Town of North Branford
Retirement Plan for Municipal Employees

Actuarial Valuation as of July 1, 2024
To Determine Funding for Fiscal Year 2025-26

Prepared by

Scott Lindberg, FSA
Consulting Actuary

Milliman

Issued December 31, 2024

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Certification

As part of our engagement with the Town of North Branford ("Town"), we have performed an actuarial valuation of the Plan as of July 1, 2024. Our findings are set forth in this actuary's report. The main purposes of this valuation are to determine funding for fiscal year 2025-26, to review the Plan's experience since the prior valuation, and to assess the funded position of the Plan.

Actuarial computations presented in this report are for the purposes of determining the recommended funding amounts for the Plan. The calculations in this report have been made on a basis consistent with our understanding of the Plan's funding policy and on our understanding of the plan provisions as summarized in this report. Determinations for purposes other than meeting these requirements, such as for financial reporting in accordance with GASB standards, may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

We believe that the measures of funded status contained herein are appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations and for assessing the need for or the amount of future contributions. Note that a Plan's funded status is dependent on the selection of both the actuarial cost method and the asset smoothing method; different measurements would result if, for instance, the Market Value of Assets were used in place of the Actuarial Value of Assets.

Actuarial assumptions, including interest rates, mortality tables, and others identified in this report, and actuarial cost methods are adopted by the Town, who is responsible for selecting the Plan's funding policy, actuarial cost methods, asset valuation methods, and actuarial assumptions. The policies, methods, and assumptions used in this valuation are those that have been so adopted and are described in this report. The Town is solely responsible for communicating to Milliman any changes thereto. All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which, in our professional opinion, are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated future experience affecting the Plan and are expected to have no significant bias.

This valuation is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, 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 modifications to contribution calculations based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of future measurements.

Certification (continued)

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the Town. This information includes, but is not limited to, benefit provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different, and our calculations may need to be revised.

Milliman's work is prepared solely for the use and benefit of the Town. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Town may provide a copy of Milliman's work, in its entirety, to the Town's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town; and (b) the Town may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The valuation results were developed using models intended for valuations that use standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct* and *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States*, published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Scott Lindberg, FSA
Consulting Actuary

i. Summary of Principal Results

Actuarial Valution for Plan Year Beginning	July 1, 2023	July 1, 2024
Membership		
Active Members	5	5
Terminated Members	2	2
Members in Pay Status	70	68
Total Count	77	75
Payroll	$405,300	$405,766
Assets and Liabilities		
Market Value of Assets	$4,014,168	$4,504,208
Actuarial Value of Assets	4,363,289	4,632,156
Accrued Liability for Active Members	1,949,200	2,057,140
Accrued Liability for Terminated Members	36,839	39,296
Accrued Liability for Members in Pay Status	7,465,729	7,214,185
Total Accrued Liability	9,451,768	9,310,621
Unfunded Accrued Liability	5,088,479	4,678,465
Funded Ratio	46.2%	49.8%
Actuarially Determined Contribution		
For Fiscal Year	2024-25	2025-26
Normal Cost	30,806	31,104
Past Service Cost	766,789	800,397
Interest	27,517	28,687
Actuarially Determined Contribution	825,112	860,188

ii. Changes Since the Prior Valuation

Plan Experience

From July 1, 2023 to July 1, 2024, the plan's assets earned 11.77% on a Market Value basis and 5.77% on an Actuarial Value basis. The interest rate assumption for this period was 6.50%; the result is an asset gain of about $0.2 million on a Market Value basis and a loss of about $32,000 on an Actuarial Value basis.

From July 1, 2023 to July 1, 2024, the Accrued Liability was expected to decline from $9.5 million to $9.2 million, based on expected changes in the plan's membership per the actuarial assumptions. Actual changes in the plan's membership during this period resulted in an Accrued Liability as of July 1, 2024 of $9.3 million (measured before any changes in the plan provisions or the actuarial methods and assumptions). This difference of $69,000 between the expected Accrued Liability and the actual Accrued Liability is termed a 'liability loss'. The primary factors contributing to this liability loss were: (1) a modest loss from mortality experience, with fewer deaths than expected; and (2) a small gain from salary growth, with smaller pay increases than expected.

Plan Changes

None.

Changes in Actuarial Assumptions

None.

Changes in Actuarial Methods

None.

Other Significant Changes

None.

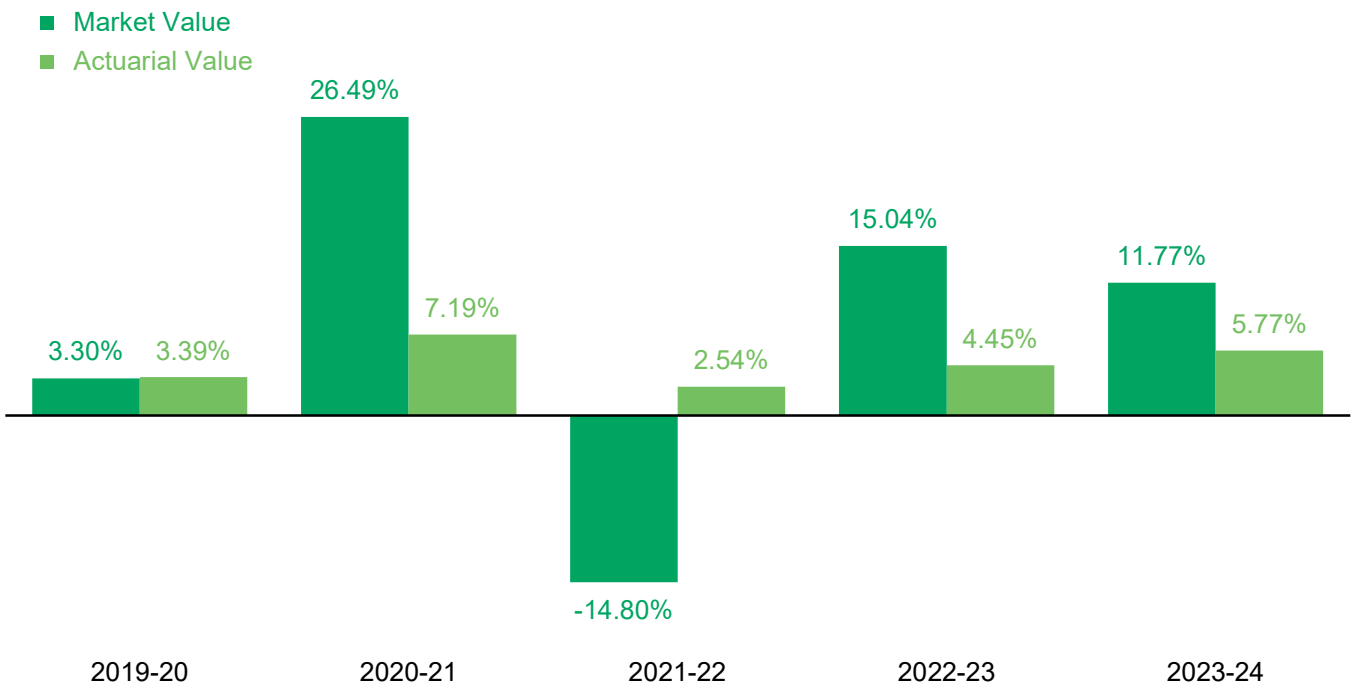
iii. Asset Performance

There are two different measures of the plan's assets that are used throughout this report. The Market Value is a snapshot of the plan's investments as of the valuation date. The Actuarial Value is a smoothed asset value designed to temper the volatile fluctuations in the market by recognizing investment gains or losses asymptotically over five years.

	Market Value	Actuarial Value
Value as of July 1, 2023	$4,014,168	$4,363,289
Town Contributions and Member Contributions	860,511	860,511
Investment Income	473,342	252,169
Benefit Payments and Administrative Expenses	(843,813)	(843,813)
Value as of July 1, 2024	4,504,208	4,632,156

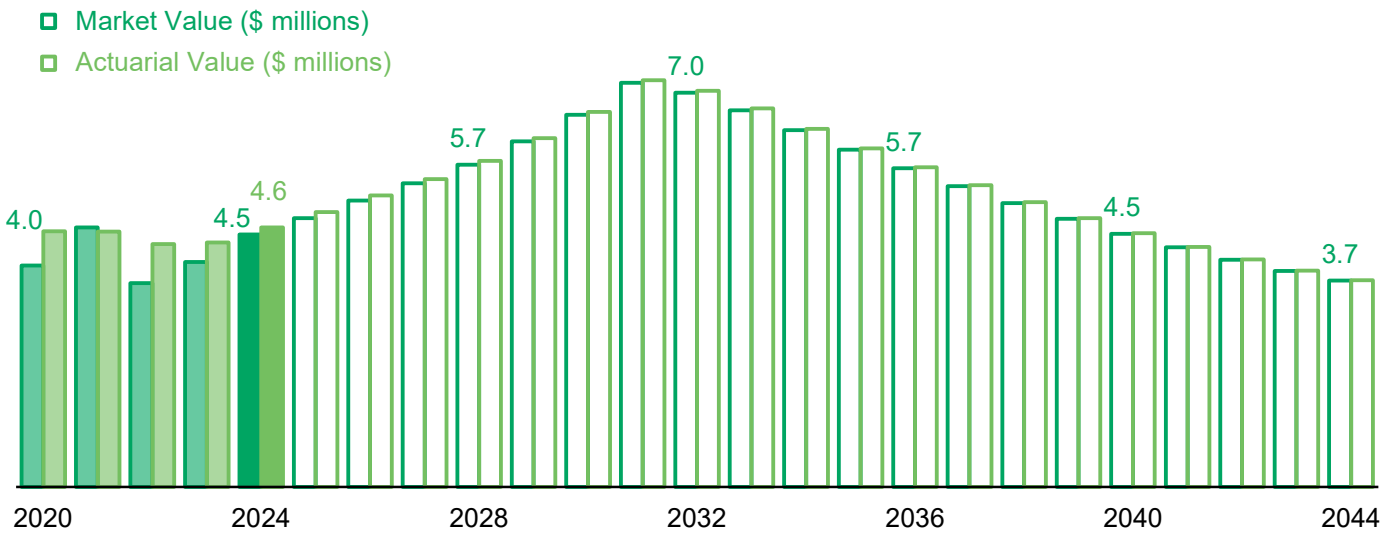
The Actuarial Value currently exceeds the Market Value by $128,000. This figure represents investment losses that will be gradually recognized in future years. This process will exert upward pressure on the Town's contribution, unless there are offsetting market gains.

