January 1, 2024

Actuarial Valuation Report

Quincy Retirement System

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October 8, 2024

Quincy Retirement Board
1212 Hancock Street
Suite 210A
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Dear Quincy Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2024 actuarial valuation of the Quincy Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices.

To the best of our knowledge, this report is complete and accurate, and the assumptions used represent a reasonable estimate of anticipated experience of the system unless otherwise noted in the text.

To reflect the addition of funds related to a Pension Obligation Bond to fund benefits for the City of Quincy, results were allocated between the City and the Quincy Housing Authority in order to develop separate funding schedules for the two employers. The resulting contributions were then combined to produce the funding schedule on page 6. The funding schedule was developed as follows:

- Prior to the bond being issued, the appropriation was set to increase by 5.40% annually. The City was fully funded in 2022 as a result of the bond proceeds; investment losses and other changes in the past two years have caused liabilities to once again exceed assets. The City appropriation for FY2026 is $16,000,000, and is set to resume the 5.40% increases which were in effect before the issuing of the bond. The schedule finishes amortizing the unfunded liability in FY2039.

- The existing funding schedule for the Housing Authority is based on annual appropriation increases of 5.40%. The funding schedule for FY2026 continues these increases until the FY2033 appropriation, which decreases by 72.6%.

PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Quincy Retirement Board conducted their prior actuarial valuation effective January 1, 2022.

Stone Consulting, Inc. is completely independent of the City of Quincy and the Quincy Retirement System. This includes any of its officers and key personnel. Neither we or anyone else closely associated with us has any relationship with the City of Quincy or the Quincy Retirement System that would impair our independence, other than this or related assignments.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results. The use of these results may not be appropriate for all circumstances.

I, Colin Edgar, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan

Colin Edgar
Member, American Academy of Actuaries

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Introduction

This report presents the results of the actuarial valuation of the Quincy Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2024 for the purpose of determining the contribution requirements for Fiscal Year 2026 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2023, based in formation from the Retirement system and their auditors, Marcum;
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2024);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (e.g., withdrawals, retirement, death, etc.)

Valuation Summary

Summary of Results and Experience

- Experience and Funding Schedule

  Assets and liabilities are effectively segregated between the City of Quincy and Quincy Housing Authority due to the effects of a Pension Obligation Bond for the City of Quincy. The proceeds of the bond are intended to fund benefits only for the City, and only lower liabilities for the City.

  Calendar year 2022 saw significant investment losses, slightly offset by gains in the following year. The funding ratio (based on Actuarial Value of Assets) decreased from 101% to 93%.

  Total compensation changed by 17.8% over the prior valuation; average annual compensation (compensation divided by number of active members) changed by 11.6%. Salary experience increased the liability by $23.9 million.

- Assumptions/methodology:

  Two changes of benefit provisions occurred regarding the COLA Base: a one-time 5% increase was granted in FY2023 (compared to a typical statutory limit of 3%), and the COLA Base was increased from $15,000 to $18,000. The net effect of these changes increased the liability by $11.9 million.

  All other assumptions are consistent with the prior valuations. Assumptions and valuation methodology are discussed in Appendix A, on page 10.

January 1, 2024 Actuarial Valuation Results

	January 1, 2024	January 1, 2022	Percentage Change
Funding			
Contribution for Fiscal 2026	$18,088,025		
Members			
▪ Actives			
a. Number	1,663	1,575	5.6%
b. Annual Compensation	$126,844,652	$107,666,362	17.8%
c. Average Annual Compensation	$76,275	$68,360	11.6%
d. Average Attained Age	48.5	48.7	-0.4%
e. Average Past Service	11.4	12.0	-5.0%
▪ Retired, Disabled and Beneficiaries			
a. Number	1,507	1,496	0.7%
b. Total Benefits*	$55,339,097	$51,092,870	8.3%
c. Average Benefits*	$36,721	$34,153	7.5%
d. Average Age	74.8	74.5	0.4%
▪ Inactives			
a. Number	225	260	-13.5%
▪ Vested Terminated Members			
a. Number	29	26	11.5%
Normal Cost			
a. Total Normal Cost as of January 1, 2024	$ 21,315,707	$ 17,894,770	19.1%
b. Less Expected Members' Contributions	12,272,511	10,192,581	20.4%
c. Normal Cost to be funded by the Municipality	$ 9,043,196	$ 7,702,189	17.4%
d. Adjustment to July 1, 2025	547,982	466,722	17.4%
e. Administrative Expense Assumption	823,590	638,452	29.0%
f. Normal Cost Adjusted to July 1, 2025	$ 10,414,767	$ 8,807,364	18.3%
Actuarial Accrued Liability as of January 1, 2024			
a. Active Members	$404,123,270	$357,346,694	13.1%
b. Inactive Members	2,556,204	2,237,712	14.2%
c. Terminated Vested Members	4,411,628	2,869,189	53.8%
d. Retired Members and Beneficiaries	548,580,303	504,826,443	8.7%
e. Total	$959,671,405	$867,280,039	10.7%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2024	$959,671,405	$867,280,039	10.7%
b. Less Actuarial Value of Assets as of January 1, 2024	888,544,328	877,337,352	1.3%
c. Unfunded Actuarial Accrued Liability as of January 1, 2024	$ 71,127,076	$(10,057,314)	-807.2%
d. Adjustment to July 1, 2025	10,988,147	2,472,007	
e. Unfunded Actuarial Accrued Liability as of July 1, 2025	$ 82,115,223	$(7,585,307)	

*Excluding State reimbursed COLA

NOTE: for all tables in this report, totals may not sum due to rounding.

