u>	<u>16,673,914</u>
Net OPEB Liability	136,147,883	155,514,077	190,174,107

Water

Total OPEB Liability	632,515	687,595	826,002
Plan Fiduciary Net Position	<u>66,584</u>	<u>66,584</u>	<u>66,584</u>
Net OPEB Liability	565,931	621,011	759,419

Sewer

Total OPEB Liability	178,993	194,580	233,747
Plan Fiduciary Net Position	<u>18,842</u>	<u>18,842</u>	<u>18,842</u>
Net OPEB Liability	160,151	175,738	214,905

OPEB Expense for FYE 2022

Service Cost	3,940,156
Interest	12,335,447
Difference in Experience - Amortization	(14,106,863)
Change in Assumptions - Amortization	(19,392,480)
Changes in Plan Provisions	0
Employee Contributions	0
Projected Earnings	(1,016,085)
Administration Expense	0
Other Changes in Fiduciary Net Position	0
Asset (Gain) / Loss Amortization	<u>(108,927)</u>
Total Expense	(18,348,752)

Schedules of Required Supplementary Information

	<u>2022</u>
Total OPEB Liability – Beginning	165,014,137
Total OPEB Liability – Ending (a)	172,187,991
Plan Fiduciary Net Position – Beginning	13,270,449
Plan Fiduciary Net Position – Ending (b)	16,673,914
Net OPEB Liability – Ending (a) – (b)	155,514,077
Plan Fiduciary Net Positions as a percentage of the Total OPEB Liability	9.7%
Covered-employee payroll	132,216,109
Net OPEB Liability as a percentage of Covered-employee Payroll	117.6%

Schedule of Net Position Restricted for OPEB Plan Benefits Amortization Recognition

Below is the schedule of amortization adjustments to the OPEB Expense for the coming years. A positive number indicates that the actual return was less than the expected return and will be added to the OPEB Expense.

Investment Return

<u>FYE</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>				
			<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
2022	940,774	5	188,155	188,155	188,155	188,155	188,154
2021	(1,087,760)	5	(217,552)	(217,552)	(217,552)	(217,552)	
2020	(158,518)	5	(31,704)	(31,704)	(31,702)		
2019	(280,630)	5	(56,126)	(56,126)			
2018	41,496	5	8,300				

Experience

<u>FYE</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>					
			<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
2022	26,607	5.07	5,248	5,248	5,248	5,248	5,248	367
2020	(34,868,389)	5.56	(6,271,293)	(6,271,293)	(6,271,293)	(3,511,924)		
2018	(40,144,988)	5.12	(7,840,818)	(940,898)				

Assumptions

<u>FYE</u>	<u>(Gain) / Loss</u>	<u>Period</u>	<u>Increase (Decrease) arising from (Gains) or Losses</u>			
			<u>2022</u>	<u>2023</u>	<u>2023</u>	<u>2024</u>
2020	(107,822,190)	5.56	(19,392,480)	(19,392,480)	(19,392,480)	(10,859,790)

Reconciliation of Net OPEB Liability for 2022

NOL Beginning of Year	151,743,688
OPEB Expense	(18,348,752)
Employer Contributions	(12,456,509)
Deferred Outflow Changes	765,678
Deferred Inflow Changes	33,809,973
Revenue	<u>0</u>
NOL End of Year	155,514,077

Actuarial Determined Contribution for 2022

Service Cost	3,940,156
Amortization of NOL	8,517,113
Interest to Expected Payment	<u>934,295</u>
Total	13,391,564

Amortization of the Net OPEB Liability is based on 30 years with payments increasing 3.5% per year.

EXHIBITS

EXHIBIT 1 – MEDICAL PREMIUM

Monthly Premiums effective July 1, 2022

Health benefits are available to employees and retirees through a number of plans. Retirees contribute either 20% or 25% of the costs, depending on the plan elected. The following are gross monthly rates per subscriber for plans in which current City retirees did enroll:

	<u>Individual</u>	<u>Family</u>
Harvard Pilgrim Independence Plan	1,036.03	2,534.63
Harvard Pilgrim Primary Choice Plan	746.72	1,909.58
AllWays Health Partners	844.47	2,211.64
Tufts Health Plan Navigator	891.16	2,183.15
Tufts Health Plan Spirit	675.73	
UniCare State Indemnity Plan/Basic with CIC	1,239.09	2,752.65
UniCare State Indemnity Plan/Community Choice	623.83	
UniCare State Indemnity Plan/Plus	811.39	1,938.75

Medicare Supplemental Plans

Harvard Pilgrim Medicare Enhance	423.97
Tufts Health Plan Medicare Complement	406.02
Tufts Health Plan Medicare Preferred	345.42
Unicare State Indemnity Plan/Medicare Ext with CIC	413.37

