

**MEDFORD
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	\$17,732,115	\$17,732,115
Funding Schedule FY 2027	18,363,138	18,661,583

Funded Ratios

GAS No. 25	69.7%	71.1%
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Participants

Actives	719	729
Retirees and Beneficiaries	512	518
Inactives	346	358
Disabled	<u>119</u>	<u>117</u>
Total	1,696	1,722

Payroll

Payroll of Active Members	\$49,204,494	\$52,953,873
Average Payroll	68,435	72,639

Normal Cost

Employer	\$2,303,825	\$2,178,673
Employee	4,521,598	4,957,648
Administrative Expenses	<u>495,000</u>	<u>495,000</u>
Total	\$7,320,423	\$7,631,321

Actuarial Accrued Liabilities

Actives	\$119,443,817	\$125,845,907
Retirees, Beneficiaries, Disabilities and Inactives	<u>242,406,238</u>	<u>248,328,508</u>
Total	\$361,850,055	\$374,174,415

Actuarial Value of Assets

<u>\$252,261,644</u>	<u>\$265,907,721</u>
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Unfunded Actuarial Accrued Liabilities

\$109,588,411	\$108,266,694
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Introduction

This report presents the findings of an actuarial valuation as of January 1, 2025, the Medford 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 Medford 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, based on the 2024 actuarial assumptions and plan provisions, the total unfunded actuarial accrued liability decreased by 0.6% to \$108,266,694. The decrease is the result of contributions to the trust, offset by net unfavorable actuarial experience during the preceding years. The sources of actuarial (gains) and losses are as follows:

Assets	1,229,572
Salary Increases	2,882,078
New Participants	2,153,225
Retirements	(980,569)
Terminations	(708,096)
Death while active	257,761
Disabled while active	(378,077)
Inactive Mortality	631,755
Inactive Data Changes	6,266,979
Benefit Payments	(2,879,759)
Other	<u>350,790</u>
Total (Gain) / Loss	8,825,659

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	\$4,596,817	\$4,763,624
Termination	1,012,745	1,099,145
Death	215,460	231,817
Disability	1,000,401	1,041,735
Administrative Expenses	<u>\$495,000</u>	<u>\$495,000</u>
Total Normal Cost	\$7,320,423	\$7,631,321
% of Pay	14.9%	14.4%
Employee Contributions	\$4,521,598	\$4,957,648
% of Pay	9.2%	9.4%
Employer Normal Cost	\$2,798,825	\$2,673,673
% of Pay	5.7%	5.0%

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		\$115,120,081	\$121,148,575
Termination		(2,569,876)	(2,819,578)
Death		2,078,063	2,265,856
Disability		4,815,549	5,251,054
Retirees and Inactives			
Retirees and Beneficiaries		\$174,600,192	\$182,606,372
Terminated (Refund)		4,332,072	3,949,762
Disabled		<u>63,473,974</u>	<u>61,772,374</u>
Total		\$361,850,055	\$374,174,415

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	\$153,419,218	\$161,706,904
Termination	5,968,879	6,584,034
Death	3,935,371	4,281,361
Disability	14,414,994	15,417,210
Retirees and Inactives		
Retirees and Beneficiaries	\$174,600,192	\$182,606,372
Terminated (Refund)	4,332,072	3,949,762
Disabled	<u>63,473,974</u>	<u>61,772,374</u>
Total	\$420,144,700	\$436,318,017

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	\$1,311,698	\$1,529,280
Short term investments	0	0
Fixed income securities	49,999,809	52,162,512
Equities	73,141,898	78,677,963
International	46,109,149	48,925,897
Real Estate	25,283,179	26,475,188
Venture Capital	0	0
Other	49,125,651	54,288,274
Accounts receivable	253,242	112,900
Accounts payable	(53,001)	(59,695)
Accrued income	<u>167,409</u>	<u>195,214</u>
Total Market Value	\$245,339,034	\$262,307,533
Total Actuarial Value	\$252,261,644	\$265,907,721

Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (7.25%) 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 15%. 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	\$245,339,034
(2) 2024 Contributions	\$24,538,831
(3) 2024 Payments	(\$27,834,764)
(4) Net interest adjustment at 7.25% on (1), (2), and (3) to December 31, 2024	\$17,667,602
(5) Expected market value on January 1, 2025	\$259,710,703
(1) + (2) + (3) + (4)	
(6) Actual market value on January 1, 2025	\$262,307,533
(7) 2024 (Gain) / Loss	(\$2,596,830)
(8) 80% of 2024 (Gain) / Loss	(\$2,077,464)
(9) 2023 (Gain) / Loss	(\$4,411,062)
(10) 60% of 2023 (Gain) / Loss	(\$2,646,637)
(11) 2022 (Gain) / Loss	\$42,782,573
(12) 40% of 2022 (Gain) / Loss	\$17,113,029
(13) 2021 (Gain) / Loss	(\$43,943,700)
(14) 20% of 2021 (Gain) / Loss	(\$8,788,740)
(15) Actuarial value on January 1, 2025, (6) + (8) + (10) + (12) + (14)	\$265,907,721
but not less than 85% nor greater than 115% of (6)	\$265,907,721
(16) Ratio of actuarial value to market value	101.37%
(17) Actuarial Value Return for 2023	7.57%
(18) Actuarial Value Return for 2024	6.76%
(19) Market Value Return for 2023	9.19%
(20) Market Value Return for 2024	8.32%

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	\$361,850,055	\$374,174,415
Actuarial Assets	<u>252,261,644</u>	<u>265,907,721</u>
Unfunded Actuarial Accrued Liability	\$109,588,411	\$108,266,694
Funded Status	69.7%	71.1%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Sections 22D and 22F 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
\$ 108,258,805 over 8 years with 5.0% increasing payments
- Level amortization of the 2002 Early Retirement Incentive by June 30, 2026
\$ 7,889 over 1 years
- Interest adjustment for payments deposited on July 1st.

The pension appropriation is shown in Table VII. The Board approved a limit of 8% on annual increases.

Table VII

	<u>January 1, 2024</u>	<u>January 1, 2025</u>
Normal cost	\$2,798,825	\$2,673,673
Amortization payment of the unfunded accrued liability	13,726,116	14,557,570
Amortization payment of 2002 ERI liability	7,889	7,889
Total cost	\$16,532,830	\$17,239,132
% of Pay	33.6%	32.6%
Fiscal 2026 cost	\$17,732,115	\$17,732,115
Fiscal 2027 cost	\$18,363,138	\$18,661,583

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 3.5% per year. The employee contribution rate is expected to increase to 10.5% by 2037 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 8 years until the unfunded liabilities are substantially paid off, at which time only the normal cost will remain. The total cost represents about 35% of payroll until the time the unfunded liabilities are fully paid off, leaving only a normal cost of about 4.1% thereafter. The decrease in the employer Normal Cost as a percentage of payroll is a result of the increase in member deductions.

Appropriation Forecast

Fiscal Year	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Unfunded Accrued Liability	Funded Ratio %**
2026	\$4,957,648	\$2,768,898	\$14,963,217	\$17,732,115	33.5	\$108,387,695	71.0
2027	\$5,183,132	\$2,811,992	\$15,849,591	\$18,661,583	34.0	\$100,624,348	75.4
2028	\$5,418,327	\$2,854,711	\$16,642,070	\$19,496,781	34.4	\$91,504,800	77.9
2029	\$5,663,636	\$2,896,976	\$17,474,174	\$20,371,150	34.7	\$80,903,343	80.8
2030	\$5,919,479	\$2,938,702	\$18,347,882	\$21,286,584	35.0	\$68,671,504	84.1
2031	\$6,186,294	\$2,979,800	\$19,265,276	\$22,245,076	35.4	\$54,647,989	87.6
2032	\$6,464,534	\$3,020,175	\$20,228,540	\$23,248,715	35.7	\$38,657,659	91.4
2033	\$6,754,672	\$3,059,726	\$21,239,967	\$24,299,693	36.1	\$20,510,415	95.5
2034	\$7,057,202	\$3,098,346	\$0	\$3,098,346	4.4	\$0	100.0
2035	\$7,372,633	\$3,135,921	\$0	\$3,135,921	4.3	\$0	100.0
2036	\$7,701,500	\$3,172,331	\$0	\$3,172,331	4.2	\$0	100.0
2037	\$8,044,357	\$3,207,448	\$0	\$3,207,448	4.1	\$0	100.0
2038	\$8,401,778	\$3,241,137	\$0	\$3,241,137	4.1	\$0	100.0
2039	\$8,695,841	\$3,354,577	\$0	\$3,354,577	4.1	\$0	100.0
2040	\$9,000,195	\$3,471,987	\$0	\$3,471,987	4.1	\$0	100.0
2041	\$9,315,202	\$3,593,507	\$0	\$3,593,507	4.1	\$0	100.0
2042	\$9,641,234	\$3,719,279	\$0	\$3,719,279	4.1	\$0	100.0
2043	\$9,978,677	\$3,849,454	\$0	\$3,849,454	4.1	\$0	100.0
2044	\$10,327,931	\$3,984,185	\$0	\$3,984,185	4.1	\$0	100.0
2045	\$10,689,409	\$4,123,632	\$0	\$4,123,632	4.1	\$0	100.0
2046	\$11,063,538	\$4,267,959	\$0	\$4,267,959	4.1	\$0	100.0
2047	\$11,450,762	\$4,417,337	\$0	\$4,417,337	4.1	\$0	100.0
2048	\$11,851,538	\$4,571,944	\$0	\$4,571,944	4.1	\$0	100.0
2049	\$12,266,342	\$4,731,962	\$0	\$4,731,962	4.1	\$0	100.0
2050	\$12,695,664	\$4,897,581	\$0	\$4,897,581	4.1	\$0	100.0
2051	\$13,140,012	\$5,068,996	\$0	\$5,068,996	4.1	\$0	100.0
2052	\$13,599,913	\$5,246,411	\$0	\$5,246,411	4.1	\$0	100.0
2053	\$14,075,910	\$5,430,035	\$0	\$5,430,035	4.1	\$0	100.0
2054	\$14,568,567	\$5,620,087	\$0	\$5,620,087	4.1	\$0	100.0
2055	\$15,078,466	\$5,816,790	\$0	\$5,816,790	4.1	\$0	100.0
2056	\$15,606,213	\$6,020,377	\$0	\$6,020,377	4.1	\$0	100.0
2057	\$16,152,430	\$6,231,090	\$0	\$6,231,090	4.1	\$0	100.0