Development of Funding Schedule

The appropriation for Fiscal 2026 is as follows:

Net Employer Normal Cost for Fiscal 2026 (including admin. expenses)	$ 10,414,767
Net 3(8)(c) Payments	938,142
Amortization	6,735,115
Total Appropriation required for Fiscal 2026	$ 18,088,025

- The funding schedule is presented on the following page. The schedule's length is fourteen years for the City, and eight years for the Housing Authority.
- The maximum funding schedule length allowed by Section 22F of Chapter 32 of the Massachusetts General Laws is fifteen years to Fiscal 2040.

Allocation of Results to Employers

The funding contribution is composed of three components:

- Net Normal Cost, including administrative expense
- Amortization of the Unfunded Liability
- Net 3(8)(c) payments

Each component had to allocated between the City and the Housing Authority in order to develop the funding schedule for each employer. These three components are discussed in greater detail in the pages following the funding schedule, including discussion of how each element was divided between the City and the Housing Authority.

	Housing Authority					City of Quincy					
			Funding					Funding			
Fiscal Year	Normal Cost	Unfunded Liability	Amortization of UAAL	Net 3(8)(c) Payments	Schedule Contribution	Normal Cost	Unfunded Liability	Amortization of UAAL	Net 3(8)(c) Payments	Schedule Contribution	Total Contribution
2026	294,305	12,024,354	1,759,349	34,371	2,088,025	10,120,462	70,090,867	4,975,766	903,771	16,000,000	18,088,025
2027	306,077	11,009,219	1,860,330	34,371	2,200,778	10,525,281	69,835,946	5,434,948	903,771	16,864,000	19,064,778
2028	318,320	9,812,184	1,966,929	34,371	2,319,620	10,946,292	69,070,071	5,924,593	903,771	17,774,656	20,094,276
2029	331,053	8,414,036	2,079,456	34,371	2,444,879	11,384,144	67,723,526	6,446,572	903,771	18,734,487	21,179,367
2030	344,295	6,793,838	2,198,237	34,371	2,576,903	11,839,510	65,719,533	7,002,869	903,771	19,746,150	22,323,053
2031	358,067	4,928,782	2,323,618	34,371	2,716,056	12,313,090	62,973,622	7,595,581	903,771	20,812,442	23,528,497
2032	372,390	2,794,039	2,455,962	34,371	2,862,723	12,805,614	59,392,949	8,226,929	903,771	21,936,314	24,799,036
2033	387,285	362,587	362,587	34,371	784,243	13,317,838	54,875,557	8,899,265	903,771	23,120,875	23,905,118
2034	402,777	-	-	34,371	437,148	13,850,552	49,309,573	9,615,079	903,771	24,369,402	24,806,549
2035	418,888	-	-	34,371	453,259	14,404,574	42,572,345	10,377,005	903,771	25,685,350	26,138,608
2036	435,643	-	-	34,371	470,014	14,980,757	34,529,503	11,187,830	903,771	27,072,358	27,542,373
2037	453,069	-	-	34,371	487,440	15,579,987	25,033,944	12,050,508	903,771	28,534,266	29,021,706
2038	471,192	-	-	34,371	505,563	16,203,186	13,924,736	12,968,158	903,771	30,075,116	30,580,679
2039	490,040	-	-	34,371	524,410	16,851,314	1,025,929	1,025,929	903,771	18,781,014	19,305,425
2040	509,641	-	-	34,371	544,012	17,525,366	-	-	903,771	18,429,138	18,973,150

Components of the Funding Schedule

Net Normal Cost

	January 1, 2024	% of Payroll*
Gross Normal Cost (GNC)	$ 21,315,707	16.8%
Employees Contribution	12,272,511	9.7%
Net Normal Cost (NNC)	$ 9,043,196	7.1%
Adjusted to Beginning of Fiscal Year 2026	547,982	
Administrative Expense	823,590	0.6%
Adjusted Net Normal Cost With Admin. Expense	$ 10,414,767	

- The gross normal cost (GNC) is the "price" of benefits accruing in the current year if the valuation assumptions are realized. For an individual, this is the value in benefits which they are earning with their current year of service.

- The GNC only relates to current actives; retirees are done earning their benefit and inactives are not earning any credited service. The GNC for the whole system is split into two parts: the portion which is paid for by the employees (Employee Contributions), and the portion which must be paid for by the Retirement System (Net Normal Cost, or NNC).

- The NNC is adjusted from January 1, 2024 to Fiscal 2026 by rolling it forward with a salary increase factor of 4.00%. Finally, administrative expense is added to the adjusted NNC. This is the amount seen in the funding schedule.

<u>ALLOCATION OF RESULTS:</u> Of the three elements used to calculate the Net Normal Cost in the funding schedule, the Gross Normal Cost and the Employees' Contribution are determined by individual. The Gross Normal Cost and Employees' Contributions for each employee are allocated to the employee each employee is associated with.

The third component is the administrative expense; this was allocated according to each employer's share of active payroll, with City being assigned 95.6% of the total ($787,602) and Housing being assigned the remaining 4.4% ($35,988).

*Payroll paid in 2023 for employees as of January 1, 2024 is $126,844,652. Payroll for new hires in 2023 was annualized.