Historical rates of return are shown in the graph below:

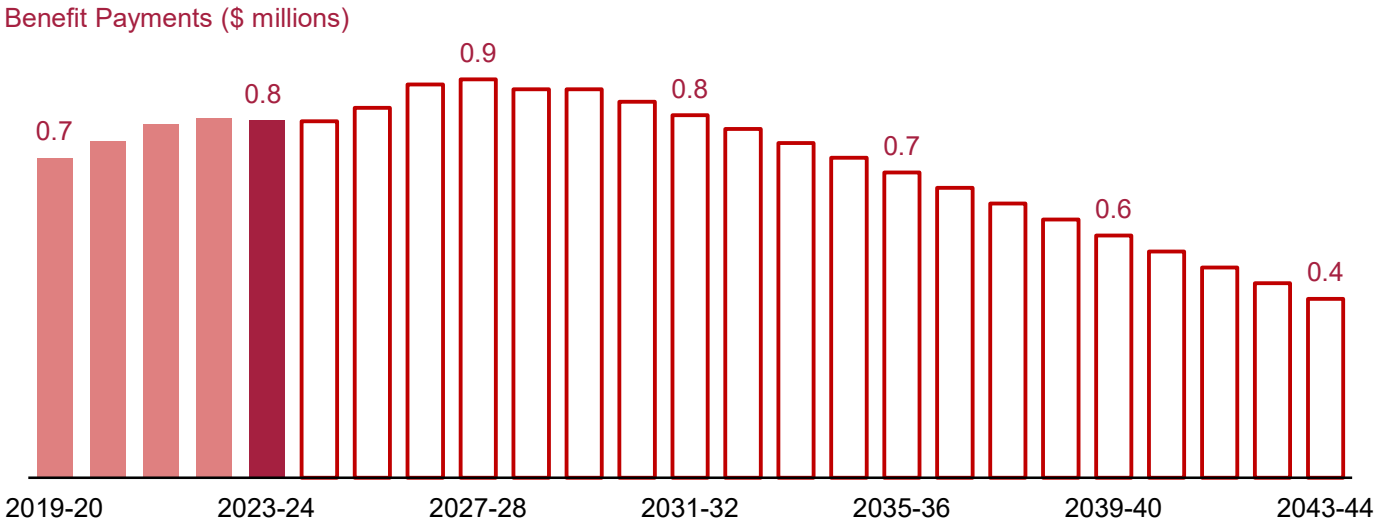


iv. Asset Forecast

The graph below shows how this year's asset values compare to where the plan's assets have been over the past several years and how they are projected to change over the next 20 years. For purposes of this projection, we have assumed that the Town always contributes the Actuarially Determined Contribution and the investments always earn the assumed interest rate each year.



In 2023-24, the plan paid out $0.8 million in benefits to members. Over the next 20 years, the plan is projected to pay out a total of $14 million in benefits to members.

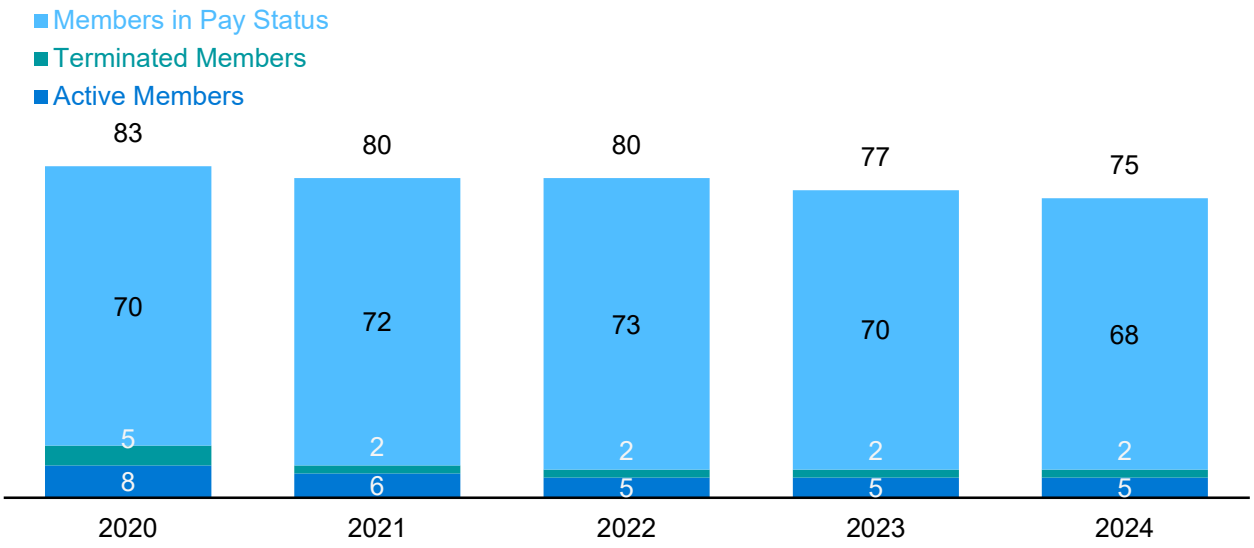


To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Appendix A for more details of the long range forecast.

v. Membership

Overview

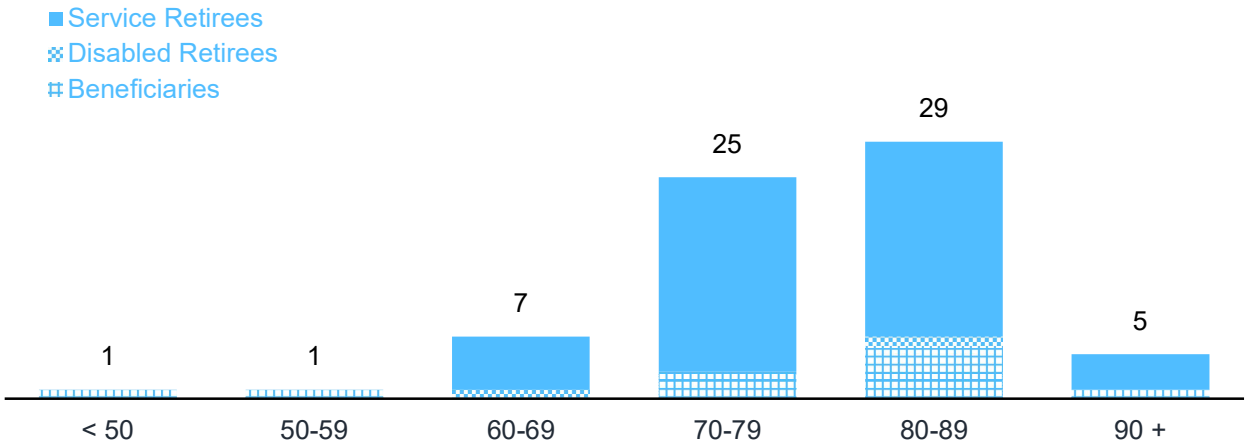
There are three basic categories of plan members included in the valuation: (1) active employees who have met the eligibility requirements for membership, (2) members who are currently receiving monthly pension benefits, and (3) former employees who have a right to benefits but have not yet started collecting.



Members in Pay Status on July 1, 2024

Service Retirees	54	Average Age	79.4
Disabled Retirees	2	Total Annual Benefit	$814,510
Beneficiaries	12	Average Annual Benefit	11,978
Total	68		

The members in pay status fall across a wide distribution of ages:



v. Membership (continued)

Terminated Vested Members on July 1, 2024

Count	2
Average Age	64.6
Total Annual Benefit	$3,423
Average Annual Benefit	1,712

Nonvested Members Due Refunds on July 1, 2024

Count	0

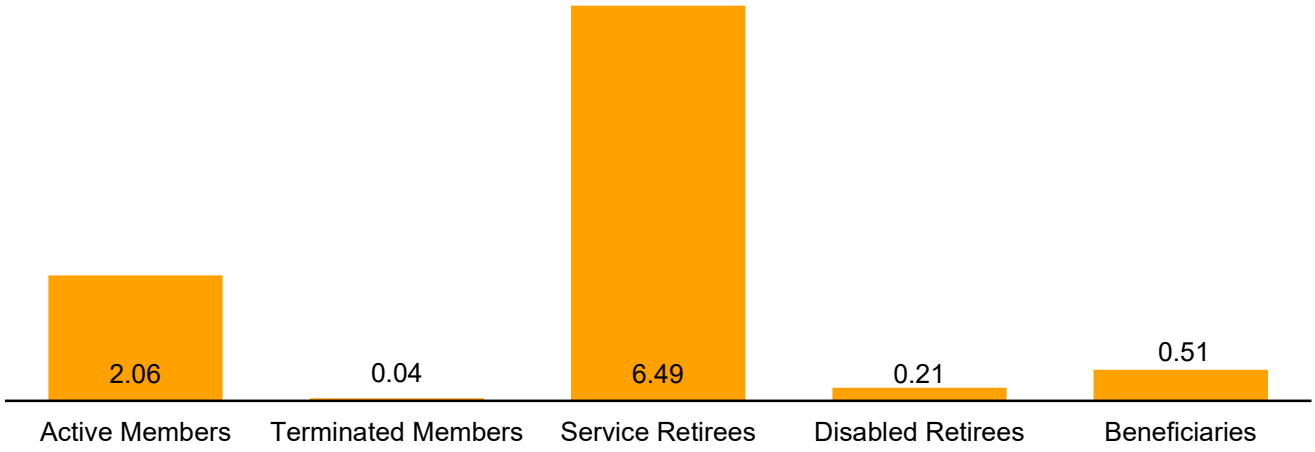
Active Members on July 1, 2024

Count	5
Average Age	63.1
Average Service	34.6
Payroll	$405,766
Average Payroll	81,153