** 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	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
20-24	1	0	0	0	0	0	0	0	0	0	1
	27,629	0	0	0	0	0	0	0	0	0	27,629
25-29	35	0	0	0	0	0	0	0	0	0	35
	41,742	0	0	0	0	0	0	0	0	0	41,742
30-34	44	4	1	0	0	0	0	0	0	0	49
	61,000	86,712	7,278	0	0	0	0	0	0	0	62,002
35-39	41	26	3	0	0	0	0	0	0	0	70
	57,979	88,248	42,511	0	0	0	0	0	0	0	68,559
40-44	24	25	28	6	0	0	0	0	0	0	83
	64,194	93,804	100,192	90,414	0	0	0	0	0	0	87,152
45-49	27	16	12	14	9	0	0	0	0	0	78
	53,253	70,351	98,412	107,809	137,097	0	0	0	0	0	83,174
50-54	37	10	11	13	11	1	0	0	0	0	83
	48,305	62,892	74,522	96,702	99,688	129,496	0	0	0	0	68,905
55-59	22	13	14	4	6	18	3	0	0	0	80
	52,762	66,173	69,729	106,869	100,398	99,253	123,572	0	0	0	77,304
60-64	22	16	11	12	13	19	4	5	0	0	102
	50,755	67,834	57,424	69,639	81,073	115,127	124,390	110,546	0	0	78,049
65-69	18	12	13	11	8	8	5	9	4	0	88
	57,003	87,718	63,867	71,818	75,391	104,121	76,343	127,605	123,361	0	77,774
70+	12	10	7	11	9	2	2	4	4	0	61
	33,333	31,451	76,347	50,764	54,459	18,774	41,688	80,915	66,705	0	51,062
Total Employees	283	132	100	71	56	48	14	18	8	0	730
Average Salary	53,070	76,164	79,134	83,387	90,715	103,625	95,241	112,491	95,033	0	72,550

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	0	0	0	0	0
30-34	1	0	1	11,085	0	11,085
35-39	1	0	1	14276.88	0	14,277
40-44	1	0	1	24,357	0	24,357
45-49	0	0	0	0	0	0
50-54	1	0	1	944	0	944
55-59	10	4	14	334,244	229,952	564,196
60-64	24	18	42	671,527	988,481	1,660,008
65-69	53	46	99	1,437,476	2,773,704	4,211,181
70-74	48	58	106	1,349,601	3,597,264	4,946,865
75-79	59	39	98	1,522,966	1,775,742	3,298,708
80-84	46	26	72	1,256,069	1,121,648	2,377,717
85-89	37	10	47	979,056	398,522	1,377,578
90-94	19	4	23	511,552	122,768	634,321
95+	9	4	13	148,259	129,695	277,955
Total	309	209	518	8,261,412	11,137,777	19,399,189
Average (Age/Payment)	76.10	73.90	75.21	26,736	53,291	37,450
Frequency Percent	59.7	40.3	100.0	42.6	57.4	100.0