Amortization of the Unfunded Actuarial Accrued Liability

				January 1, 2024	Percentage Change
Active Actuarial Accrued Liability			$	404,123,270	13.1%
Superannuation	$	369,192,728			
Death	$	8,273,766			
Disability	$	22,111,648			
Withdrawal	$	4,545,128			
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability			$	555,548,135	8.9%
Retirees and Beneficiaries	$	448,467,881			
Disabled	$	100,112,422			
Vested	$	4,411,628			
Inactive	$	2,556,204			
Total Actuarial Accrued Liability (AAL)			$	959,671,405	10.7%
Actuarial Value of Assets (AVA)			$	888,544,328	1.3%
Unfunded Actuarial Accrued Liability			$	71,127,076	-807.2%
Funded Ratio (AVA / AAL)					
2024 (6.75% interest rate):		93%			
2022 (6.75% interest rate):		101%			

- Actuarial Accrued Liability (AAL) is the "price" of benefits attributable to benefits earned in past years, or in other words, represents today's value of all benefits earned by active and inactive members.

- The total AAL is $959,671,405. This along with an actuarial value of assets of $888,544,328 produces a funded status of 93%. This compares to a funded status of 101% for the 2022 valuation.

- The Unfunded AAL is the portion of the AAL which is not covered by the Plan assets. The UAAL for Quincy as of January 1, 2024 is $71,127,076.

- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability (UAAL), other than the UAAL due to past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. This can result in a funding schedule in which the changes in contribution amounts from year to year are more consistent.

ALLOCATION OF RESULTS: Each employer's share of the UAAL was determined by comparing their share of the AAL to their share of the assets. Like the Gross Normal Cost and Employees' Contributions described on the previous page, the AAL is calculated by individual, and was allocated by member. The allocation of assets is described on the following page.

Net 3(8)(c) Payments

- 3(8)(c) payments are benefits which the Quincy Retirement System pays to or receives from other retirement boards for service that a retiree had with a different retirement system.

- The net 3(8)(c) payments are the difference between what the Quincy Retirement System paid out minus what was received by the System, calculated based on the December 31, 2023 PERAC annual statement.
  - This was adjusted from the amount in the PERAC annual statement by adding 3(8)(c) payments to other systems that were not reflected in the annual statement

- The amount of net 3(8)(c) payments is assumed to remain level in future years.

<u>ALLOCATION OF RESULTS:</u> The portion of total net 3(8)(c) payments assigned to each employer is based on their share of retiree payroll; this resulted in the City being assigned 96.3% of the total ($903,771) and the Housing Authority being assigned the remaining 3.7% of the total ($34,371).

Assets

- Assets are based on the PERAC annual statement for the Quincy Retirement System as of December 31, 2023; assigning benefit payroll and other cash flows between employers was done in cooperation with Marcum, the System's auditor.

- Average annual return in calendar 2022 and 2023: -0.91% vs. a 6.75% assumption.
  - $129,159,813 net actuarial asset loss in calendar years 2022 and 2023

<u>ALLOCATION OF RESULTS:</u> The assets of the system fall into two categories – the proceeds of the Pension Obligation Bond, which are assigned entirely to the City, and the remainder of the assets, which are shared between the City and Housing Authority. The amount of the Bond proceeds as of December 31, 2021 based on the PERAC annual statement was $445.0 million; the remaining $473.6 million was allocated according to each employer's share of the Accrued Liability, resulting in 96.45% being assigned to the City and the remaining 3.55% being assigned to the Housing Authority. Deferred gains and losses (as shown on the following page) were allocated consistently with the shared portion of the assets for each year.

The resulting Actuarial Value of Assets by employer is:
- City: $864.6 million
- Housing: $ 24.0 million

Four-Year Asset Smoothing

1. Market value of assets including receivable/payable as of 01/01/2024 — $ 837,183,861

2. Phase-in of asset gains and losses

	Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)
a.	2023	$23,493,138	75%	$17,619,853
b.	2022	($152,652,951)	50%	($76,326,475)
c.	2021	$29,384,620	25%	$7,346,155
d.	2020	$23,531,255	0%	$0
e.	2019	$29,864,665	0%	$0
f.	Total	($46,379,273)		($51,360,467)

3. Valuation assets without corridor as of 01/01/2024 (1. - 2.f.) — $ 888,544,328

4. Corridor Check
   a. 90% of Market Value — $ 753,465,475
   b. 110% of Market Value — $ 920,902,248

5. Valuation assets with corridor as of 01/01/2024 (3. within Corridor) — $ 888,544,328

6. Calculation of return on valuation assets
   a. Valuation assets as of 01/01/2022 — $ 877,337,352
   b. ER contribs + EE contribs - Ben Pymts - Expenses — $ (65,357,456)
   c. Actual return on valuation assets 5. - (6.a. + 6.b.) — $ 76,564,432
   d. Weighted value of valuation assets — $ 842,323,584
   e. Return on valuation assets (6.c. / 6.d.) — 9.09%
   f. Annualized return on valuation assets — 4.45%

APPENDICES

Appendix A – Actuarial Methods and Assumptions

ACTUARIAL METHODS

Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

Asset Valuation Method

Market Value of Assets, adjusted for payables and receivables, adjusted to phase in investment gains compared to the expected market value and losses evenly over four years (shown on page 12). The asset valuation method adjusts the results to no less than 90% and no more than 110% of the market value of assets adjusted for payables and receivables.

Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2026. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

ACTUARIAL ASSUMPTIONS

Valuation Date

January 1, 2024.

Investment Return

6.75% per year net of investment expenses.

Regular Interest Rate Credited to Annuity Savings Account

2% per year.

Actuarial Methods and Assumptions (Continued)

Cost-of-Living Increases

A 3% COLA is assumed to be granted every year, scaling up by $1,000 annually from the $15,000 Base previously in effect to $18,000.