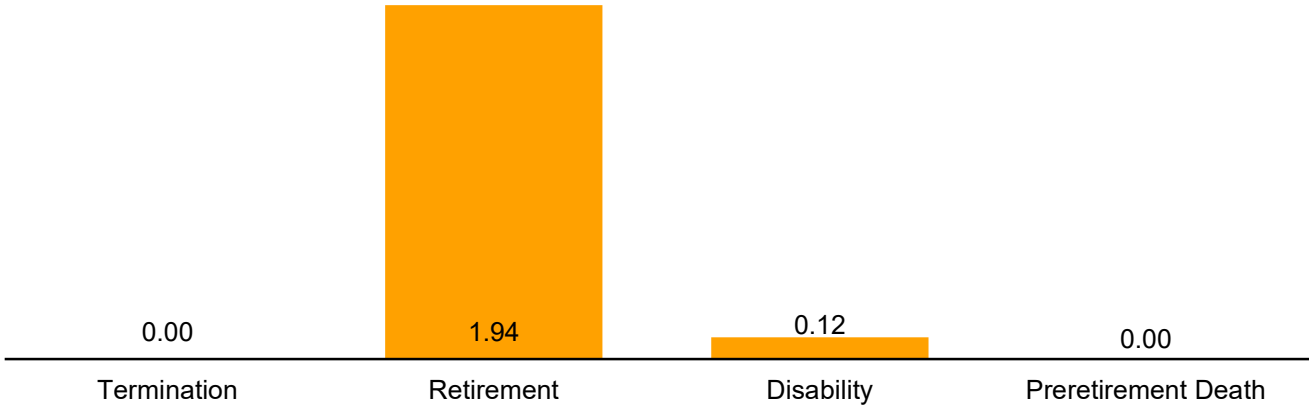
	Years of Service							
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
< 25								0
25-29								0
30-34								0
35-39								0
40-44								0
45-49								0
50-54								0
55-59							1	1
60-64							3	3
65+						1		1
Total	0	0	0	0	0	1	4	5

vi. Accrued Liability

The Accrued Liability as of July 1, 2024 equals $9,310,621, which consists of the following pieces (in $ millions):

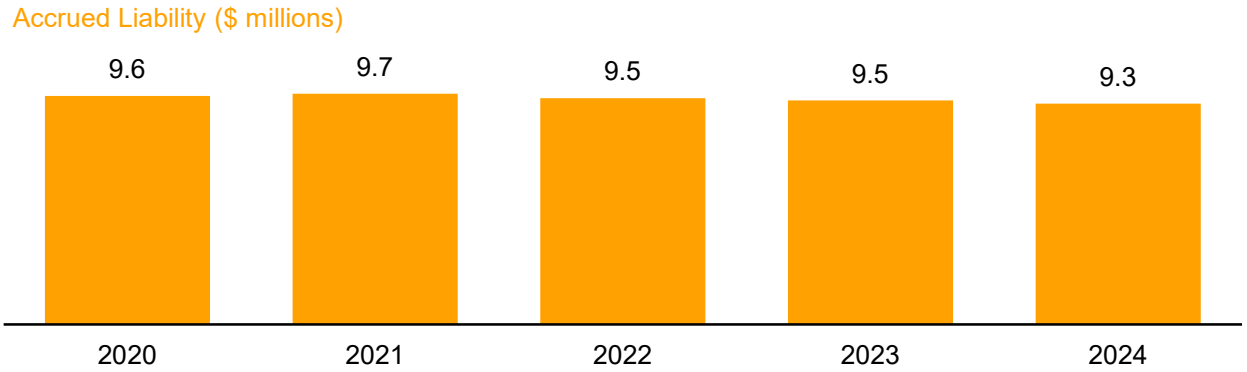


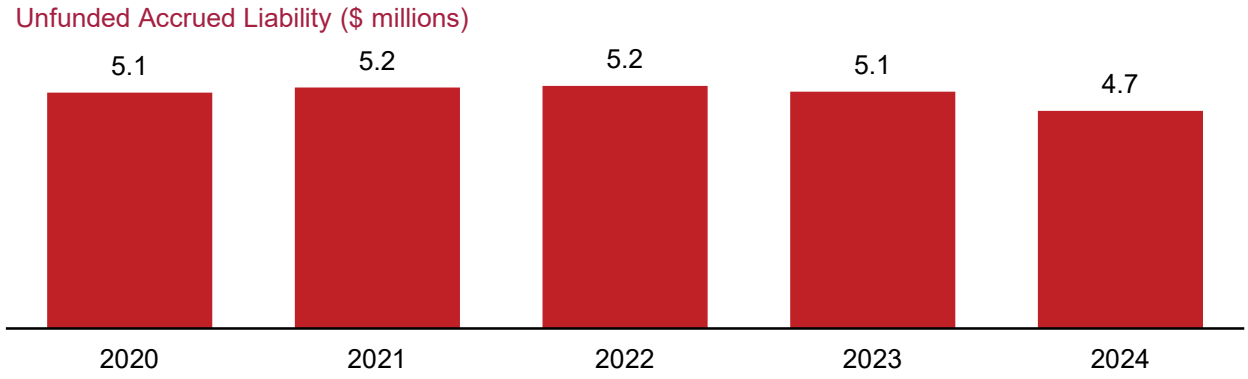
The Accrued Liability for active members can be broken down further by the different types of benefits provided by the plan:

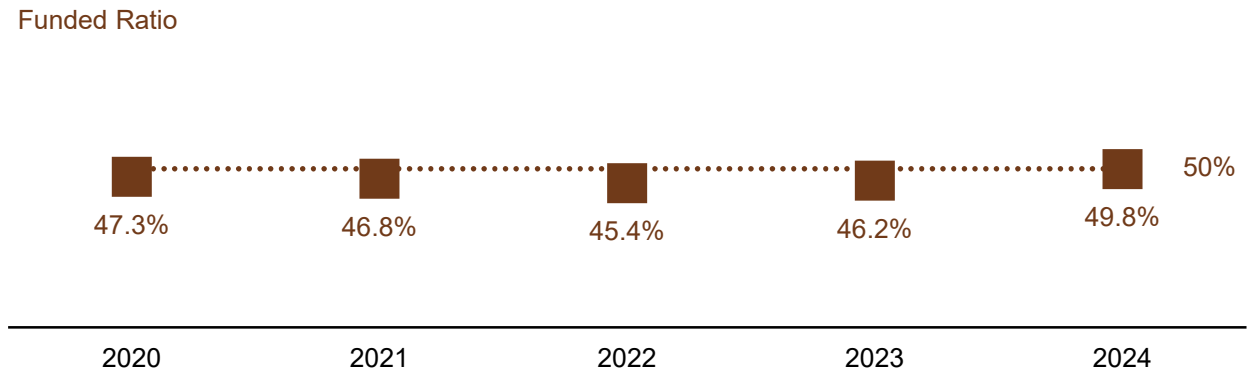


vii. Funded Status

The Accrued Liability grows over time as active members earn additional benefits, and goes down over time as members in pay status receive benefits; it may also change when there are changes to the plan provisions or changes in the actuarial assumptions. The Unfunded Accrued Liability is the dollar difference between the Accrued Liability and the Actuarial Value of Assets; the Funded Ratio is the ratio of the two.

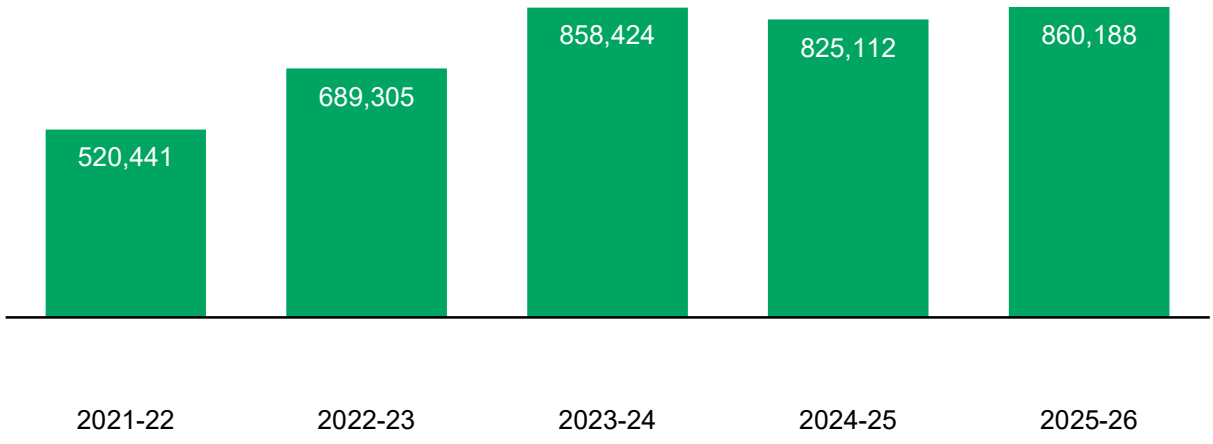






viii. Actuarially Determined Contribution (ADC)

