

**SOMERVILLE
CONTRIBUTORY RETIREMENT SYSTEM**

Actuarial Valuation Report
January 1, 2025

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Report Summary:

Highlights

January 1, 2024

January 1, 2025

Contributions

Funding Schedule FY 2026	19,544,036	\$19,544,036
Funding Schedule FY 2027	21,107,559	19,918,503

Funded Ratios

GAS No. 25	75.1%	79.7%
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Participants

Actives	1,397	1,442
Retirees and Beneficiaries	818	798
Vested	0	0
Inactives	549	596
Disabled	<u>124</u>	<u>120</u>
Total	2,888	2,956

Payroll

Payroll of Active Members	\$106,977,543	\$111,713,255
Average Payroll	76,577	77,471

Normal Cost

Employer	2,052,493	1,884,216
Employee	9,877,130	10,340,113
Administrative Expenses	<u>675,000</u>	<u>700,000</u>
Total	12,604,623	12,924,329

Actuarial Accrued Liabilities

Actives	208,757,591	216,556,392
Retirees, Beneficiaries, Disabilities and Inactives	<u>349,072,761</u>	<u>347,130,844</u>
Total	557,830,352	563,687,236

Actuarial Value of Assets

	<u>418,983,028</u>	<u>449,071,953</u>
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Unfunded Actuarial Accrued Liabilities

	\$138,847,324	\$114,615,283
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Introduction

The purpose of this report is to present the findings of an actuarial valuation as of January 1, 2025, of Somerville Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2025.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Somerville Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2025.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, the total unfunded actuarial accrued liability decreased by 19.5% to \$111,798,778, based on the 2024 actuarial assumptions. The decrease is the result of net favorable actuarial experience during the preceding year and payments against the unfunded liability. The sources of change are as follows:

Assets	(7,102,313)
Salary Increases	38,338
New Participants	1,287,978
Active - Retirements	(3,381,477)
Active - Terminations	(349,853)
Active - Mortality	(155,719)
Active - Disabilities	(427,752)
Inactive - Mortality	(2,571,719)
Inactive - data adjustments	3,859,587
Other	947,429
Benefit Payments	<u>(5,706,998)</u>
Total (Gain) / Loss	(13,562,500)

In addition, the assumed Salary Scale and the maximum COLA base were changed. The assumed Salary Scale decreased from 3.25% to 3%. The assumed annual increase in the COLA was increased to 3%. The net effect was an increase in the Unfunded Actuarial Liability and the Normal Cost by \$2,816,505 and \$223,253, respectively.

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Superannuation	\$7,487,493	\$7,580,179
Termination	2,626,105	2,761,658
Death	428,007	449,157
Disability	1,388,018	1,433,335
Administrative Expenses	<u>675,000</u>	<u>700,000</u>
Total Normal Cost	12,604,623	12,924,329
% of Pay	11.8%	11.6%
Employee Contributions	9,877,130	10,340,113
% of Pay	9.2%	9.3%
Employer Normal Cost	\$2,727,493	\$2,584,216
% of Pay	2.5%	2.3%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactive. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II			
		<u>January 1, 2024</u>	<u>January 1, 2025</u>
Actives			
Superannuations		\$201,041,212	\$208,290,553
Termination		(3,527,825)	(3,598,803)
Death		3,394,641	3,722,202
Disability		7,849,563	8,142,440
Retirees and Inactives			
Retirees and Beneficiaries		275,144,103	276,051,167
Terminated (Refund)		7,912,763	8,563,057
Disabled		<u>66,015,895</u>	<u>62,516,620</u>
Total		\$557,830,352	\$563,687,236

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Actives		
Superannuation	\$261,003,633	\$267,605,614
Termination	17,902,138	19,008,106
Death	6,845,969	7,310,718
Disability	20,387,198	20,790,378
Retirees and Inactives		
Retirees and Beneficiaries	275,144,103	276,051,167
Terminated (Refund)	7,912,763	8,563,057
Disabled	<u>66,015,895</u>	<u>62,516,620</u>
Total	\$655,211,699	\$661,845,660

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Cash equivalents	\$7,815,847	\$17,924,527
Short term investments	0	0
Fixed income securities	61,683,104	64,895,255
Equities	288,069,340	324,023,508
International	13,884,678	14,325,169
Real Estate	18,342,797	17,924,367
Venture Capital	0	0
Other	14,093,353	16,572,637
Accounts receivable	179,945	31,574
Accounts payable	(254,352)	(287,057)
Accrued income	<u>18,562</u>	<u>4,551</u>
Total Market Value	\$403,833,274	\$455,414,531
Total Actuarial Value	\$418,983,028	\$449,071,953

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the actuarial value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (7.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of January 1, 2025 is presented in Table V.