Exhibit 3 - Disabled 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	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	72,873	0	72,873
50-54	0	3	3	0	166,441	166,441
55-59	0	8	8	0	313,957	313,957
60-64	4	10	14	160,425	578,322	738,748
65-69	4	20	24	97,964	1,250,955	1,348,918
70-74	3	21	24	106,921	1,060,896	1,167,817
75-79	2	23	25	77,412	1,248,173	1,325,585
80-84	0	9	9	0	464,249	464,249
85-89	4	3	7	104,926	151,186	256,112
90-94	0	2	2	0	85,921	85,921
95-99	0	0	0	0	0	0
Total	18	99	117	620,522	5,320,101	5,940,623
Average (Age/Payment)	71.72	72.03	71.98	34,473	53,738	50,775
Frequency Percent	15.4	84.6	100.0	10.4	89.6	100.0

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	\$0	\$4,957,648	\$17,732,115	\$19,854,933	\$42,544,696
2026	31,777,865	5,183,132	18,661,583	21,713,918	13,780,767
2027	28,703,245	5,418,327	19,496,781	22,850,131	19,061,994
2028	29,369,435	5,663,636	20,371,150	24,237,458	20,902,809
2029	30,020,058	5,919,479	21,286,584	25,760,331	22,946,337
2030	30,708,819	6,186,294	22,245,076	27,431,611	25,154,163
2031	31,204,663	6,464,534	23,248,715	29,271,522	27,780,108
2032	31,662,479	6,754,672	24,299,693	31,304,946	30,696,833
2033	32,189,084	7,057,202	3,098,346	32,753,927	10,720,390
2034	32,480,267	7,372,633	3,135,921	33,520,524	11,548,810
2035	33,617,077	7,701,500	3,172,331	34,317,139	11,573,894
2036	34,793,674	8,044,357	3,207,448	35,114,239	11,572,369
2037	36,011,453	8,401,778	3,241,137	35,909,849	11,541,311
2038	37,271,854	8,695,841	3,354,577	36,698,986	11,477,550
2039	38,576,369	9,000,195	3,471,987	37,481,835	11,377,648
2040	39,926,542	9,315,202	3,593,507	38,255,715	11,237,883
2041	41,323,971	9,641,234	3,719,279	39,017,679	11,054,221
2042	42,770,310	9,978,677	3,849,454	39,764,479	10,822,300
2043	44,267,271	10,327,931	3,984,185	40,492,553	10,537,398
2044	45,816,625	10,689,409	4,123,632	41,197,992	10,194,408
2045	47,420,207	11,063,538	4,267,959	41,876,516	9,787,806
2046	49,079,914	11,450,762	4,417,337	42,523,442	9,311,627
2047	50,797,711	11,851,538	4,571,944	43,133,651	8,759,422
2048	52,575,631	12,266,342	4,731,962	43,701,554	8,124,227
2049	54,415,778	12,695,664	4,897,581	44,221,054	7,398,521
2050	56,320,330	13,140,012	5,068,996	44,685,509	6,574,187
2051	58,291,542	13,599,913	5,246,411	45,087,681	5,642,463
2052	60,331,746	14,075,910	5,430,035	45,419,698	4,593,897
2053	62,443,357	14,568,567	5,620,087	45,672,995	3,418,292
2054	64,075,426	15,078,466	5,816,790	45,857,982	2,677,811

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, if hired before April 2, 2012
- (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 with interest.

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 \$500 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 \$500 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 \$18,000. 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 7.25% per annum.

5. **Salary Scale**

It is assumed that salaries including longevity will increase at a rate of 3.5% per year.

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

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and \$18,000 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.