Salary Increases

Select and 3.75% ultimate, with the following steps:
- Group 1 and 2: 3.0% steps in years 1-3, 4.0% step in year 10
- Fire: 19.1% in year 1, 16.03% in year 2, 5.0% in years 28-29
- Police: 21.0% in year 1, 4.73% in year 2, 5.0% in years 28-29

Total payroll is assumed to increase at 4.00% per year.

Credited Service

All service is assumed to be due to employment with the municipality.

Family Composition

Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older).

Administrative Expenses

Estimated budgeted amount of $823,590 for the Fiscal Year 2026 is added to the Normal Cost. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.

Net 3(8)(c)

Net 3(8)(c) payments are assumed to be the same level as the past calendar year for all future years.

Contribution Timing

Contributions are assumed to be made at the beginning of the fiscal year.

Actuarial Methods and Assumptions (Continued)

Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

Rate of Withdrawal

Service	Group 1 and 2	Group 4
0	15%	1.5%
1	12%	1.5%
2	10%	1.5%
3	9%	1.5%
4	8%	1.5%
5	7.6%	1.5%
10	5.4%	1.5%
15	3.3%	0.0%
20	2.0%	0.0%
25	1.0%	0.0%
30+	0.0%	0.0%

Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

Rate of Disability

Age	Group 1 and 2	Group 4
20	0.01%	0.10%
25	0.02%	0.20%
30	0.03%	0.30%
35	0.06%	0.30%
40	0.10%	0.30%
45	0.15%	1.00%
50	0.19%	1.25%
55	0.24%	1.20%
60	0.28%	0.85%

In-Service Disability and Death

Both Disability and In-Service Death are assumed to be 50% ordinary and 50% accidental for Group 1 and 2, and 10% ordinary and 90% accidental for Group 4.

Actuarial Methods and Assumptions (Continued)

Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

				Hired after 4/1/2012		
Age	Group 1& 2 Male	Group 1 & 2 Female	Group 4	Group 1& 2 Male	Group 1 & 2 Female	Group 4
50	1%	1.5%	2%	0%	0%	0%
51	1%	1.5%	2%	0%	0%	0%
52	1%	2.0%	2%	0%	0%	0%
53	1%	2.5%	2%	0%	0%	0%
54	2%	2.5%	7.5%	0%	0%	0%
55	2%	5.5%	15%	0%	0%	10%
56	2.5%	6.5%	10%	0%	0%	7%
57	2.5%	6.5%	10%	0%	0%	20%
58	5%	6.5%	10%	0%	0%	10%
59	6.5%	6.5%	15%	0%	0%	15%
60	12%	5%	20%	25%	30%	20%
61	20%	13%	20%	20%	13%	20%
62	30%	15%	25%	30%	15%	25%
63	25%	12.5%	25%	25%	12.5%	25%
64	22%	18%	30%	22%	18%	30%
65	40%	15%	100%	40%	15%	100%
66	25%	20%	N/A	25%	20%	N/A
67	25%	20%	N/A	25%	20%	N/A
68	30%	25%	N/A	30%	25%	N/A
69	30%	20%	N/A	30%	20%	N/A
70	100%	100%	N/A	100%	100%	N/A

Mortality

RP-2014 adjusted to 2006, projected generationally using MP-2021 (sex-distinct). During employment the healthy employee mortality table is used. Post-employment the healthy annuitant table is used.

Mortality for disabled retirees follows the same table as non-disabled retirees, set forward 2 years. Death is assumed to be due to the same cause as the disability 40% of the time.

Appendix B – Summary of Principal Provisions

1. PARTICIPANT

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

- Group 1: general employees
- Group 2: employees in specified hazardous occupations (e.g., electricians)
- Group 4: police and firefighters

2. MEMBER CONTRIBUTIONS

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over $30,000.

3. PAY

a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.

b. Average Pay

The average of pay during the three consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement. For members hired after April 1, 2012, five-year averages will be used.

4. CREDITED SERVICE

Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.

Summary of Principal Provisions (Continued)

5. SERVICE RETIREMENT

a. Eligibility

<u>Hired prior to April 2, 2012:</u>
- Attainment of age 55 and completion of ten years of credited service,
- or at any age with completion of 20 years of service.
- If hired prior to 1978 or a member of Group 4, the completion of ten years of service is not required.

<u>Hired after April 1, 2012:</u>
- Group 1 – Age 60 and Completion of 10 years of credited service;
- Group 2 – Age 55 and completion of 10 years of service;
- Group 4 – Age 55.

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45
	Hired after April 1, 2012*		
2.5%	67+	62+	57+
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

*Reduction is .125% for each year early instead of .15% per year for employees with over 30 years of service.

In addition, veterans receive an additional $15 per year for each year of credited service up to 20 years

Summary of Principal Provisions (Continued)

6. DEFERRED VESTED RETIREMENT

a. Eligibility

Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

b. Retirement Allowance

Determined in the same manner as "Service Retirement" section above with the member eligible to start collecting a benefit at age 55, (or age 57 for post-April 1, 2012 hires) or defer until later at his or her discretion. If a member chooses, his or her contributions with interest may be withdrawn. The amount of interest he or she will receive depends on length of service and whether or not the termination of employment was voluntary.