Table V

	<u>January 1, 2025</u>
(1) Market value at January 1, 2024	\$403,833,274
(2) 2024 Contributions	\$31,800,946
(3) 2024 Benefit Payments	(\$39,938,423)
(4) Net interest adjustment at 7.5% on (1), (2), and (3) to December 31, 2024	\$29,961,996
(5) Expected market value on January 1, 2025	\$425,657,793
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2025	\$455,414,531
(7) 2024 (Gain) / Loss	(\$29,756,738)
(8) 80% of 2024 (Gain) / Loss	(\$23,805,390)
(9) 2023 (Gain) / Loss	(\$45,759,773)
(10) 60% of 2023 (Gain) / Loss	(\$27,455,864)
(11) 2022 (Gain) / Loss	\$132,754,971
(12) 40% of 2022 (Gain) / Loss	\$53,101,988
(13) 2021 (Gain) / Loss	(\$40,916,561)
(14) 20% of 2021 (Gain) / Loss	(\$8,183,312)
(15) Actuarial value on January 1, 2025, (6) + (8) + (10) + (12) + (14)	\$449,071,953
(16) but not less than 90% nor greater than 110% of (6)	\$449,071,953
Ratio of actuarial value to market value	98.61%
(17) Actuarial Value Return for 2023	13.93%
(18) Actuarial Value Return for 2024	9.21%
(19) Market Value Return for 2023	21.03%
(20) Market Value Return for 2024	14.94%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Actuarial Accrued Liability	\$557,830,352	\$563,687,236
Actuarial Assets	<u>418,983,028</u>	<u>449,071,953</u>
Unfunded Actuarial Accrued Liability	\$138,847,324	\$114,615,283
Funded Status	75.1%	79.7%
Market Value of Assets	403,833,274	455,414,531
Funded Status for Chapter 68 of the 2007 MGL*	75.1%	80.8%

* (Greater of Actuarial and Market Value, divided by Actuarial Accrued Liability)

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2040, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2033
\$ 114,615,283 over 8 years with 4.00% increasing payments
- Interest adjustment for payments deposited at the beginning of the fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Normal cost	\$2,727,493	\$2,584,216
Amortization payment of the accrued liability	15,142,677	16,040,474
Amortization payment of 2002 ERI liability	0	0
Amortization payment of 2003 ERI liability	<u>0</u>	<u>0</u>
Total cost	\$17,870,170	\$18,624,690
% of Pay	16.7%	16.7%
Fiscal 2026 cost	\$19,544,036	\$19,544,036
Fiscal 2027 cost	\$21,107,559	\$19,918,503

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2036 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 7 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The initial total cost represents about 17.1% of payroll until the time the unfunded liabilities are fully paid off, leaving only a normal cost of about 1% thereafter.