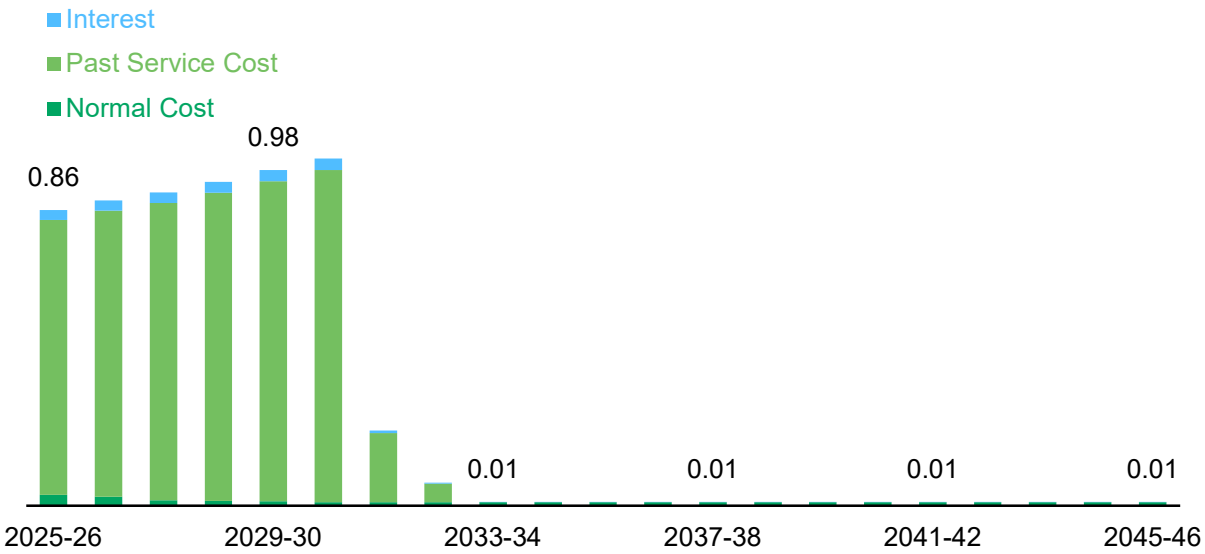
The ADC consists of three pieces: a Normal Cost payment to fund the benefits earned each year, a Past Service Cost to gradually reduce any unfunded or surplus liability, and Interest to reflect the timing of the contribution relative to the valuation date. The ADC for fiscal year 2025-26 is $860,188. The ADC for the past five years if shown below:



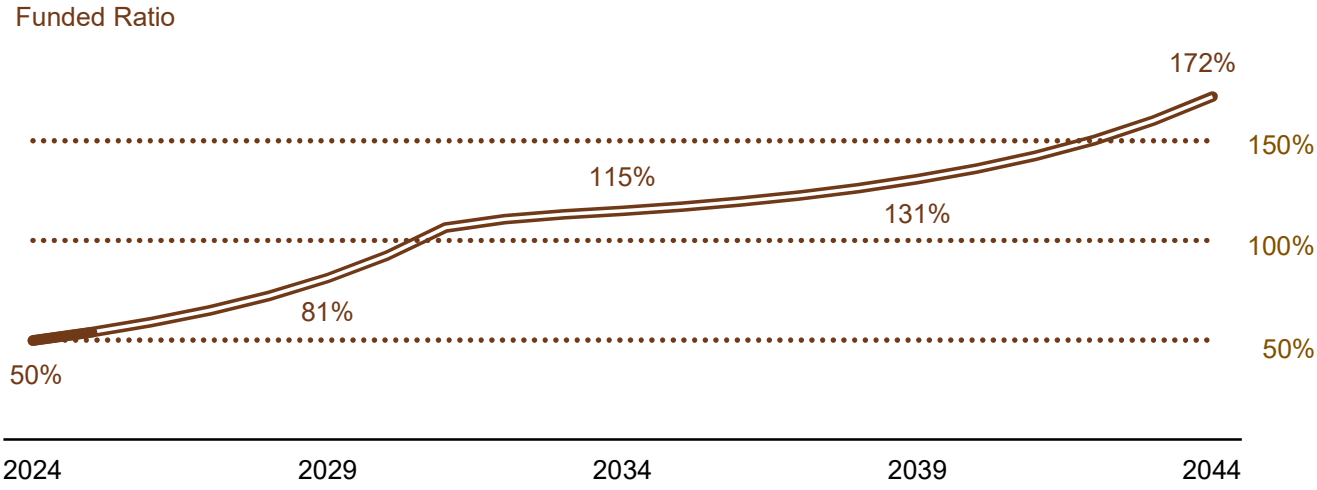
Actuarial Standard of Practice (ASOP) No. 4 requires the actuary to calculate and disclose a 'reasonable' ADC, which considers whether the actuarial methods and actuarial assumptions are in compliance with all applicable ASOPs. Based on the actuarial assumptions and methods used in this report, we believe the ADC meets this standard and reflects a balance among benefit security for plan members, intergenerational equity among stakeholders, and stability of periodic costs.

ix. Long-Range Forecast

If the Town pays the Actuarially Determined Contribution each year, the investments earn exactly the assumed interest rate each year, and there are no changes in the plan provisions or in the actuarial methods and assumptions, then we project the following long-range Actuarially Determined Contributions (in $ millions):



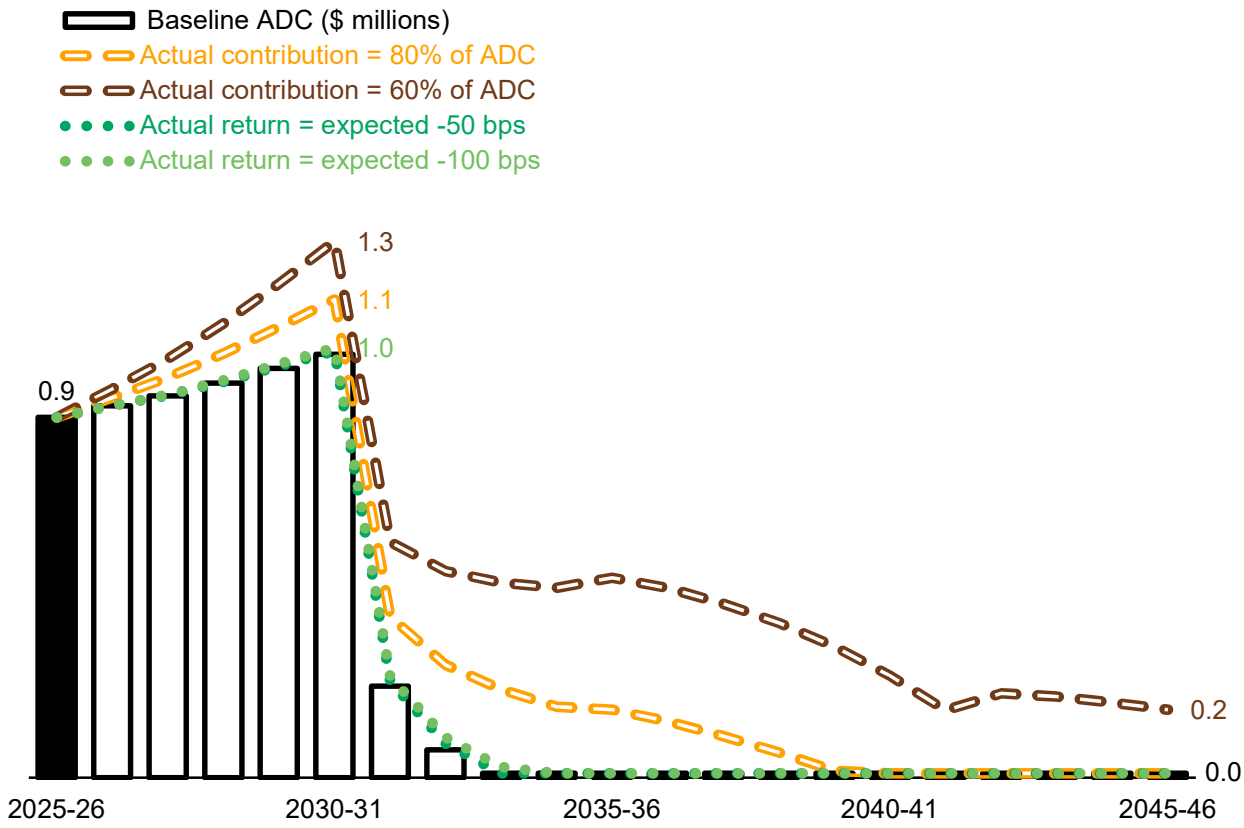
On the basis of this forecast, the Actuarially Determined Contribution currently exceeds the sum of the Normal Cost plus one year's interest on the Unfunded Accrued Liability and the Unfunded Accrued Liability is expected to be fully amortized by 2031. Over time, the funded ratio is expected to change as follows:



To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Appendix A for more details of the long range forecast.

ix. Long-Range Forecast (continued)

Pension benefits are paid for through a combination of contributions from the Town and from active members, and investment income. If the Town pays less than the Actuarially Determined Contribution each year, or if the investments persistently earn less than the assumed interest rate, then the plan's funded status would suffer, and to compensate, the Town's contribution levels would be pushed higher. The risks of underfunding and underearning are illustrated in the hypothetical scenarios below:



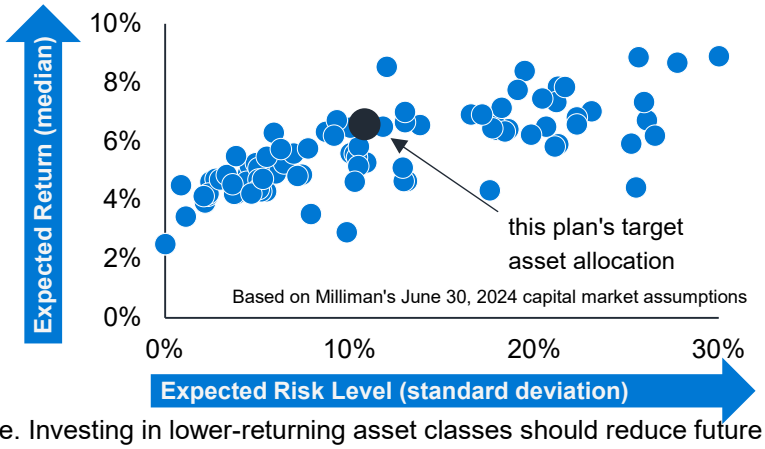
The scenarios illustrated above are based on deterministic projections that assume emerging plan experience always exactly matches the actuarial assumptions; in particular that actual asset returns will be constant in every year of the projection period. Variation in asset returns, contribution amounts, and many other factors may have a significant impact on the long-term financial health of the plan, the liquidity constraints on plan assets, and the Town's future contribution levels. Stochastic projections could be prepared that would enable the Town to understand the potential range of future results based on the expected variability in asset returns and other factors. Such analysis was beyond the scope of this engagement.

x. Asset Allocation Considerations

Monies that flow out of a pension plan (benefits and expenses) must be matched over the long term by monies that flow into the plan (contributions and investment income). This is expressed in a classic equation: **B** (benefits) + **E** (expenses) = **C** (contributions) + **I** (investment income).