7. ORDINARY DISABILITY RETIREMENT

a. Eligibility

Non-job related disability after completion of 10 years of credited service.

b. Retirement Allowance

Determined in the same manner as "Service Retirement" section and calculated as if the member had attained age 55 (or age 57 for those hired after April 1, 2012), if younger. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. ACCIDENTAL DISABILITY RETIREMENT

a. Eligibility

Disabled as a result of an accident in the performance of duties. No age or service requirement.

b. Retirement Allowance

72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

Summary of Principal Provisions(Continued)

9. NON-OCCUPATIONAL DEATH

a. Eligibility

Dies while in active service, but not due to occupational injury. 2 years of service.

b. Retirement Allowance

Benefit as if Option C had been elected (see below) and member had attained age 55 (or age 57 for those hired after April 1, 2012) if younger.

Minimum monthly benefits provided as follows:
- spouse - $500,
- first child - $120,
- each additional child - $90

10. OCCUPATIONAL DEATH

a. Eligibility

Dies as a result of an occupational injury.

b. Benefit Amount

72% of pay plus refund of annuity savings fund balance. In the case of an accidental disability retiree who dies of the same cause, the beneficiary receives 72% of the last 12 months salary or the current pension amount, whichever is greater.

11. COST-OF-LIVING INCREASES

An increase of up to 3% applied to the first $15,000 of annual benefit, increasing to $18,000 through annual increases of $1,000. Funded by the Employer from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. OPTIONAL FORMS OF PAYMENT

- Option A: Allowance payable monthly for the life of the member.
- Option B: Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
- Option C: Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.

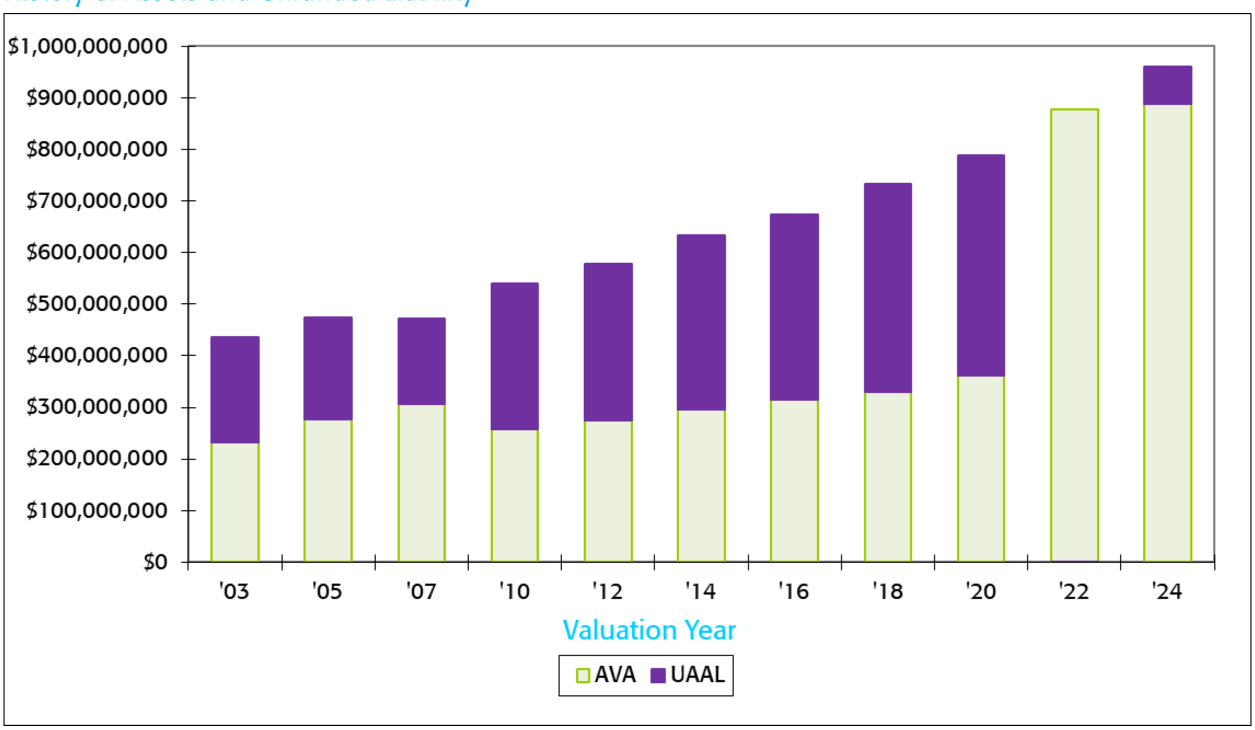
Appendix C – Charts of Selected Actuarial Statistics