Appropriation Forecast

Fiscal			Employer	Amortization	Employer	Employer	
Year		Employee	Normal Cost	Payments	Total Cost	Total Cost	Funded
<u>Ending</u>	<u>Payroll*</u>	<u>Contribution</u>	<u>with Interest</u>	<u>with Interest</u>	<u>with Interest</u>	<u>% of Payroll</u>	<u>Ratio %**</u>
2026	\$111,713,255	\$10,340,113	\$2,679,372	\$16,864,664	\$19,544,036	17.5	79.7
2027	\$116,181,785	\$10,874,165	\$2,661,664	\$17,256,839	\$19,918,503	17.1	81.4
2028	\$119,667,239	\$11,324,451	\$2,612,885	\$17,947,112	\$20,559,997	17.2	83.6
2029	\$123,257,256	\$11,791,967	\$2,558,784	\$18,664,997	\$21,223,781	17.2	85.8
2030	\$126,954,974	\$12,277,342	\$2,499,085	\$19,411,597	\$21,910,682	17.3	88.3
2031	\$130,763,623	\$12,781,227	\$2,433,501	\$20,188,060	\$22,621,561	17.3	90.9
2032	\$134,686,531	\$13,304,296	\$2,361,733	\$20,995,583	\$23,357,316	17.3	93.7
2033	\$138,727,127	\$13,847,245	\$2,283,468	\$21,835,406	\$24,118,874	17.4	96.8
2034	\$142,888,941	\$14,410,798	\$2,198,382	\$0	\$2,198,382	1.5	100.0
2035	\$147,175,609	\$14,995,701	\$2,106,136	\$0	\$2,106,136	1.4	100.0
2036	\$151,590,878	\$15,602,729	\$2,006,377	\$0	\$2,006,377	1.3	100.0
2037	\$156,138,604	\$16,232,682	\$1,898,736	\$0	\$1,898,736	1.2	100.0
2038	\$160,822,762	\$16,886,390	\$1,782,832	\$0	\$1,782,832	1.1	100.0
2039	\$165,647,445	\$17,392,982	\$1,836,317	\$0	\$1,836,317	1.1	100.0
2040	\$170,616,868	\$17,914,771	\$1,891,406	\$0	\$1,891,406	1.1	100.0
2041	\$175,735,375	\$18,452,214	\$1,948,148	\$0	\$1,948,148	1.1	100.0
2042	\$181,007,436	\$19,005,781	\$2,006,593	\$0	\$2,006,593	1.1	100.0
2043	\$186,437,659	\$19,575,954	\$2,066,791	\$0	\$2,066,791	1.1	100.0
2044	\$192,030,789	\$20,163,233	\$2,128,794	\$0	\$2,128,794	1.1	100.0
2045	\$197,791,712	\$20,768,130	\$2,192,658	\$0	\$2,192,658	1.1	100.0
2046	\$203,725,464	\$21,391,174	\$2,258,438	\$0	\$2,258,438	1.1	100.0
2047	\$209,837,228	\$22,032,909	\$2,326,191	\$0	\$2,326,191	1.1	100.0
2048	\$216,132,344	\$22,693,896	\$2,395,977	\$0	\$2,395,977	1.1	100.0
2049	\$222,616,315	\$23,374,713	\$2,467,856	\$0	\$2,467,856	1.1	100.0
2050	\$229,294,804	\$24,075,954	\$2,541,892	\$0	\$2,541,892	1.1	100.0
2051	\$236,173,648	\$24,798,233	\$2,618,149	\$0	\$2,618,149	1.1	100.0
2052	\$243,258,858	\$25,542,180	\$2,696,693	\$0	\$2,696,693	1.1	100.0
2053	\$250,556,623	\$26,308,445	\$2,777,594	\$0	\$2,777,594	1.1	100.0
2054	\$258,073,322	\$27,097,699	\$2,860,922	\$0	\$2,860,922	1.1	100.0
2055	\$265,815,522	\$27,910,630	\$2,946,749	\$0	\$2,946,749	1.1	100.0
2056	\$273,789,987	\$28,747,949	\$3,035,152	\$0	\$3,035,152	1.1	100.0
2057	\$282,003,687	\$29,610,387	\$3,126,206	\$0	\$3,126,206	1.1	100.0

* Calendar basis

** Beginning of Fiscal Year

EXHIBITS

Exhibit 1 - Age/Service Distribution with Salary as of January 1, 2025

Attained Age	Average Salary	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 0	4	0	0	0	0	0	0	0	0	0	4
	25,178	0	0	0	0	0	0	0	0	0	25,178
20-24	66	0	0	0	0	0	0	0	0	0	66
	49,159	0	0	0	0	0	0	0	0	0	49,159
25-29	130	10	1	0	0	0	0	0	0	0	141
	61,172	75,574	0	0	0	0	0	0	0	0	62,184
30-34	102	55	9	1	0	0	0	0	0	0	167
	71,088	84,027	90,372	0	0	0	0	0	0	0	76,335
35-39	85	57	31	12	0	0	0	0	0	0	185
	71,939	84,969	99,593	97,302	0	0	0	0	0	0	82,233
40-44	71	49	34	36	6	1	0	0	0	0	197
	55,884	73,355	100,633	98,989	86,886	0	0	0	0	0	76,795
45-49	58	41	20	21	16	6	0	0	0	0	162
	53,407	69,081	90,373	104,198	114,081	114,977	0	0	0	0	76,795
50-54	44	40	13	16	32	15	4	2	0	0	166
	57,268	71,647	68,389	77,296	104,980	101,556	121,089	62,226	0	0	78,331
55-59	36	26	15	15	17	30	10	7	1	1	157
	61,045	65,483	87,007	76,835	106,407	103,920	98,345	79,429	48,992	81,992	81,992
60-64	24	17	17	10	18	15	9	14	2	2	126
	54,666	70,501	80,248	81,886	67,292	85,284	93,025	126,298	130,106	79,759	79,759
65-69	8	8	6	6	9	13	4	1	1	1	56
	51,834	70,696	68,702	63,600	69,633	61,596	87,675	119,488	174,636	68,684	68,684
70+	3	1	0	1	3	1	2	1	3	3	15
	92,600	40,243	0	55,901	52,789	82,189	85,402	59,122	66,568	69,609	69,609
Total Employees	631	304	146	118	101	81	29	25	7	1,442	1,442
Average Salary	60,936	75,724	89,728	89,534	94,171	92,506	97,467	105,089	97,649	75,215	75,215