Actuarial assumptions enable us to anticipate the long-term levels of **B** (benefits) and **E** (expenses) that will be paid out of the plan. In order to determine the appropriate level of **C** (contributions) that should come in to the plan, we must first anticipate the long-term level of **I** (investment income) the plan is likely to receive. That is why, for purposes of determining future funding levels, we measure ***this*** plan's liability using the long-term rate of investment returns ***this*** plan's portfolio is expected to generate.

Pension plans construct their portfolios by allocating assets across a wide range of asset classes with different risk and return profiles; the graph includes nearly 100 asset classes that pension plans invest in. As the graph illustrates, asset classes with higher expected returns also have higher risk levels; that is, a higher likelihood of experiencing both very good returns and very bad returns. Asset classes with lower expected returns also have lower risk levels.



The plan's target allocation represents a balance. Investing in lower-returning asset classes should reduce future investment returns and therefore increase future Town contributions, but the lower risk levels would result in lower year-over-year volatility in the Actuarially Determined Contribution and might provide more benefit security for plan members. Conversely, investing in higher-returning asset classes should increase future investment returns and therefore reduce future Town contributions, but would also increase the volatility of those contributions and potentially reduce benefit security for plan members.

In the graph above, the asset class with the lowest risk level is US Cash, and the asset class with the highest risk level is Private Equity. If the plan were invested 100% in either of these extremes, it would impact the interest rate assumption and therefore the Accrued Liability, Funded Ratio, and ultimately the Town's annual contributions; the volatility of the contributions would also change based on the risk level of the portfolio:

	100% US Cash *	Plan's Interest Rate Assumption	100% Private Equity
Expected long-term return (median)	3.4%	6.50%	8.9%
Expected risk level (standard deviation)	1.1%	10.8%	30.0%
Accrued Liability on July 1, 2024 **	$11.6 million	$9.3 million	$7.8 million
Funded Ratio on July 1, 2024 ***	40%	50%	59%

* This would be considered a "low-default-risk obligation measure" (LDROM) using the language of ASOP 4.

** Calculated using the same actuarial assumptions and methods that were used for this valuation, except for the interest rate; the plan's duration on the valuation date, as measured for GASB 68 purposes, was used to estimate the impact of the interest rate difference relative to the valuation interest rate assumption.

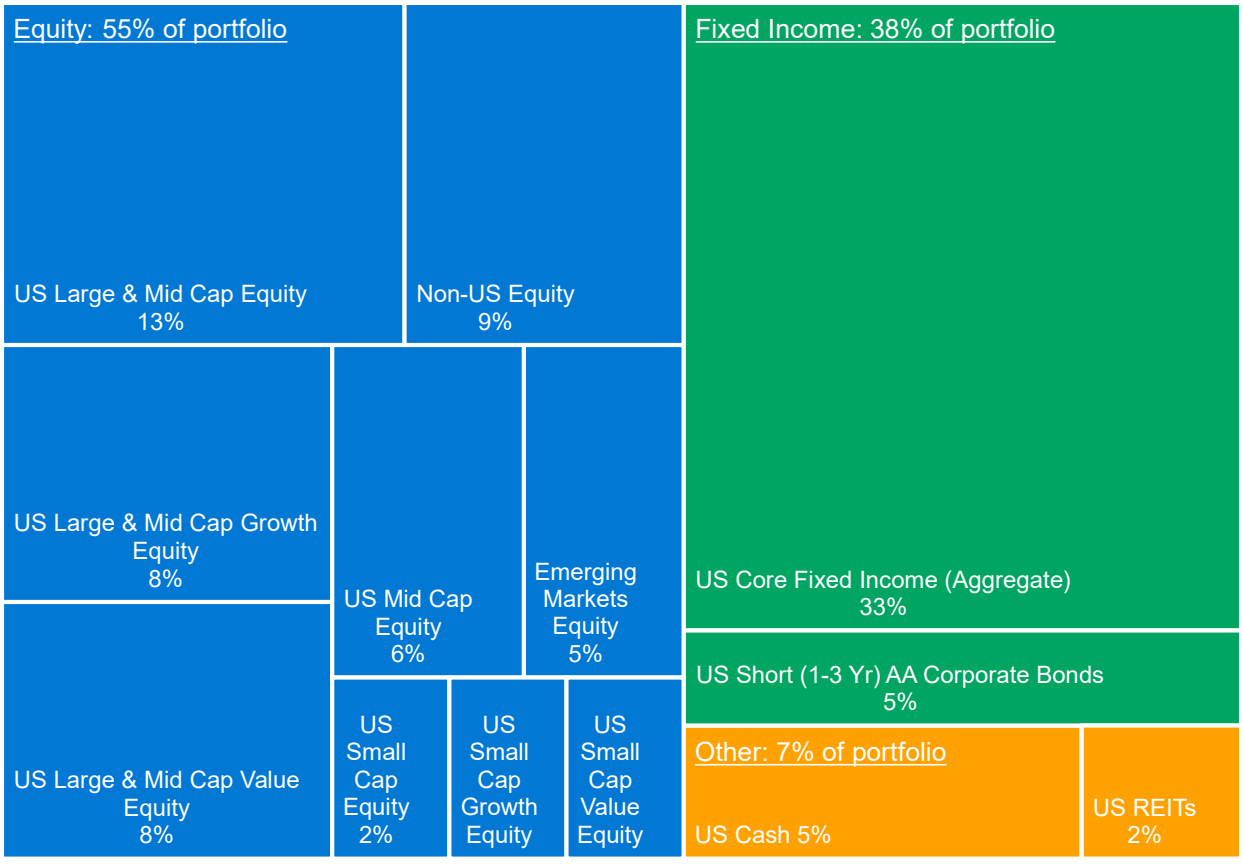
*** Measured using the Actuarial Value of Assets

1. Summary of Fund Transactions

Market Value as of July 1, 2023	$4,014,168
Town Contributions	858,424
Member Contributions	2,087
Net Investment Income	473,342
Benefit Payments	(821,802)
Administrative Expenses	(22,011)
Market Value as of June 30, 2024	4,504,208
Expected Return on Market Value of Assets	261,404
Market Value (Gain)/Loss	(211,938)
Approximate Rate of Return *	11.77%

* The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the year.

Target Asset Allocation as of June 30, 2024



2. Development of Actuarial Value of Assets

In order to minimize the impact of market fluctuations on the contribution level, we use an Actuarial Value of Assets that recognizes gains and losses asymptotically over a five year period. The Actuarial Value of Assets as of July 1, 2024 is determined below.

1.	Expected Actuarial Value of Assets:	
	a. Actuarial Value of Assets as of July 1, 2023	$4,363,289
	b. Town Contributions and Member Contributions	860,511
	c. Benefit Payments and Administrative Expenses	(843,813)
	d. Expected Earnings Based on 6.50% Interest	284,156
	e. Expected Actuarial Value of Assets as of July 1, 2024	4,664,143
2.	Market Value of Assets as of July 1, 2024	4,504,208
3.	Amount Recognized as of July 1, 2024: 20% of [(2) - (1e)]	(31,987)
4.	Actuarial Value of Assets as of July 1, 2024: (1e) + (3)	4,632,156
5.	Approximate Rate of Return on Actuarial Value of Assets	5.77%

3. Funded Status

		July 1, 2023	July 1, 2024
1.	Accrued Liability		
	Active Members	$1,949,200	$2,057,140
	Terminated Members	36,839	39,296
	Service Retirees	6,706,490	6,493,011
	Disabled Retirees	219,369	213,214
	Beneficiaries	539,870	507,960
	Total	9,451,768	9,310,621
2.	Actuarial Value of Assets (see Exhibit 2)	4,363,289	4,632,156
3.	Unfunded Accrued Liability: (1) - (2)	5,088,479	4,678,465
4.	Funded Ratio: (2) / (1)	46.2%	49.8%

4. Past Service Cost

In determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent with layered 10-year bases. Each year a new amortization base is established for the actuarial gains or losses that have emerged since the last valuation.

1. Amortization Bases Established in Prior Years

Date Established	Original Amount	(a) Outstanding Balance July 1, 2024	Years Remaining July 1, 2024	(b) Annual Amortization Payment
July 1, 2020	$5,072,924	$3,679,709	6	$661,764
July 1, 2021	383,882	309,221	7	48,386
July 1, 2022	386,905	339,867	8	47,232
July 1, 2023	290,339	273,803	9	34,328
Total		4,602,600		791,710

2.	Unfunded Accrued Liability as of July 1, 2024 (see Exhibit 3)	4,678,465
3.	New Amortization Based Established July 1, 2024: (2) - (1a Total)	75,865
4.	Amortization Period for New Amortization Base	10
5.	Amortization Growth Rate	3.25%
6.	Amortization Payment for July 1, 2024: (3) amortized over (4)	8,687
7.	Past Service Cost: (1b Total) + (6)	800,397

5. Actuarial Gains / Losses

From one valuation to the next, the Accrued Liability and the Actuarial Value of Assets may change in ways that were not anticipated by the actuarial assumptions that were used in the last valuation. If the Accrued Liability is lower than expected or the Actuarial Value of Assets is higher than expected, we say that the plan has experienced an 'actuarial gain', and if the Accrued Liability is higher than expected or the Actuarial Value of Assets is lower than expected, we say that the plan has experienced an 'actuarial loss'. The actuarial gains / (losses) that arose during 2023-24 are shown below, along with the impact of plan changes and changes in the actuarial assumptions and method. Please see page 4 for more details on any changes since the last valuation.