History of Demographic Statistics

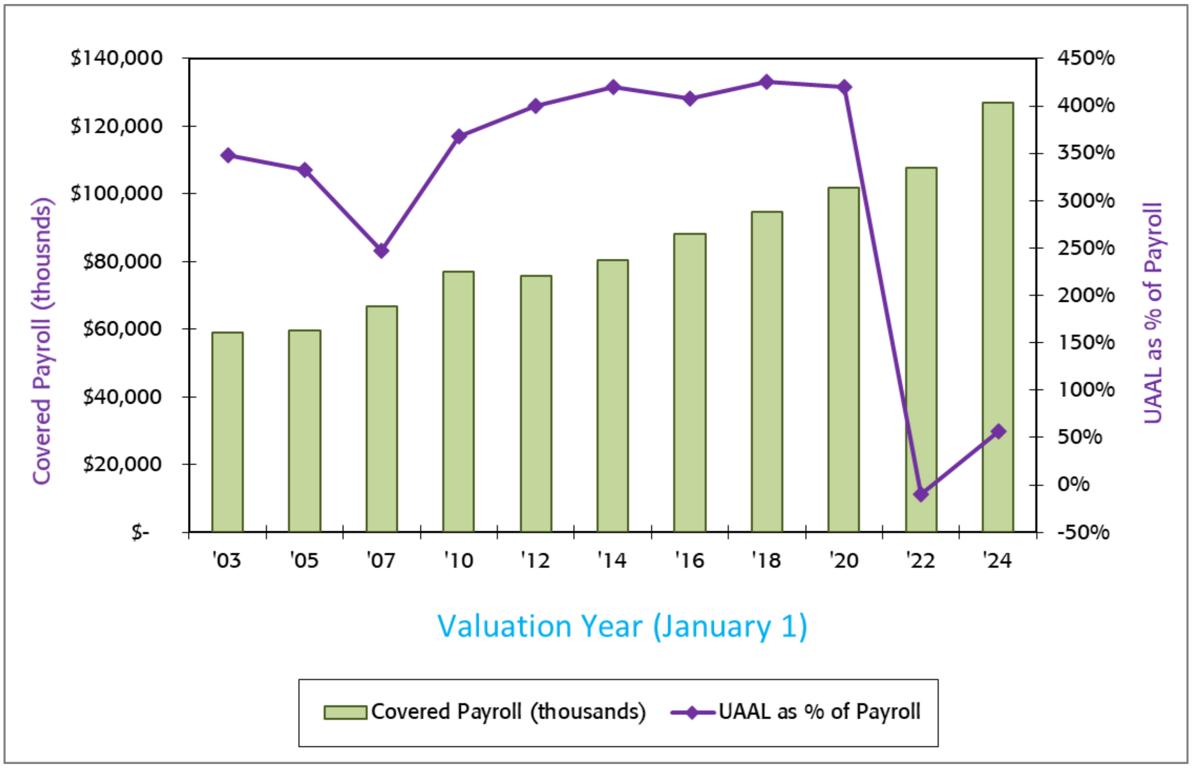
Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2024	1,663	48.5	11.4	$76,275
2022	1,575	48.7	12.0	$68,360
2020	1,546	49.3	12.4	$65,793
2018	1,494	49.3	12.6	$63,415
2016	1,416	49.6	13.0	$62,209
2014	1,356	49.7	13.4	$59,242
2012	1,324	49.7	13.6	$57,122
2010	1,419	49.1	12.5	$54,185
2007	1,426	47.4	11.3	$46,781
2005	1,339	47.0	11.4	$44,431
2003	1,384	46.9	11.8	$42,594
2001	1,459	47.8	12.8	$38,948

- Both employee age and service have begun to decrease in recent years, following years of increases. This pattern has appeared in the experience of several systems in the Commonwealth. Average annual compensation has grown by 95.8% (3.0% annually) over the past twenty-three years.

History of Assets and Unfunded Liability



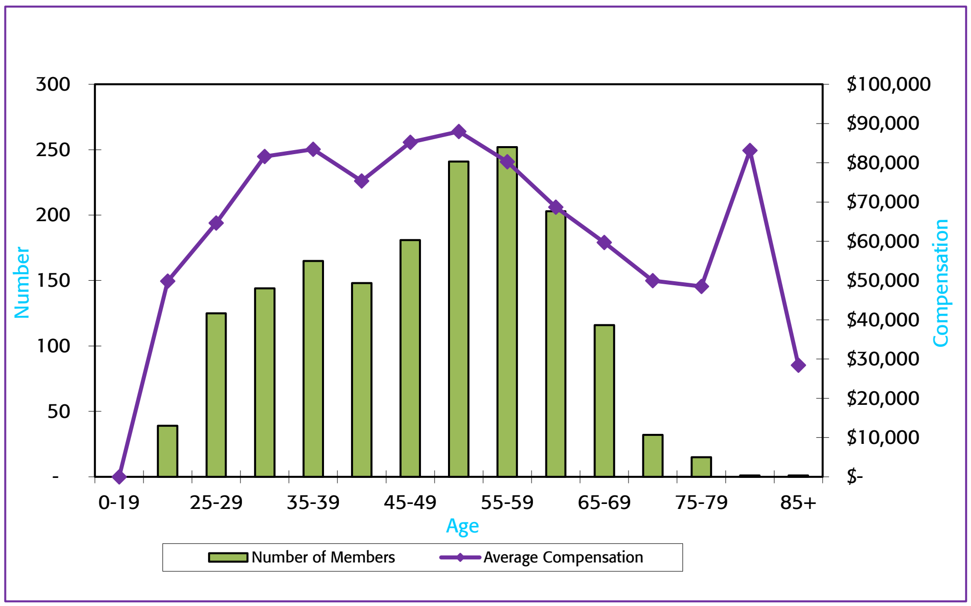
History of Unfunded Liability and Covered Payroll