EXHIBIT 2 – ACTIVE MEMBERSHIP

	<u>City</u>	<u>School</u>	<u>Water</u>	<u>Sewer</u>	<u>Total</u>
Actives	838	809	9	2	1,658
Retirees and Beneficiaries	<u>980</u>	<u>783</u>	<u>7</u>	<u>1</u>	<u>1,771</u>
Total	1,818	1,592	16	3	3,429

EXHIBIT 3 – SUMMARY OF PLAN PROVISIONS:

- Retiree Medical Insurance:*** Participants may select from a wide variety of plans offered by the Group Insurance Commission. Retirees contribute either 20% or 25% of the costs, depending on the plan elected.
- Life Insurance:*** The City of Somerville provides \$5,000 of Basic Life Insurance. Retirees contribute \$3.95 per month for coverage.
- Spousal Coverage:*** Current and future retirees may elect to include their spouses as part of their post-retirement benefits. There is lifetime spousal coverage for medical insurance.
- Administrative Costs:*** The City pays administrative costs for each member of the plan as part of the monthly premium.
- Section 18 Coverage:*** The City has elected to adopt Section 18 under Chapter 32B of the General Laws of Massachusetts, which requires that an employee or retiree must participate in the Medicare program as the primary payer once one reaches age 65 and is Medicare eligible.
- Retirement Eligibility:*** Age 55 with 10 years of service, or 20 years of service.
- Ordinary Disability Eligibility:*** 10 years of service and under age 55.
- Termination Eligibility:*** 10 years of service.

EXHIBIT 4 – ACTUARIAL METHODS AND ASSUMPTIONS:

Interest:

Full Prefunding: 7.5% per year, net of investment expenses.

Actuarial Cost Method:

Entry Age Normal. Benefits are attributed ratably to service from date of hire until full eligibility date. Full eligibility date is assumed to be first eligibility for retiree medical benefits.

Healthcare Cost Trend Rate:

<u>Year</u>	<u>Inflation Rate</u>
2022 & after	4.5%

Participation:

95% of future retiree teachers and are assumed to participate in the retiree medical plan, 95% of future non-teacher retirees are expected to participate in the retiree medical plan and 100% of future retirees are expected to elect life insurance.

Marital Status:

60% of male employees and 50% of female employees are assumed to have a covered spouse at retirement. Wives are assumed to be three years younger than their husbands.

Pre-Age 65 Retirees

Current retirees who are under age 65 are assumed to remain in their current medical plan until age 65. Current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-average premium is based on the medical plan coverage of current retirees under age 65.

Post-Age 65 Retirees

Current retirees over age 65 remain in their current medical plan until death for purposes of measuring their contributions. It is assumed that future retirees are Medicare eligible. It is furthermore assumed that all current retirees over 65 will participate in the Medicare Supplement plan in the same proportion as current retirees over 65. Per capita costs were developed from the City developed monthly costs. Amounts to be received in the future for the Medicare Part D Retiree Drug Subsidy are not reflected in the valuation.

Termination Benefit:

95% of current active teachers and 95% of current active non-teachers over age 50 with at least 10 years of service are expected to elect medical coverage starting at age 65.

Medical Plan Costs:

The estimated gross per capita incurred claim costs for all retirees and beneficiaries for 2022-23 at age 64 and 65 are \$18,323 and \$4,314, respectively. Medicare eligible retirees' per capita claims costs at age 65 is \$3,534.

It is assumed that future retirees participate in the same manner as current retirees. Employee cost sharing is based on current rates. The cost sharing varies by medical plan. Future cost sharing is based on the weighted average of the current cost sharing of retirees and beneficiaries.

NON-TEACHERS

The below tables represent values of the assumed annual rates of withdrawal, disability, death and service retirement:

Group 1 and 2

Age	Disability	Service Retirement				Years of Service	Rates of Withdrawal
		Male	Female	Male Post 2012 Hire	Female Post 2012 Hire		
25	0.0001					0	0.2800
30	0.0002					5	0.1020
35	0.0003					10	0.0650
40	0.0007					15	0.0417
45	0.0010					20	0.0400
50	0.0013	0.0360	0.1019			25	0.0400
55	0.0016	0.0477	0.0469			30+	0.0000
60	0.0018	0.1057	0.0774	0.0477	0.0469		
62	0.0019	0.1473	0.1168	0.0632	0.0509		
65	0.0016	0.2615	0.1939	0.1057	0.0774		
69	0.0014	0.2500	0.2000	0.2136	0.1708		

Group 4

Age	Disability	Service Retirements		Years of Service	Rates of Withdrawal
		Pre 2012	Post 2012		
25	0.0005			0 - 1	0.150
30	0.0010			2 - 3	0.125
35	0.0020			4 - 5	0.100
40	0.0025			6 - 7	0.075
45	0.0040	.0443		8 - 9	0.050
50	0.0076	.0382	0.0191	10 - 19	0.060
55	0.0076	.1110	0.0370	20+	0.000
60	0.0065	.1871	0.0936		
62	0.0065	.2176	0.1741		
65	0.0000	1.0000	0.2500		

Mortality: It is assumed that both pre-retirement mortality and beneficiary mortality is represented by the RP-2014 Blue Collar Mortality with Scale MP-2015, fully generational. Mortality for retired members for Group 1 and 2 is represented by the RP-2014 Blue Collar Mortality Table set forward five years for males and 3 years for females, fully generational. Mortality for retired members for Group 4 is represented by the RP-2014 Blue Collar Mortality Table set forward three years for males, and six years for females, fully generational. Mortality for disabled members for Group 1 and 2 is represented by the RP-2000 Mortality Table set forward six years. Mortality for disabled members for Group 4 is represented by the RP-2000 Mortality Table set forward two years. Generational adjusting is based on Scale MP-2015.

