



Retirement Plan for Full-Time Employees of the Town of Ledyard

ACTUARIAL VALUATION REPORT

as of September 22, 2023



USI Consulting Group
95 Glastonbury Boulevard
Suites 102, 406
Glastonbury, CT 06033
www.usi.com
Tel: 860.633.5283

September 22, 2023

CONFIDENTIAL

Matthew Bonin, CPA
Director of Finance
741 Colonel Ledyard Highway
Ledyard, CT 06339

Re: Retirement Plan for Full-Time Employees of the Town of Ledyard

Dear Matt:

We are pleased to present our biennial Actuarial Valuation Report for the Plan Year Beginning ("PYB") July 1, 2023. A summary of the principal results of the valuation is provided for your convenience on page one. Details supporting the cost calculations, as well as other information designed to assist you in preparing your reports and budgets, are also included.

The actuarially determined contribution ("ADC") for the PYB July 1, 2023, is \$669,144, which is about 20.9% of covered payroll. Prior to extending the amortization of the unfunded liability from 4 years to 10 years, the ADC for the 2023 plan year would have been \$1,255,874, or 39.2% of covered payroll.

Actuarial valuations are performed every two years. Beginning July 1, 2023, each biennial valuation determines the ADCs for the next two plan years starting one year after the valuation date. The ADCs are developed by increasing the ADC calculated as of the valuation date by 3.0% each year. However, to transition from the prior valuation timing method to the new valuation timing method used to develop the ADCs, the July 1, 2023, valuation was the basis for the PYB 2023 ADC and the next two plan years. Thus, the ADC for PYB July 1, 2024, is \$689,218 and the ADC for PYB July 1, 2025, is \$709,895. We will calculate the ADCs once again during the 2025 valuation process.

Information related to financial calculations required under GASB Statements 67 & 68 are provided in a separate report. We would be happy to answer any questions you may have regarding this report.

Sincerely,

A handwritten signature in blue ink that reads "Frederica S. Daniels".

Frederica S. Daniels, FCA, EA, MAAA
Vice President and Managing Actuary

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD
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**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

VALUATION RESULTS AS OF 7/1/2023

PRINCIPAL RESULTS OF THE VALUATION

Below is a summary of the principal results of this year's valuation compared with the previous valuation. Amounts for each valuation period reflect the actuarial cost method, assumptions and plan benefits in effect at that time.

<u>CONTRIBUTION LEVELS - PLAN YEAR BEGINNING ("PYB")</u>	<u>7/1/2021</u>	<u>7/1/2023</u>
Actuarially Determined Contribution ("ADC")	1,096,614	669,144 *
Annual Payroll	4,254,773	3,202,829
ADC as % of Payroll	25.77%	20.89%

Actuarial valuations are completed every two years. Beginning July 1, 2023, each biennial valuation determines the ADCs for the next two plan years starting one year after the valuation date. The ADCs are developed by increasing the ADC calculated as of the valuation date by 3% each year. The ADC for PYB July 1, 2024 is 689,218. The ADC for PYB July 1, 2025 is 709,895.

ASSET INFORMATION

Market Value of Assets	32,013,838	28,790,751
Actuarial Value of Assets	28,700,912	30,367,826
Actuarial Value as a % of Market Value	89.65%	105.48%

ACTUARIAL ACCRUED LIABILITY

Active Participants	12,336,985	9,624,936
Terminated / Inactive Participants	2,076,906	2,472,283
Terminated Participants Due EE-Contributions Only	216,684	16,159
Retired Participants & Beneficiaries	18,220,028	22,120,850
Actuarial Accrued Liability	32,850,603	34,234,228
Unfunded Actuarial Accrued Liability ("UAAL")	4,149,691	3,866,402
Normal Cost (inc. Administrative Expense Load)	317,453	206,279

FUNDED RATIOS

Market Value of Assets as a % Actuarial Accrued Liability	97.45%	84.10%
Actuarial Value of Assets as a % Actuarial Accrued Liability	87.37%	88.71%