Exhibit 2 - Retiree Distribution as of January 1, 2025

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	1	1	0	12,982	12,982
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	1	0	1	10,516	0	10,516
45-49	1	0	1	6,333	0	6,333
50-54	2	0	2	102,523	0	102,523
55-59	6	13	19	210,152	1,012,069	1,222,221
60-64	36	48	84	1,020,994	3,164,540	4,185,533
65-69	61	68	129	1,761,942	3,766,464	5,528,406
70-74	107	87	194	3,000,706	4,299,365	7,300,072
75-79	82	79	161	1,873,678	3,598,729	5,472,407
80-84	61	40	101	1,182,533	1,626,547	2,809,080
85-89	36	16	52	779,029	589,272	1,368,302
90-94	26	10	36	461,435	356,668	818,103
95+	16	1	17	258,914	49,459	308,373
Total	435	363	798	10,668,754	18,476,097	29,144,851
Average (Age/Payment)	76.4	72.8	74.8	24,526	50,898	36,522
Frequency Percent	54.5	45.5	100	36.6	63.4	100

Exhibit 3 - Disabled Retiree Distribution as of January 1, 2025

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	34,578	0	34,578
40-44	2	0	2	118,099	0	118,099
45-49	1	0	1	38,960	0	38,960
50-54	2	1	3	83,622	25,089	108,710
55-59	10	0	10	529,021	0	529,021
60-64	12	1	13	740,704	59,596	800,301
65-69	19	3	22	985,621	85,515	1,071,136
70-74	28	1	29	1,507,196	42,403	1,549,599
75-79	19	2	21	1,017,028	36,718	1,053,747
80-84	8	1	9	351,347	47,916	399,262
85-89	3	0	3	96,970	0	96,970
90-94	4	0	4	101,868	0	101,868
95-99	2	0	2	69,906	0	69,906
Total	111	9	120	5,674,918	297,237	5,972,155
Average (Age/Payment)	71.01	69.73	70.91	51,125	33,026	49,768
Frequency Percent	92.5	7.5	100	95.0	5.0	100

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2025	\$48,262,733	\$10,340,113	\$19,544,036	\$32,654,840	\$14,276,256
2026	41,697,892	10,874,165	19,918,503	33,980,607	23,075,383
2027	43,281,267	11,324,451	20,559,997	35,686,812	24,289,993
2028	44,700,179	11,791,967	21,223,781	37,491,574	25,807,143
2029	45,844,738	12,277,342	21,910,682	39,421,688	27,764,974
2030	46,850,453	12,781,227	22,621,561	41,505,273	30,057,609
2031	47,774,524	13,304,296	23,357,316	43,765,394	32,652,482
2032	48,716,821	13,847,245	24,118,874	46,221,106	35,470,404
2033	49,677,704	14,410,798	2,198,382	48,054,989	14,986,465
2034	50,657,539	14,995,701	2,106,136	49,154,490	15,598,788
2035	51,656,701	15,602,729	2,006,377	50,299,720	16,252,125
2036	52,675,570	16,232,682	1,898,736	51,493,763	16,949,611
2037	53,714,534	16,886,390	1,782,832	52,739,934	17,694,622
2038	54,773,991	17,392,982	1,836,317	54,035,484	18,490,792
2039	55,854,345	17,914,771	1,891,406	55,390,202	19,342,034
2040	56,956,008	18,452,214	1,948,148	56,808,208	20,252,563
2041	58,079,399	19,005,781	2,006,593	58,293,941	21,226,916
2042	59,224,948	19,575,954	2,066,791	59,852,180	22,269,977
2043	60,393,092	20,163,233	2,128,794	61,488,069	23,387,005
2044	61,584,276	20,768,130	2,192,658	63,207,146	24,583,658
2045	62,798,954	21,391,174	2,258,438	65,015,374	25,866,032
2046	64,037,591	22,032,909	2,326,191	66,919,173	27,240,682
2047	65,300,658	22,693,896	2,395,977	68,925,455	28,714,670
2048	66,588,638	23,374,713	2,467,856	71,041,662	30,295,592
2049	67,902,022	24,075,954	2,541,892	73,275,802	31,991,626
2050	69,241,311	24,798,233	2,618,149	75,636,501	33,811,572
2051	70,607,016	25,542,180	2,696,693	78,133,044	35,764,901
2052	71,999,658	26,308,445	2,777,594	80,775,423	37,861,804
2053	73,419,768	27,097,699	2,860,922	83,574,396	40,113,249
2054	75,611,527	27,910,630	2,946,749	86,514,164	41,760,016

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2025, and does not take into account any subsequent changes.