TEACHERS

The below tables represent values of the assumed annual rates of withdrawal, disability, death and service retirement:

Retirement – Males

Age	Not in Retirement Plus		Retirement Plus		
	Less than 20	20+	Less than 20	20 - 30	30+
47	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000
50	0.000	0.020	0.000	0.010	0.020
51	0.000	0.020	0.000	0.010	0.020
52	0.000	0.020	0.000	0.010	0.020
53	0.000	0.020	0.000	0.015	0.020
54	0.000	0.030	0.000	0.025	0.020
55	0.035	0.030	0.050	0.030	0.060
56	0.035	0.035	0.050	0.060	0.200
57	0.050	0.040	0.050	0.100	0.400
58	0.055	0.050	0.050	0.150	0.500
59	0.060	0.060	0.100	0.200	0.500
60	0.075	0.150	0.100	0.250	0.400
61	0.120	0.250	0.200	0.300	0.400
62	0.140	0.300	0.200	0.350	0.350
63	0.140	0.300	0.250	0.400	0.350
64	0.140	0.300	0.250	0.400	0.350
65	0.300	0.300	0.250	0.400	0.350
66	0.300	0.250	0.300	0.300	0.400
67	0.300	0.250	0.300	0.300	0.400
68	0.300	0.250	0.300	0.300	0.400
69	0.300	0.250	0.300	0.300	0.400
70+	1.000	1.000	1.000	1.000	1.000

Retirement – Females

Age	Not in Retirement Plus	
	Less than 20	20+
47	0.000	0.000
48	0.000	0.000
49	0.000	0.000
50	0.000	0.010
51	0.000	0.010
52	0.000	0.015
53	0.000	0.020
54	0.000	0.020
55	0.035	0.040
56	0.035	0.040
57	0.035	0.040
58	0.050	0.060
59	0.065	0.080
60	0.085	0.150
61	0.100	0.200
62	0.120	0.200
63	0.120	0.250
64	0.200	0.300
65	0.300	0.400
66	0.300	0.300
67	0.300	0.300
68	0.300	0.300
69	0.300	0.300
70+	1.000	1.000

Retirement Plus		
Less than 20	20 - 30	30+
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.015
0.000	0.010	0.020
0.030	0.030	0.050
0.030	0.050	0.150
0.040	0.080	0.350
0.080	0.100	0.350
0.080	0.150	0.350
0.100	0.200	0.350
0.120	0.250	0.350
0.120	0.300	0.350
0.150	0.300	0.350
0.200	0.300	0.350
0.250	0.400	0.350
0.250	0.300	0.350
0.300	0.300	0.300
0.300	0.300	0.300
0.300	0.300	0.300
1.000	1.000	1.000

Disability

Age	Disability
20	0.00004
30	0.00006
40	0.00010
50	0.00050
60	0.00070
60	0.00070

Withdrawal

Age	Service					
	0		5		10+	
	Male	Female	Male	Female	Male	Female
20	0.130	0.100	0.055	0.070	0.015	0.050
30	0.150	0.150	0.054	0.088	0.015	0.045
40	0.133	0.105	0.052	0.050	0.017	0.022
50	0.162	0.098	0.070	0.050	0.023	0.020

Mortality: It is assumed that mortality is represented by the RP-2014 White Collar Mortality with Scale MP-2017, fully generational. Generational adjusting is based on Scale MP-2017.

CERTIFICATION:

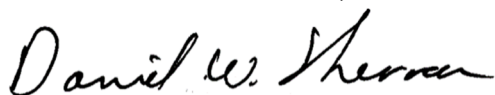
This report fairly represents the actuarial position of the Somerville OPEB Plan as of June 30, 2022, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

The funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations. The funded status measure is appropriate for assessing the need for or the amount of future contributions.

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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

The report was prepared under the supervision of Daniel Sherman, an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, who takes responsibility for the overall appropriateness of the analysis, assumptions and results. Daniel Sherman is deemed to meet the General Qualification Standard and the basic education and experience requirement in the OPEB area. Based on over thirty years of performing valuations of similar complexity, Mr. Sherman is qualified by experience. Daniel Sherman has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sherman Actuarial Services, LLC



Daniel W. Sherman, ASA, MAAA

November, 2022