		Accrued Liability A	Actuarial Value of Assets B	Unfunded Accrued Liability = A - B
1.	Value as of July 1, 2023	$9,451,768	$4,363,289	$5,088,479
2.	Normal Cost as of July 1, 2023	23,133		23,133
3.	Town Contributions during 2023-24		858,424	(858,424)
4.	Member Contributions during 2023-24		2,087	(2,087)
5.	Benefit Payments during 2023-24	(821,802)	(821,802)	0
6.	Administrative Expenses during 2023-24		(22,011)	22,011
7.	One year of interest on (1) thru (2) at 6.50%	615,869	283,614	332,255
8.	Half year of interest on (3) thru (6) at 6.50%	(26,709)	542	(27,251)
9.	Expected value as of July 1, 2024	9,242,259	4,664,143	4,578,116
10.	Actual value as of July 1, 2024 before any plan, assumption, or method changes	9,310,621	4,632,156	4,678,465
11.	Experience gains / losses: (10) - (9)	68,362	(31,987)	100,349
12.	Impact of plan changes (see page 4)	0	0	0
13.	Impact of assumption changes (see page 4)	0	0	0
14.	Impact of method changes (see page 4)	0	0	0
15.	Final value as of July 1, 2024	9,310,621	4,632,156	4,678,465

6. Actuarially Determined Contribution

		2024-25	2025-26
1.	Total Normal Cost	$23,133	$23,538
2.	Expected Member Contributions	2,327	2,434
3.	Expected Administrative Expenses	10,000	10,000
4.	Net Normal Cost: (1) - (2) + (3)	30,806	31,104
5.	Past Service Cost (see Exhibit 4)	766,789	800,397
6.	Interest on (4) + (5) reflecting monthly payments	27,517	28,687
7.	Actuarially Determined Contribution: (4) + (5) + (6)	825,112	860,188
8.	Payroll	405,300	405,766
9.	Actuarially Determined Contribution as a Percent of Payroll	203.6%	212.0%

7. Long Range Funded Status Forecast

This forecast is based on the results of the July 1, 2024 actuarial valuation and assumes that the Town will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Valuation Date	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
7/1/2024	$9,310,621	$4,632,156	$4,678,465	49.75%
7/1/2025	9,091,000	4,904,000	4,187,000	53.94%
7/1/2026	8,818,000	5,201,000	3,617,000	58.98%
7/1/2027	8,460,000	5,492,000	2,968,000	64.92%
7/1/2028	8,063,000	5,817,000	2,246,000	72.14%
7/1/2029	7,664,000	6,220,000	1,444,000	81.16%
7/1/2030	7,236,000	6,688,000	548,000	92.43%
7/1/2031	6,810,000	7,253,000	(443,000)	106.50%
7/1/2032	6,388,000	7,069,000	(681,000)	110.66%
7/1/2033	5,972,000	6,750,000	(778,000)	113.04%
7/1/2034	5,562,000	6,388,000	(826,000)	114.86%
7/1/2035	5,160,000	6,038,000	(878,000)	117.01%
7/1/2036	4,769,000	5,702,000	(933,000)	119.57%
7/1/2037	4,388,000	5,381,000	(993,000)	122.63%
7/1/2038	4,020,000	5,077,000	(1,057,000)	126.30%
7/1/2039	3,666,000	4,791,000	(1,125,000)	130.71%
7/1/2040	3,327,000	4,526,000	(1,199,000)	136.04%
7/1/2041	3,004,000	4,281,000	(1,277,000)	142.52%
7/1/2042	2,698,000	4,059,000	(1,361,000)	150.44%
7/1/2043	2,410,000	3,860,000	(1,450,000)	160.17%

8. Long Range Cash Flow Forecast

This forecast is based on the results of the July 1, 2024 actuarial valuation and assumes that the Town will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Fiscal Year	Town Contributions	Member Contributions	Benefit Payments	Administrative Expenses	Net Cash Flows
2025-26	$860,188	$1,693	($850,916)	($10,000)	$965
2026-27	888,000	1,000	(905,000)	(10,000)	(26,000)
2027-28	911,000	0	(916,000)	(10,000)	(15,000)
2028-29	942,000	0	(893,000)	(10,000)	39,000
2029-30	977,000	0	(894,000)	(10,000)	73,000
2030-31	1,010,000	0	(864,000)	(10,000)	136,000
2031-32	218,000	0	(834,000)	(10,000)	(626,000)
2032-33	66,000	0	(802,000)	(10,000)	(746,000)
2033-34	10,000	0	(770,000)	(10,000)	(770,000)
2034-35	10,000	0	(736,000)	(10,000)	(736,000)
2035-36	10,000	0	(702,000)	(10,000)	(702,000)
2036-37	10,000	0	(666,000)	(10,000)	(666,000)
2037-38	10,000	0	(630,000)	(10,000)	(630,000)
2038-39	10,000	0	(594,000)	(10,000)	(594,000)
2039-40	10,000	0	(557,000)	(10,000)	(557,000)
2040-41	10,000	0	(520,000)	(10,000)	(520,000)
2041-42	10,000	0	(483,000)	(10,000)	(483,000)
2042-43	10,000	0	(447,000)	(10,000)	(447,000)
2043-44	10,000	0	(411,000)	(10,000)	(411,000)
2044-45	10,000	0	(376,000)	(10,000)	(376,000)

9. History of Funded Status

Valuation Date	Actuarial Value of Assets	Accrued Liability	Unfunded Accrued Liability	Funded Ratio
July 1, 2013	$5,184,398	$8,422,304	$3,237,906	61.6%
July 1, 2014	5,403,697	8,599,673	3,195,976	62.8%
July 1, 2015	5,451,792	8,999,647	3,547,855	60.6%
July 1, 2016	5,309,383	9,136,443	3,827,060	58.1%
July 1, 2017	5,086,422	9,075,520	3,989,098	56.0%
July 1, 2018	4,940,746	9,243,064	4,302,318	53.5%
July 1, 2019	4,692,808	9,752,741	5,059,933	48.1%
July 1, 2020	4,561,068	9,633,992	5,072,924	47.3%
July 1, 2021	4,554,398	9,733,701	5,179,303	46.8%
July 1, 2022	4,331,990	9,547,738	5,215,748	45.4%
July 1, 2023	4,363,289	9,451,768	5,088,479	46.2%
July 1, 2024	4,632,156	9,310,621	4,678,465	49.8%

10. History of Town Contributions

Fiscal Year	Actuarially Determined Contribution	Actual Town Contribution	Payroll	Actual Contribution as a Percent of Payroll
2014-15	$338,976	$338,976	$1,133,716	29.9%
2015-16	318,927	318,927	1,181,066	27.0%
2016-17	418,968	418,968	1,083,439	38.7%
2017-18	435,972	435,972	884,723	49.3%
2018-19	405,824	405,824	839,595	48.3%
2019-20	460,817	460,817	687,009	67.1%
2020-21	474,637	474,637	686,004	69.2%
2021-22	520,441	520,441	562,940	92.5%
2022-23	689,305	689,305	394,226	174.9%
2023-24	858,424	858,424	362,737	236.7%
2024-25	825,112	TBD	405,300	TBD
2025-26	860,188	TBD	405,766	TBD

11. Reconciliation of Membership from Prior Valuation

Details of the changes in the plan's membership since the last valuation are shown below. Additional details on the membership are provided in the following exhibits.

	Active Members	Terminated Vested Members	Nonvested Members Due Refunds	Service Retirees	Disabled Retirees	Beneficiaries	Total
Count July 1, 2023	5	2	0	55	2	13	77
Terminated							
- no benefits due	-	-	-	-	-	-	0
- refund due	-	-	-	-	-	-	0
- paid refund	-	-	-	-	-	-	0
- vested benefits due	-	-	-	-	-	-	0
Retired	-	-	-	-	-	-	0
Died							
- with beneficiary	-	-	-	-	-	-	0
- no beneficiary	-	-	-	(1)	-	(1)	(2)
Benefits expired	-	-	-	-	-	-	0
New member	-	-	-	-	-	-	0
Rehired	-	-	-	-	-	-	0
New Alternate Payee	-	-	-	-	-	-	0
Correction	-	-	-	-	-	-	0
Count July 1, 2024	5	2	0	54	2	12	75

12. Statistics of Active Membership

	July 1, 2023	July 1, 2024
Number of Active Members	5	5
Average Age	62.1	63.1
Average Service	33.6	34.6
Payroll	$405,300	$405,766
Average Payroll	81,060	81,153

13. Statistics of Inactive Membership

	July 1, 2023	July 1, 2024
Terminated Vested Members		
Number	2	2
Total Annual Benefit	$3,423	$3,423
Average Annual Benefit	1,712	1,712
Average Age	63.6	64.6
Nonvested Members Due Refunds		
Number	0	0
Service Retirees		
Number	55	54
Total Annual Benefit	$720,447	$717,547
Average Annual Benefit	13,099	13,288
Average Age	78.7	79.7
Disabled Retirees		
Number	2	2
Total Annual Benefit	$29,453	$29,453
Average Annual Benefit	14,727	14,727
Average Age	75.3	76.3
Beneficiaries		
Number	13	12
Total Annual Benefit	$70,483	$67,510
Average Annual Benefit	5,422	5,626
Average Age	78.4	78.6

14. Distribution of Inactive Membership as of July 1, 2024

	Age	Number	Annual Benefits
Terminated Vested Members	< 50	0	$0.00
	50 - 59	0	0.00
	60 - 69	2	3,422.88
	70 - 79	0	0.00
	80 - 89	0	0.00
	90 +	0	0.00
	Total	2	3,422.88
Service Retirees	< 50	0	$0.00
	50 - 59	0	0.00
	60 - 69	6	111,126.12
	70 - 79	22	413,695.92
	80 - 89	22	182,426.04
	90 +	4	10,299.36
	Total	54	717,547.44
Disabled Retirees	< 50	0	$0.00
	50 - 59	0	0.00
	60 - 69	1	14,176.20
	70 - 79	0	0.00
	80 - 89	1	15,276.72
	90 +	0	0.00
	Total	2	29,452.92
Beneficiaries	< 50	1	$6,716.28
	50 - 59	1	5,686.80
	60 - 69	0	0.00
	70 - 79	3	15,089.04
	80 - 89	6	35,427.72
	90 +	1	4,590.00
	Total	12	67,509.84

Appendix A - Actuarial Funding Method

Cost Method

The actuarial cost method used in the valuation of this Plan is known as the Entry Age Normal Method. The Actuarially Determined Contribution consists of three pieces: Normal Cost plus a Past Service Cost payment to gradually eliminate the Unfunded Accrued Liability plus Interest to reflect the timing of the contribution relative to the valuation date.