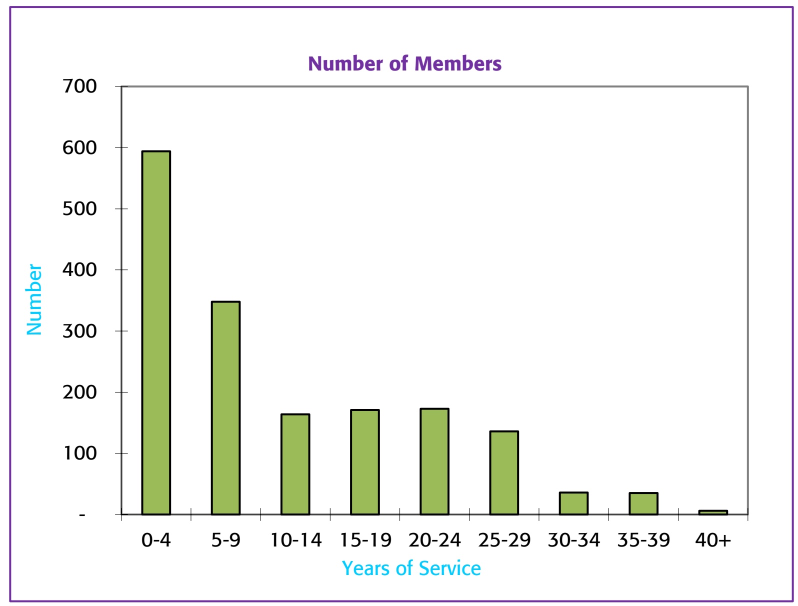


Distribution of Plan Members as of January 1, 2024

ACTIVE MEMBERS

AGE	0 4 Years	5 9 Years	10 14 Years	15 19 Years	20 24 Years	25 29 Years	30 34 Years	35 39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	$ -	$ -
20-24	39	-	-	-	-	-	-	-	-	39	$ 1,944,896	$ 49,869
25-29	106	19	-	-	-	-	-	-	-	125	$ 8,081,901	$ 64,655
30-34	90	48	6	-	-	-	-	-	-	144	$ 11,751,879	$ 81,610
35-39	63	48	39	15	-	-	-	-	-	165	$ 13,767,596	$ 83,440
40-44	50	38	26	26	8	-	-	-	-	148	$ 11,151,205	$ 75,346
45-49	53	28	15	32	41	12	-	-	-	181	$ 15,423,558	$ 85,213
50-54	55	44	16	30	39	49	8	-	-	241	$ 21,198,903	$ 87,962
55-59	54	53	19	24	31	48	14	9	-	252	$ 20,218,774	$ 80,233
60-64	54	35	20	22	26	16	7	22	1	203	$ 13,939,880	$ 68,669
65-69	22	24	18	17	19	7	3	4	2	116	$ 6,927,872	$ 59,723
70-74	7	7	3	5	5	3	1	-	1	32	$ 1,599,018	$ 49,969
75-79	1	4	2	-	4	1	2	-	1	15	$ 727,601	$ 48,507
80-84	-	-	-	-	-	-	-	-	1	1	$ 83,111	$ 83,111
85+	-	-	-	-	-	-	1	-	-	1	$ 28,458	$ 28,458
TOTAL	**594**	**348**	**164**	**171**	**173**	**136**	**36**	**35**	**6**	**1,663**	**$ 126,844,652**	**$ 76,275**





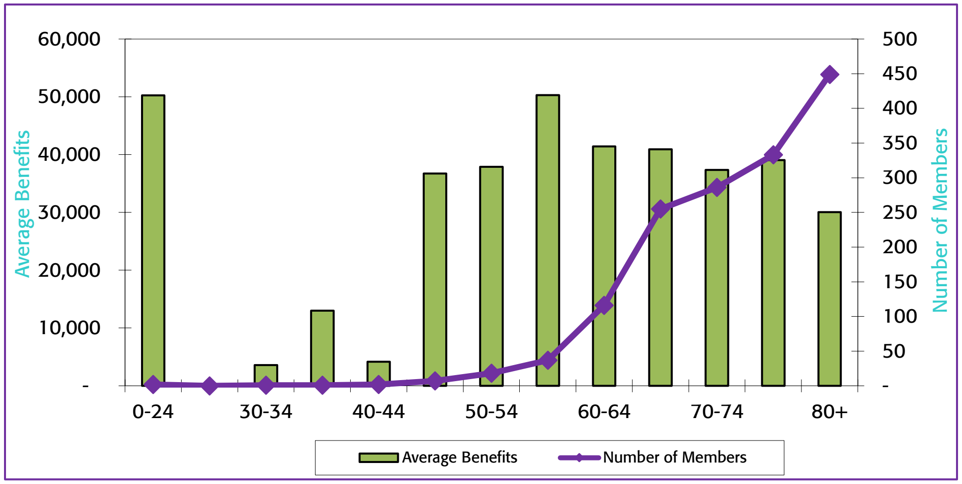
Distribution of Plan Members as of January 1, 2024

RETIRED MEMBERS

Retired Members and Beneficiaries			
Age	**Number**	**Average Benefit**	**Total Benefit**
0-24	2	50,251	100,502
25-29	-	-	-
30-34	1	3,579	3,579
35-39	1	12,998	12,998
40-44	2	4,171	8,342
45-49	3	22,669	68,008
50-54	8	25,050	200,399
55-59	27	46,248	1,248,702
60-64	90	36,684	3,301,604
65-69	222	38,362	8,516,318
70-74	263	35,511	9,339,498
75-79	308	37,916	11,678,107
80+	404	29,247	11,815,890
TOTAL	1,331	$ 34,781	$ 46,293,946

Disabled Members			
Age	**Number**	**Average Benefit**	**Total Benefit**
0-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	-	-	-
45-49	4	47,309	189,237
50-54	10	48,165	481,653
55-59	10	61,228	612,282
60-64	26	57,882	1,504,937
65-69	33	58,244	1,922,057
70-74	23	58,258	1,339,934
75-79	25	52,902	1,322,547
80+	45	37,167	1,672,505
TOTAL	176	$ 51,393	$ 9,045,151

Total			
Age	**Number**	**Average Benefit**	**Total Benefit**
0-24	2	50,251	100,502
25-29	-	-	-
30-34	1	3,579	3,579
35-39	1	12,998	12,998
40-44	2	4,171	8,342
45-49	7	36,749	257,246
50-54	18	37,892	682,052
55-59	37	50,297	1,860,985
60-64	116	41,436	4,806,541
65-69	255	40,935	10,438,375
70-74	286	37,341	10,679,431
75-79	333	39,041	13,000,653
80+	449	30,041	13,488,394
TOTAL	1,507	$ 36,721	$ 55,339,097



Benefits shown are net of State reimbursed COLA.