1. Administration

Each of the 104 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

- (i) Group 1: Most general employees in State and local government
- (ii) Group 2: Certain specified hazardous duty positions
- (iii) Group 3: State police officers and inspectors
- (iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

Chapter 176 of the Acts of 2011 created different plan provisions within these groups for those hired on or after April 2, 2012.

3. **Salary**

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. **Member Contributions**

Member contributions vary depending upon date hired as follows:

<u>Date of Hire</u>	<u>Member Contribution Rate</u>
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of \$30,000

For Group 1 employees who become members on or after April 2, 2012, the Contribution Rate shall be 6% after the completion of 30 years of service.

5. **Average Salary**

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.). For employees who become members on or after April 2, 2012, the averaging period shall be five years.

6. **Creditable Service**

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement**a. Eligibility:**

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

- (i) completion of 20 years of service
- (ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member
- (iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service
- (iv) for a Group 1 employee hired on or after April 2, 2012, attainment of age 60 and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table for those hired prior to April 2, 2012:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

For those hired after April 1, 2012 who retire with less than 30 years of service, the following rates are applied:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
67 or Over	.0250	.0250	.0250
66	.0235	.0250	.0250
65	.0220	.0250	.0250
64	.0205	.0250	.0250
63	.0190	.0250	.0250
62	.0175	.0250	.0250
61	.0160	.0235	.0250
60	.0145	.0220	.0250
59		.0205	.0250
58		.0190	.0250
57		.0175	.0250
56		.0160	.0235
55		.0145	.0220
54			.0205
53			.0190
52			.0175
51			.0160
50			.0145

For those hired after April 1, 2012 who retire with at least 30 years of service, the following rates are applied:

<u>Age at Retirement</u>	<u>Percentage of Average Salary</u>		
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u>
67 or Over	.02500	.02500	.02500
66	.02375	.02500	.02500
65	.02250	.02500	.02500
64	.02125	.02500	.02500
63	.02000	.02500	.02500
62	.01875	.02500	.02500
61	.01750	.02375	.02500
60	.01625	.02250	.02500
59		.02125	.02500
58		.02000	.02500
57		.01875	.02500
56		.01750	.02375
55		.01625	.02250
54			.02125
53			.02000
52			.01875
51			.01750
50			.01625

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus \$450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55 or age 60 if hired on or after April 2, 2012).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55 (age 60 if hired on or after April 2, 2012). If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55 (age 60 if hired on or after April 2, 2012), he

will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of \$250 per month to the surviving spouse, plus \$120 for the first child, plus \$90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of \$250 per month plus \$120 for the first child and \$90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is \$16,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

- (i) Option A – Life annuity
- (ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member
- (iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. **Member Data**

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. **Valuation Date**

January 1, 2025.

3. **Actuarial Cost Method**

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. **Rate of Investment Return**

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.5% per annum, net of investment expenses. This is a reduction from the previous valuation.

5. **Salary Scale**

It is assumed that salaries including longevity will increase at a rate of 3.00% per year. This is a decrease over the previous year.

6. **Cost-of-Living Increases**

Cost-of-living increases have been assumed to be 3% of the lesser of the pension amount and \$16,000 per year.

7. **Value of Investments**

Assets held by the fund are valued at market value as reported by the Public Employees'

Retirement Administration Commission (PERAC). The actuarial value of assets is determined using a five-year smoothing of asset returns greater than or less than the assumed rate of return, with a 10% corridor.