The Normal Cost is determined by calculating the present value of future benefits for present Active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination for each individual. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the Accrued Liability. In fact, it is calculated by adding the present value of benefits for Members in Pay Status and Terminated Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

Asset Smoothing Method

The Actuarial Value of Assets is determined by recognizing market gains and losses asymptotically over a five year period.

Amortization Method

The Unfunded Accrued Liability is the excess of the Accrued Liability less the Actuarial Value of Assets. This Unfunded Accrued Liability is amortized as a level percent with layered 10-year bases.

Long-Range Forecast

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions. For those unions whose new employees are eligible to participate in this plan, members who are projected to leave active employment are assumed to be replaced by new active members with the same age, service, gender, and pay characteristics as those hired in the past few years.

Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest Rate 6.50%

Inflation 2.50%

Amortization Growth Rate 3.25%

Expenses $10,000 per year

Salary Scale 3.25%

Payout for Unused Days 12% load on active liability and normal cost

Mortality PubG-2010 Mortality Table with generational projection per the MP-2021 Ultimate Scale, with employee rates before benefit commencement and healthy or disabled annuitant rates after benefit commencement. This assumption includes a margin for improvements in longevity beyond the valuation date.

Turnover

Age	Rate
20	11.8%
25	9.4%
30	7.0%
35	5.4%
40	3.8%
45	2.2%
50	1.5%
55	1.0%
60	0.5%

Retirement

Age	Rate
55-58	1.0%
59-61	5.0%
62-64	10.0%
65	50.0%
66-69	30.0%
70	100.0%

100% of employees are assumed to retire at 30 or more years of service upon attainment of age 65.

Appendix B - Actuarial Assumptions

Disability

Age	Rate
20	0.05%
25	0.05%
30	0.05%
35	0.06%
40	0.09%
45	0.18%
50	0.40%
55	0.85%
60	1.74%

Marital Status

75% of members are assumed to be married with female spouses 3 years younger than the male spouses.

Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Employees Covered

Any full-time and permanent part-time employee in the employ of the Town of North Branford, including individuals covered by the Board of Education, the Cafeteria and the Town of North Branford, and excluding police employees. No new employees can join the plan after October 1, 1999.

Eligibility

Age 21 and completion of one year of Credited Service

Member's Contributions

Effective Date	Rate
Prior to July 1, 2000	1.00%
July 1, 2000 - June 30, 2002	2.50%
July 1, 2002 - June 30, 2015	4.00%
July 1, 2015 - June 30, 2016	4.25%
July 1, 2016 - June 30, 2017	4.50%
July 1, 2017 - June 30, 2018	4.75%
July 1, 2018 - June 30, 2019	5.00%
July 1, 2019 and after	5.25%

Effective July 1, 2005, there are no contributions after 30 years of Credited Service. Interest is credited at a rate of 3.50% per annum.

Credited Service

Whole years and full months from date of hire, maximum of 30 years.

Earnings

Basic Compensation including overtime, commissions, bonuses, and any other form of additional compensation excluding any maintenance or special payments.

Final Average Earnings

Average Earnings paid to a member during the highest 36 consecutive months out of active employment.

Vesting

100% Vested after 7 years of Credited Service. If vested, may elect a refund of contributions in lieu of pension.

Normal Form of Annuity

Life Annuity.

Appendix C - Summary of Plan Provisions

Normal Retirement Eligibility

Age 65 with 5 years of contributory service.

Normal Retirement Benefit Multiplier

Termination Date	Service 0-25	Service 26-30
Prior to July 1, 2001	1.00%	1.00%
July 1, 2001 - June 30, 2002	1.25%	1.25%
July 1, 2002 - June 30, 2015	1.50%	1.50%
July 1, 2015 - June 30, 2016	1.50%	1.60%
July 1, 2016 - June 30, 2017	1.50%	1.70%
July 1, 2017 - June 30, 2018	1.50%	1.80%
July 1, 2018 - June 30, 2019	1.50%	1.90%
July 1, 2019 and after	1.50%	2.00%

Early Retirement Eligiblity

Earlier of age 55 and 15 years of Credited Service.

Early Retirement Benefit

Benefit based on Credited Service and Final Average Earnings to actual date of retirement reduced by the appropriate early retirement factor as determined by Table C of the Retirement Plan.

Deferred Retirement Eligiblity

Members may continue to work beyond Normal Retirement.

Deferred Retirement Benefit

Benefit based on Credited Service and Final Average Earnings to actual date of retirement.

Disability Retirement Eligiblity

20 years of Credited Service.

Disability Retirement Benefit

Benefit based on Credited Service and Final Average Earnings to actual date of disability.

Preretirement Death Benefit

A monthly survivor benefit is payable on behalf of an employee who has attained age 55 and completed 15 years of Credited Service, and who has a surviving spouse. The monthly benefit will be 50% of the monthly retirement benefit which such employee would have received had the employee retired on the day before death and elected a 50% Joint & Survivor Annuity.

For those not eligible for the survivor benefit, a lump sum benefit is payable equal to the employee contributions with interest.

Postretirement Death Benefit

Based on form of benefit elected at retirement.

Appendix D - Risk Disclosure - Introduction

The results of this actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match these assumptions. As an example, the plan's investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the plan, or of the plan's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. The increase in size in turn increases the potential magnitude of adverse experience. As an example, the dollar impact of a 10% investment loss on a plan with $1 billion in assets and liabilities is much greater than the dollar impact for a plan with $1 million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to provide pension plan sponsors with information concerning the risks associated with the plan:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

This section of the report uses the framework of ASOP 51 to communicate important information about significant risks to the plan, the plan's maturity, and relevant historical plan data.

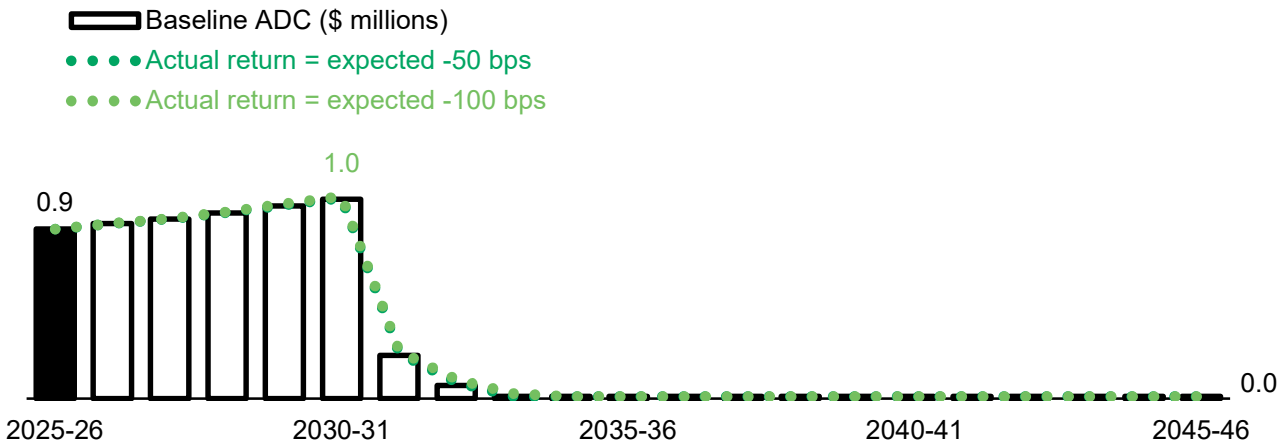
Please see Appendix A for more information on the basis for the projected results shown on the following pages.

Appendix D - Risk Disclosure - Identification and Assessment

Investment Risk

Definition: This is the potential that investment returns will be different than expected.

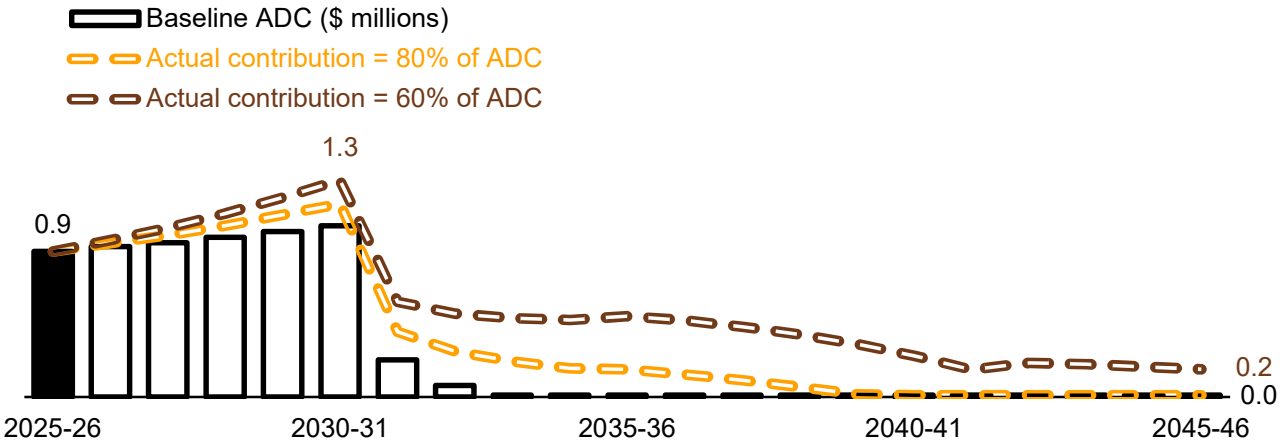
Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. The consequences of persistent underperformance on future Actuarially Determined Contribution levels are illustrated below:



Contribution Risk

Definition: This is the potential that actual future contributions will be less than the Actuarially Determined Contribution.

Identification: Over the past 10 years, actual contributions have been 100% of the Actuarially Determined Contribution in total. The consequences of persistent underfunding on future Actuarially Determined Contribution levels are illustrated below:



Appendix D - Risk Disclosure - Identification and Assessment

Liquidity Risk

Definition: This is the potential that assets must be liquidated at a loss earlier than planned in order to pay for the plan's benefits and operating costs. This risk is heightened for plans with negative cash flows, in which contributions are not sufficient to cover benefit payments plus expenses.