Appendix D – Glossary of Terms

- **Actuarial Accrued Liability**
  The portion of the Present Value of Benefits that is attributable to past service.

- **Actuarial Value of Assets**
  The value of assets based on the asset valuation method shown in the Actuarial Methods and Assumptions section of this report.

- **Actuarial Assumptions**
  Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.

- **Actuarial Cost Method**
  The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.

- **Funding Ratio**
  The percentage of the accrued liability that is covered by the Actuarial Value of Assets.

- **GASB**
  Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).

- **Normal Cost**
  The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.

- **PERAC**
  Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.

- **Present Value of Benefits**
  Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.

- **PRIT**
  Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.

- **Unfunded Actuarial Accrued Liability**
  That portion of the Actuarial Accrued Liability not covered by System Assets.

Disclosures

- Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as:
  - 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 natural operation of the methodology used for these measurements such as additional contribution requirements based on the plan's funded status,
  - changes in plan provisions or applicable law.

  As part of the valuation, we have not performed an analysis of the potential range of future measurements.

- Stone Consulting, Inc. was furnished member data by the Quincy Retirement System's administrative staff. Although examined under broad parameters for reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors. With the assistance of the staff of the Quincy Retirement Board, we were able to develop a database sufficient for valuation purposes.

- The investment return assumption is a long-term assumption and is based on capital market expectations by asset class, historical returns, and professional judgement.

- Historically, 9% to 10% has been the expected long-term rate of return for equities, and 5% to 6% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns for equities and fixed income securities. In light of these projections, as well as historical investment returns, the 6.75% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

- The salary increase assumption reflects prior experience including PERAC's 2002 local experience study, current expectations, and professional judgement.

- All assumptions and methodologies were selected by the Quincy Retirement Board in conjunction with guidance provided by Stone Consulting, Inc.

- Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

- The UAAL and funded ratio are measures of the plan's funded status. These measures reflect the plan's position as of January 1, 2024. We believe these measures, by themselves, are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations or assessing the need for or the amount of future contributions. However, we believe these measures, in conjunction with the plan's funding schedule, are appropriate for assessing the amount of future contributions.

PERAC Information Disclosure

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2024

The normal cost for employees on that date was:	$12,272,511	9.7%	of payroll
The normal cost for the employer was:	$9,043,196	7.1%	of payroll

The actuarial liability for active members was:	$404,123,270
The actuarial liability for retired members was (includes inactives):	$555,548,135
Total actuarial accrued liability:	$959,671,405
System assets as of that date ($837,183,861 Market Value):	$888,544,328
Unfunded actuarial accrued liability:	$71,127,076

The ratio of system's assets to total actuarial liability was:	93%

As of that date the total covered employee payroll was:	$126,844,652

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	6.75% per annum
Rate of Salary Increase:	Select and Ultimate (3.75% ultimate rate)

SCHEDULE OF FUNDING PROGRESS (Dollars in $000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b a)/c)
1/1/2024	$888,544	$959,671	$71,127	93%	$126,845	56%
1/1/2022	$877,337	$867,280	$(10,057)	101%	$107,666	-9%
1/1/2020	$361,712	$788,421	$426,709	46%	$101,716	420%
1/1/2018	$330,037	$733,469	$403,432	45%	$94,742	426%
1/1/2016	$315,825	$674,956	$359,131	47%	$88,087	408%

ASOP 4 Disclosures

LDROM

In compliance with ASOP 4 Section 3.11, we have calculated a Low Default Risk Obligation Measure (LDROM) for projected benefits. These benefits were discounted using the FTSE Pension Liability Index, which includes yields from hypothetical AA zero coupon bonds with maturities from 6 months to 30 years. This calculation yielded a single equivalent discount rate of 4.80%.

Based on this discount rate, the LDROM of the Entry Age Actuarial Accrued Liability is $1,182,886,969. All other assumptions and methods used in calculating the LDROM are consistent with those applied in this valuation.

Based on the assumptions and methods used, the LDROM reflects the liability that would have to be funded if the Trust were invested entirely in assets corresponding to the FTSE Index. The difference between the two measures reflects the anticipated value of taking on investment risk by investing in securities which have historically experienced both greater returns and greater volatility than the assets represented by the FTSE rates. The use of a higher discount rate for pension funding to reflect higher projected returns results in a reduction in the required funding levels for the Plan, but this being realized is contingent on future asset performance; lower than expected returns will result in increased required contributions, while higher than expected returns could produce surpluses that reduce future contribution requirements.

RADC

In accordance with ASOP 4 Section 3.21, pension obligation valuations must include a "reasonable" Actuarially Determined Contribution (ADC). An ADC is deemed reasonable if it either funds accrued liabilities within an acceptable time frame or annually reduces the unfunded liability by a reasonable amount.

The funding schedule in this valuation meets these criteria by aiming to accumulate assets adequate to make benefit payments when due. The funding contribution for FY2026 aligns with these standards and qualifies as a reasonable Actuarially Determined Contribution.