8. **Annual Rate of Withdrawal Prior to Retirement**

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

<u>Service</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
0	0.2080	0.0150
5	0.1020	0.0150
10	0.0650	0.0150
15	0.0417	0.0150
20	0.0400	0.0000
30	0.0000	0.0000

9. **Annual Rate of Mortality**

It is assumed that mortality for is represented by the various SOA Pub-2010 Public Retirement Plans Mortality Tables specific to the Group, Pre-retirement versus Post, Disabled and Beneficiaries, with Scale MP-2018 improvements until 2025.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired prior to April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.019964	0.1019	0.01986
51	0.019962	0.0714	0.01985
52	0.019960	0.0562	0.01985
53	0.019956	0.0448	0.04960
54	0.039908	0.0488	0.07435
55	0.039898	0.0469	0.2500
56	0.049858	0.0518	0.2000
57	0.049846	0.0509	0.2500
58	0.099660	0.0552	0.2500
59	0.129518	0.0645	0.3000
60	0.119515	0.0774	0.2500
61	0.120000	0.1038	0.2500
62	0.200000	0.1168	0.2500
63	0.200000	0.1440	0.3000
64	0.200000	0.1708	0.5000
65	0.200000	0.1939	1.00000
66	0.300000	0.1959	1.00000
67	0.300000	0.2000	1.00000
68	0.300000	0.2000	1.00000
69	0.300000	0.2000	1.00000
70 to 76	0.300000	0.2500	1.00000
77 to 79	0.350000	0.2500	1.00000
80	1.000000	1.0000	1.00000

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages for those hired on or after April 2, 2012:

<u>Age</u>	<u>Male General Employees</u>	<u>Female General Employees</u>	<u>Male and Female Police and Fire Employees</u>
50	0.0477	0.0000	0.0072
51	0.0574	0.0000	0.0072
52	0.0632	0.0000	0.0062
53	0.0765	0.0000	0.0105
54	0.0917	0.0000	0.0105
55	0.1057	0.0000	0.0389
56	0.1224	0.0000	0.0631
57	0.1473	0.0000	0.0897
58	0.1777	0.0000	0.0846
59	0.2136	0.0000	0.1022
60	0.2615	0.0469	0.1455
61	0.2682	0.0518	0.1844
62	0.0477	0.0509	0.2741
63	0.0574	0.0552	0.1984
64	0.0632	0.0645	0.4139
65	0.0765	0.0774	1.0000
66	0.0917	0.1038	1.0000
67	0.1057	0.1168	1.0000
68	0.1224	0.1440	1.0000
69	0.1473	0.1708	1.0000
70	0.1777	0.1939	1.0000
71 to 76	0.2136	0.2000	1.0000
77 to 79	0.2500	0.2000	1.0000
80	1.0000	1.0000	1.0000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

<u>Attained Age</u>	<u>General Employees</u>	<u>Police and Fire Employees</u>
20	0.0001	0.0005
30	0.0002	0.0010
40	0.0006	0.0025
50	0.0013	0.0076

In addition, it is assumed for the general employees that 40% of all disabilities are ordinary (60% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2026 is \$700,000 and is anticipated to increase at 4% per year.

EXHIBIT 7 – ACTUARIAL DISCLOSURES:

A - Risk

Risk is defined as the potential for differences in future plan measurements resulting from actual future experience deviating from actual assumed experience. The plan is subject to a number of risks that could affect the plan's future financial condition. Examples of risk include the following:

- Investment risk - investment returns will be different than expected
- Asset/liability mismatch risk – changes in asset values are not matched by changes in the liabilities
- Interest rate risk – interest rates will be different than expected
- Longevity and demographic risk – mortality, turnover, disabilities, retirements or other demographic experience will be different than expected
- Contribution risk – employer contributions to the plan will not be made or will not be made at the assumed level

In this section, we provide a brief analysis of several risk measures that we believe are most significant for the plan. A more detailed risk assessment that includes further scenario testing (assessing the impact of one or several events on the plan's financial condition, for example projecting plan investment returns), stress testing (assessing the impact of an adverse change in one or several factors), or sensitivity testing (assessing the impact of a change in an actuarial assumption), may provide a better understanding than the analysis in this section.

Unfunded Actuarial Liability and Funded Ratio

The plan's unfunded actuarial liability (UAL) and the funded ratios since 2011 are shown below. The UAL is the Actuarial Liability less the Actuarial Value of Assets. The funded ratio is the Actuarial Value of Assets divided by the Actuarial Liability. The retirement system is said to be fully funded when the UAL is zero. Actuarial valuations have been performed periodically over this period and the valuation results are determined as of January 1.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a percent of Covered Payroll
	(a)	(b)	(b-a)	(a/b)	(c)	(b-a)/c
01/01/25	\$449,071,953	\$560,870,731	\$111,798,778	80.1%	\$111,713,255	100.1%
01/01/24	418,983,028	557,830,352	138,847,324	75.1%	106,977,543	129.8%
01/01/22	377,864,508	537,989,937	160,125,429	70.2%	100,793,506	158.9%
01/01/21	407,386,109	526,894,677	119,508,568	77.3%	93,793,672	127.4%
01/01/20	345,262,987	495,186,850	149,923,863	69.7%	88,312,485	169.8%
01/01/19	294,858,388	478,449,372	183,590,984	61.6%	84,595,874	217.0%
01/01/15	281,399,962	448,787,333	167,387,371	62.7%	75,529,664	221.6%
01/01/13	231,832,144	370,972,221	139,140,077	62.5%	66,506,738	209.2%
01/01/11	193,697,367	335,458,757	141,761,390	57.7%	60,590,006	234.0%