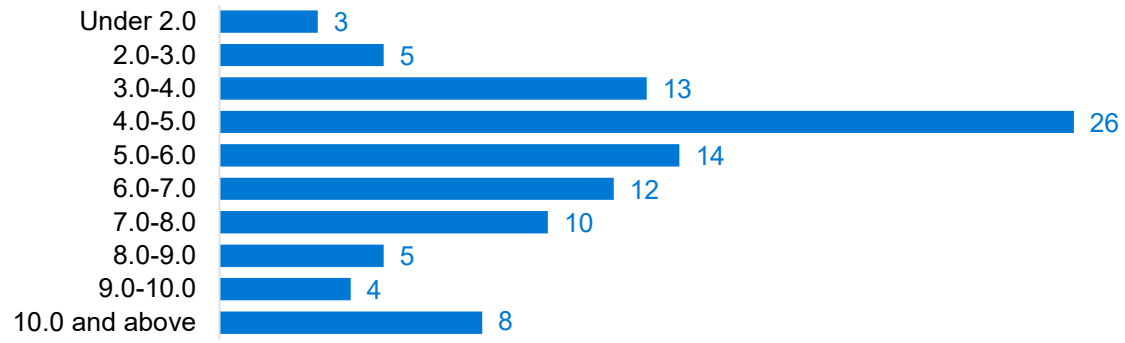
Identification: In 2023-24, the plan had positive cash flow, with town contributions and member contributions to the plan of $860,511 compared to $843,813 of benefit payments and administrative expenses paid out of the plan. We suggest that you consult with your investment advisors with respect to the liquidity characteristics of the plan's investment holdings.

Maturity Risk

Definition: This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time, and for plan assets and/or liabilities to become larger relative to the liability for active members.

Identification: The plan is subject to maturity risk because as plan assets and liabilities continue to grow, the dollar impact of any gains or losses on the assets or liabilities also becomes larger.

Assessment: As of July 1, 2024, the plan's Asset Volatility Ratio (the ratio of the market value of plan assets to payroll) is 11.1. According to Milliman's 2023 Public Pension Funding Study, the 100 largest US public pension plans have the following range of Asset Volatility Ratios:



Inflation Risk

Definition: This is the potential for a pension to lose purchasing power over time due to inflation.

Identification: The members of pension plans without fully inflation-indexed benefits are subject to the risk that their purchasing power will be reduced over time due to inflation.

Assessment: This plan does not contain a mechanism to regularly increase benefits after retirement, so members bear all of the inflation risk.

Appendix D - Risk Disclosure - Identification and Assessment

Insolvency Risk

Definition: This is the potential that a plan will become insolvent; that is, assets will be fully depleted.

Identification: If a plan becomes insolvent, contractually required benefits must be paid from the plan sponsor's other remaining assets.

Assessment: Under the GASB 68 depletion date methodology, the plan is not projected to become insolvent. Please see the GASB 68 report for more details on the underlying analysis.

Demographic Risks

Definition: This is the potential that mortality, turnover, retirement, or other demographic experience will be different than expected.

Identification: The pension liabilities reported herein have been calculated by assuming that members will follow patterns of demographic experience as described in Appendix B. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, Actuarially Determined Contribution, and funded status may differ significantly from those presented in this valuation. Formal Experience Studies performed on a regular basis are helpful in ensuring that the demographic assumptions reflect emerging plan experience.

Pensionable Earnings Risk

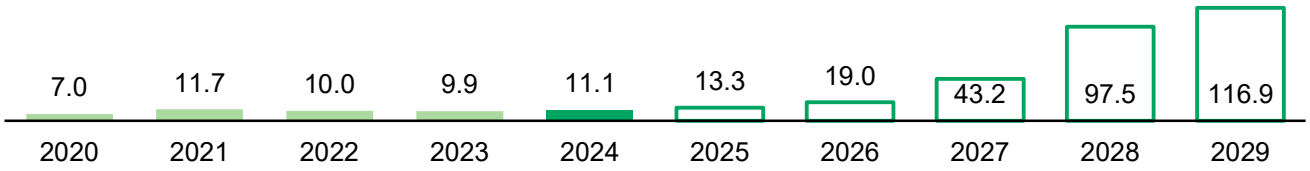
Definition: This is the potential for active members to add items to their pensionable earnings and receive pension benefits that are higher than expected.

Identification: This plan permits members to include the value of unused sick days in their pensionable earnings. We assume that on average the unused sick days will increase benefits by 12%. If the value of unused sick days increases benefits by more than 12% on average, then plan costs will rise over time.

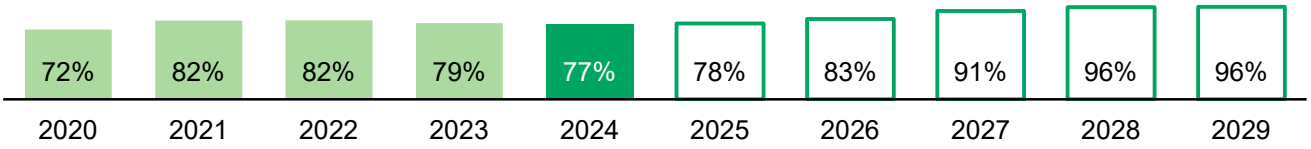
Appendix D - Risk Disclosure - Maturity Metrics

The metrics presented below are different ways of understanding the plan's maturity level, both in the past and as it is expected to change in the coming years.

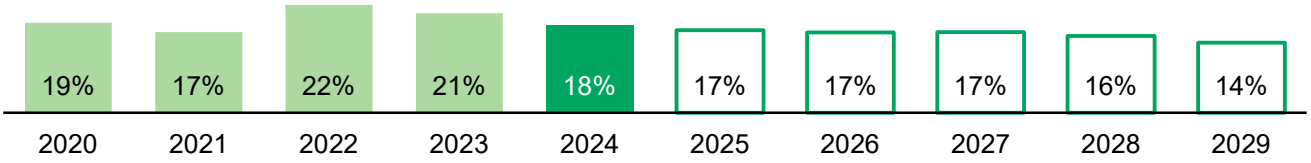
Asset Volatility Ratio: Market Value of Assets compared to Payroll



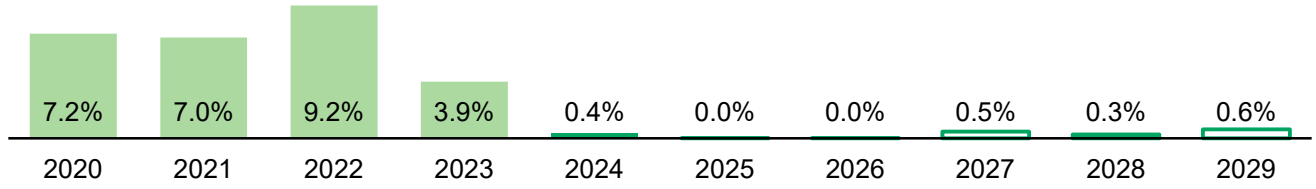
Accrued Liability for Members in Pay Status compared to total Accrued Liability



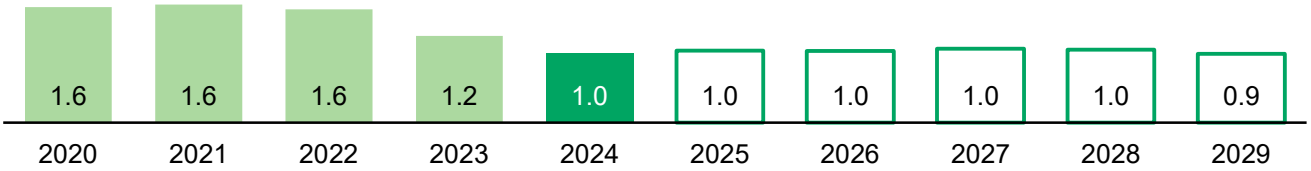
Benefit Payments compared to Market Value of Assets



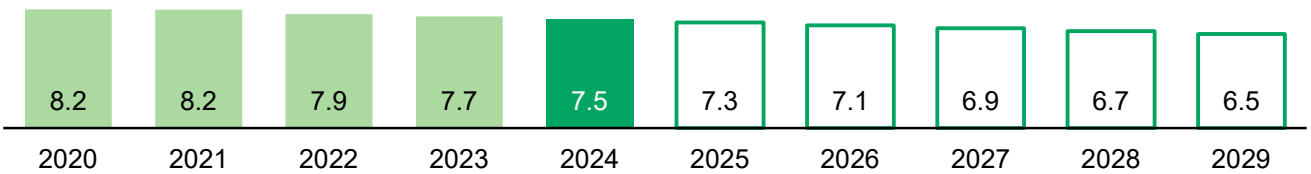
Net Cash Flows compared to Market Value of Assets



Benefit Payments compared to Town Contributions



Duration of Accrued Liability (based on GASB 68 sensitivity disclosures)



Appendix E - Glossary

Actuarial Cost Method	This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Accrued Liability and the Normal Cost.
Accrued Liability	This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).
Actuarial Assumptions	With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the interest rate, salary scale, and rates of mortality, turnover and retirement.
Actuarial Present Value of Benefits	This is the present value, as of the valuation date, of future payments for benefits and expenses under the Plan, where each payment is: a) multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) discounted at the assumed interest rate.
Actuarial Value of Assets	This is the value of cash, investments and other property belonging to the plan, typically adjusted to recognize investment gains or losses over a period of years to dampen the impact of market volatility on the Actuarially Determined Contribution.
Attribution Period	The period of an active member's service to which the expected benefit obligation for that member is assigned. The beginning of the attribution period is the member's date of hire and costs are spread across all service.
Interest Rate	This is the long-term expected rate of return on any investments set aside to pay for the benefits. In a financial reporting context (e.g., GASB 68) this is termed the Discount Rate.
Normal Cost	This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.
Past Service Cost	This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.
Return on Plan Assets	This is the actual investment return on plan assets during the fiscal year.
Unfunded Accrued Liability	This is the excess of the Accrued Liability over the Actuarial Value of Assets.