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	0.1500
5	0.1020	0.1000
10	0.0650	0.0600
15	0.0417	0.0600
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-2019 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	0.0360	0.1019	0.0382
51	0.0405	0.0714	0.0351
52	0.0437	0.0562	0.0436
53	0.0366	0.0448	0.0527
54	0.0451	0.0488	0.0999
55	0.0477	0.0469	0.1110
56	0.0574	0.0518	0.1413
57	0.0632	0.0509	0.1292
58	0.0765	0.0552	0.1499
59	0.0917	0.0645	0.1679
60	0.1057	0.0774	0.1871
61	0.1224	0.1038	0.2073
62	0.1473	0.1168	0.2176
63	0.1777	0.1440	0.3338
64	0.2136	0.1708	0.5664
65	0.2615	0.1939	1.00000
66	0.2682	0.1959	1.00000
67	0.2500	0.2000	1.00000
68	0.2500	0.2000	1.00000
69	0.2500	0.2000	1.00000
70 to 76	0.2500	0.2500	1.00000
77 to 79	0.3500	0.2500	1.00000
80	1.0000	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	0.0000	0.0000	0.0191
51	0.0000	0.0000	0.0176
52	0.0000	0.0000	0.0436
53	0.0000	0.0000	0.0211
54	0.0000	0.0000	0.0266
55	0.0000	0.0000	0.0370
56	0.0000	0.0000	0.1060
57	0.0000	0.0000	0.1938
58	0.0000	0.0000	0.1499
59	0.0000	0.0000	0.1119
60	0.0477	0.0469	0.0936
61	0.0574	0.0518	0.1555
62	0.0632	0.0509	0.1741
63	0.0765	0.0552	0.2670
64	0.0917	0.0645	0.4720
65	0.1057	0.0774	0.2500
66	0.1224	0.1038	0.3000
67	0.1473	0.1168	1.0000
68	0.1777	0.1440	1.0000
69	0.2136	0.1708	1.0000
70	0.2615	0.1939	1.0000
70 to 76	0.2682	0.1959	1.0000
77 to 79	0.2500	0.2000	1.0000
80	0.2500	0.2000	1.0000

12. 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	0.000100	0.000500
30	0.000152	0.000967
40	0.000663	0.002500
50	0.001271	0.007634

In addition, it is assumed for the general employees that 20% of all disabilities are ordinary (80% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

13. 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.

14. 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 2025 is \$495,000 and is anticipated to increase at 3.5% per year.

EXHIBIT 7 – 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 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 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. 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:

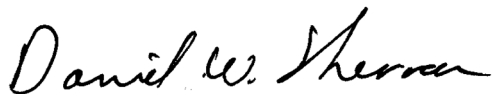
This report fairly represents the actuarial position of the Medford Retirement System contributing as of January 1, 2025, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued 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

July, 2025

BREAKOUTS

Breakouts

	<u>Total</u>	<u>All Others</u>	<u>Housing</u>	<u>Water and Sewer</u>
(1) Participants				
(a) Actives	729	710	14	5
(b) Inactives	358	352	1	5
(c) Retirees	467	429	29	9
(d) Disabled Retirees	<u>117</u>	<u>105</u>	<u>5</u>	<u>7</u>
(e) Total	1,722	1,596	49	26
(2) Payroll of Active Participants	\$52,953,873	\$51,516,349	\$1,039,189	\$398,335
(3) Percentage of Payroll	100.00%	97.29%	1.96%	0.75%
(4) Accrued Liability	\$374,174,415	\$370,920,246	\$2,069,193	\$1,184,976
(5) Assets	\$265,907,721	\$263,595,140	\$1,470,476	\$842,105
(6) Unfunded Accrued Liability	\$108,266,694	\$107,325,106	\$598,717	\$342,871
(7) Employee Normal Cost	\$4,957,648	\$4,820,853	\$98,887	\$37,908
(8) Employer Normal Cost	\$2,178,673	\$2,145,889	\$24,915	\$7,869
(9) Administrative Expenses*	\$495,000	\$490,695	\$2,737	\$1,568
(10) Appropriation				
(a) ERI & Pension Holiday	7,889	(0)	7,889	0
(b) Remaining Amortizations	14,557,570	14,225,784	285,684	46,102
(c) Employer Normal Cost	2,178,673	2,128,049	42,755	7,869
(d) Administrative Expenses*	<u>495,000</u>	<u>483,718</u>	<u>9,714</u>	<u>1,568</u>
(e) Total	17,239,132	16,837,551	346,042	55,539
(11) Fiscal 2026 Cost	\$17,732,115	17,319,050	355,938	57,127
(12) Fiscal 2027 Cost	\$18,661,583	18,234,755	366,706	60,122
(13) Percentage of Total Cost	100.00%	97.71%	1.97%	0.32%

* Allocation is based on the ratio of Accrued Liability to Total Accrued Liability.