The UAL has generally decreased over this period as payments on the unfunded liability has decreased the total. Plan benefit changes, asset losses and changes to the actuarial assumptions have increased the UAL. Demographic changes and asset gains have decreased the UAL

The funded ratio has generally increased over this period. The assumption changes described above have also significantly impacted the funded ratio.

Investment Return Assumption and Funding Schedule

Investment return assumption: 7.50%

Amortization of UAL basis: 8% amortization increase with a final amortization payment in FY33

The System maintained the investment return assumption of 7.50% in this valuation. This is significantly below the historical returns. The average returns for 40 years, 10 years and 5 years are 9.32%, 9.63% and 10.69%, respectively.

It is important to note PERAC has been pushing Retirement Systems to establish funding schedules that complete the amortization of the UAL no later than FY35. This allows systems some flexibility in the event of another market downturn.

Maturity and Volatility Measures

There are several plan maturity and volatility ratios that can provide significant insight into the level of a plan's risk. To illustrate, we are providing two such measures. In both cases, we show the 10-year history of the ratio.

Retiree Actuarial Liability / Total Actuarial Liability

This ratio measures the percentage of actuarial liability due to the plan's retirees. Higher ratios and/or an increase in this ratio indicate a system that is more mature or becoming more mature. As this ratio increases, it generally indicates the retired population is increasing faster than the active member population and there is a greater likelihood of negative cash flow (benefit payments exceeding employer and employee contributions). When the plan reaches full funding, there will be a significant negative cash flow. Investment returns will be necessary to make up the difference. As a plan matures, it becomes more sensitive to investment volatility.

<u>Valuation Date</u>	<u>Retiree/Total Liability</u>
2025	.615
2024	.626
2023	.618
2022	.603
2021	.594
2019	.602
2018	.576
2017	.577
2015	.562

The ratios for this system have remained fairly consistent. Public sector plans often have aging populations generating an increase in this ratio. The public sector systems that have had fairly consistent ratios have already reached and/or maintained a more mature level.

Actuarial Liability / Pay

This measure reflects how a change in actuarial liability (and therefore UAL) may impact the adequacy of contributions. As this ratio increases, plan contributions (using a traditional amortization schedule) increase as a percentage of pay. Furthermore, like the Retiree Liability ratio noted above, higher ratios exacerbate the impact of investment losses on plan contributions.

<u>Valuation Date</u>	<u>Actuarial Liability / Pay</u>
2025	5.0
2024	5.2
2023	5.3
2022	5.6
2021	5.6
2019	5.9
2018	5.5
2017	5.5
2015	5.7

The ratios for this system are fairly consistent with a downward trend. This ratio has increased for most other local systems indicating increasing levels of risk.

Impact of Investment Returns on Unfunded Liability and Funded Ratio (Actuarial Value Basis)

We have prepared a simple 5-year projection illustrating the potential impact of actual investment returns on funding levels. For this estimate, we used then actuarial value of assets. In projecting the actuarial liability, we assumed the January 1, 2025 actuarial assumptions are exactly realized over the next 5 years and that there are no changes in assumptions over this period.

We first projected the market value of assets assuming the actual return for each of the next 5 years is 7.50% (the assumption used in the valuation). For comparison, we have also shown the results if the returns were 5.0% each year. The 5.0% assumption is not intended to be a worst-case basis, but only to reflect the impact of a lower short-term return than the current plan assumption.

	2025	2026	2027	2028	2029	2030
UAL (in millions)						
7.5%	\$111.8	\$102.3	\$94.3	\$84.1	\$71.5%	57.8%
5%	\$111.8	\$144.3	\$190.8	\$216.9	\$258.7	\$313.5
Funded Ratio						
7.5%	80.1%	83.3%	85.8%	88.3%	90.8%	93.1%
5%	80.1%	76.4%	71.3%	69.8%	66.6%	62.5%

For this comparison, we assumed that for the 5.0% projections, the appropriation for the next 5 years would remain as in the current funding schedule (and the same as that if the actual returns were 7.50% per year). If returns were actually 5.0% per year, the funding schedule would have to be increased before FY30.

Cash Flow

Cash flow reflects receipts (primarily employee and employer contributions) less disbursements (primarily benefit payments and expenses). We determine the ratio of receipts to disbursements. A ratio greater than 1.0 means receipts are greater than disbursements (positive cash flow). Likewise, a ratio less than 1.0 means receipts are less than disbursements (negative cash flow).

Most Massachusetts public systems have negative cash flow. This is not a significant issue for long-term funding but presents potential issues for short-term funding. All else being equal, over the short term, a negative cash flow produces a yearly funded ratio lower than it would have been if there were positive cash flow. This is because a portion of the investment earnings are being used to pay the net benefits and expenses. Therefore, less of the investment earnings are included in the end of the year value of the plan assets resulting in a lower Market Value of Assets and a lower funded ratio. This may dampen funded ratio expectations somewhat when reviewing 5-year projections. This plan had a ratios less than 1.0 over the past several years. Since the ratio is somewhat less than 1.0, there is a slight impact on our 5-year funded ratio projections.

B - Low-Default-Risk Obligation Measure

For plan years after February 15, 2023, Actuarial Standard of Practice Number 4 (ASOP 4) requires the disclosure of a new liability measure. This measure is known as the Low-Default-Risk Obligation Measure (LDROM). The LDROM is calculated using a different discount rate than the discount rate used for funding purposes. The discount rate used for the LDROM is based on the short duration Financial Times Stock Exchange (FTSE) Pension Liability Index published as of December 31, 2024. The LDROM discount rate will typically be vastly lower than the discount rate based on the plan's actual investment portfolio. As a result, the LDROM will be significantly greater than the plan's funding liability. For the LDROM calculation, we used a discount rate of 5.44%.

The LDROM is not intended to be a measure of the plan's funding nor is it intended to be a measure of the plan's health. Most importantly, the LDROM is not the "true measure" of the plan's liabilities.

The LDROM Actuarial Liability as of January 1, 2025 was \$698,951,927 versus the actual accrued liability of \$560,870,731

The LDROM helps understand the cost of investing in an all-bond portfolio and significantly lowering expected long term investment returns. The funded status and Actuarially Determined Contributions are determined using the expected return on assets which reflects the actual investment portfolio. Benefit security for members of the plan relies on a combination of the assets in the plan, the investment returns generated on those assets and the promise of future contributions from the plan sponsors.

Since the assets are not invested in an all-bond portfolio, the LDROM does not indicate the funding status or progress, nor provide information on necessary plan contributions or the security of plan participants. The difference between the plan's Actuarial Accrued Liability and the LDROM can be thought of as representing the expected taxpayer savings from investing in the plan's diversified portfolio compared to investing only in high quality bonds.

C - Reasonable Actuarially Determined Contribution (ADC)

For plan years after February 15, 2023, Actuarial Standard of Practice Number 4 (ASOP 4) also requires the disclosure of a reasonable Actuarially Determined Contribution (ADC). This reasonable ADC, if different from the System's scheduled ADC, is not intended to be the System's true funding measure. We believe that the system's current schedule meets the requirements of a reasonable amortization method under ASOP 4. As such, the System's reasonable ADC for FY26 is equal to the scheduled FY26 payment of \$19,544,036.

D – Actuarial Models

The software used in our actuarial valuations measures the present value of the plan's actuarial liabilities from which we develop funding schedules that determine annual appropriations. The software was created and is maintained by a national vendor of actuarial software. We have used this software for over 30 years. We periodically review the results of the software by analyzing detailed individual tests.

In addition, we used a simple projection model prepared in an Excel spreadsheet, to perform a rough analysis of the impact of investment returns on the unfunded actuarial liability and funded ratio for the next thirty years. The work is tailored to each.

EXHIBIT 8 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. **Actuarial Accrued Liability**

That portion of the Actuarial Present Value of projected plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. **Actuarial Assumptions**

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. **Actuarial Cost Method**

A procedure for allocating the Actuarial Present Value of projected pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. **Actuarial Present Value**

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. **Forecast**

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. **Normal Cost**

That portion of the Actuarial Present Value of future benefits that is assigned to the current

year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Actuarial Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

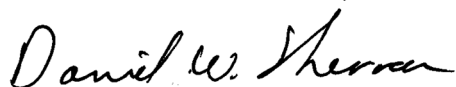
This report fairly represents the actuarial position of the City of Somerville Retirement System contributing as of January 1, 2025, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute 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. The funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.

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 pension 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

October, 2025