SUPPORTING INFORMATION/ASSUMPTIONS

Discount Rate / Expected Return on Assets Rate	6.25%	6.25%
Compensation Increases	4.00%	4.00%
Payroll Growth Rate	3.00%	3.00%
UAAL Amortization Period	6	10
Number of Lives Included in the Valuation	235	202
Active Participants	63	48
Terminated / Inactive Participants	35	36
Terminated Participants Due EE-Contributions Only	37	4
Retired Participants & Beneficiaries	100	114

* In order to transition from the prior valuation timing to the new valuation timing used to develop the ADCs, the July 1, 2023 valuation was the basis for the PYB 2023 ADC and the next two plan years. The July 1, 2025 valuation will be the basis for the ADCs for the plan years beginning in 2026 and 2027.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD
VALUATION AS OF 7/1/2023**

EXECUTIVE SUMMARY

Purpose and Scope

The principal purposes of this actuarial valuation report are:

1. To present our calculations of the actuarially determined contribution for the plan years beginning July 1, 2023 and July 1, 2024,
2. To review plan experience during the plan years ending June 30, 2022 and June 30, 2023 and the funded status of the plan as of July 1, 2023, and
3. To provide an assessment and disclosure of risk with respect to pension obligations and contributions.

This report represents the results of a valuation to determine a recommended annual contribution amount and includes the funded status of the Plan based on the present value of benefits accrued to date. These measurements are presented solely for the use of the Plan sponsor, are not intended to be referenced by any third party for any purpose and should not be used for any other purpose.

The valuation is based upon employee data as of July 1, 2023, provided by the Plan sponsor, and financial information provided by Webster Private Bank. This data was not audited or otherwise verified by us other than for tests of reasonable consistency with prior year data.

The actuarial liabilities shown in this report are determined using software purchased from an outside vendor which was developed for this purpose. Certain information is entered into this model in order to generate the liabilities specific to your pension plan. These inputs include economic and non-economic assumptions, plan provisions and census information. We rely on the coding within the software to value the liabilities using the actuarial methods and assumptions selected. Both the input to and the output from the model is checked for accuracy and reviewed for reasonableness.

Risk Assessment

This report includes information related to Actuarial Standard of Practice No. 51 (ASOP 51), Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Contributions – see Section III.

Traditionally, the focus of valuation reports has centered around the current funded status of the Plan, experience during the prior year, and contribution requirements for the current year. This is now supplemented with additional information regarding risks that plan sponsors face as well as more historical information and measurements.

As a note, this report does not provide risk assessments related to potential legislative and regulatory changes, investment advice, or assessments of the ability or willingness of plan sponsors to make contributions to the Plan. If the plan sponsor is interested in additional assessment of these risks, please contact us to perform additional projections under various scenarios or stochastic forecast modeling on these plan risks.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

VALUATION AS OF 7/1/2023

EXECUTIVE SUMMARY

(Continued)

Risk Assessment (continued)

The ratio of assets to liabilities is referred to as the funded ratio and the difference is the unfunded liability. The Actuarially Determined Contribution (“ADC”) is the sum of the normal cost (the present value of benefits accruing to active participants, if any, plus expenses), plus an amortization of the unfunded liability, generally over a 10 or 20-year period. Various risks, such as Investment Risk, Interest Rate Risk, Longevity Risk, and Demographic Risk, can impact the funded ratio and ADC to different degrees. Additional information about these risks are provided in the ASOP 51 Section of this report.

Plan Experience

During the period starting July 1, 2021 and ending June 30, 2023, the number of active participants decreased from 63 to 48 for the 2-year valuation period. As of the valuation date, there are also 36 deferred vested employees, 4 non-vested terminated participants due employee contributions and 114 retirees.

During the 2-year valuation period, the market value of Plan assets decreased from \$32,013,838 to \$27,120,434 in 2022 but increased to \$28,790,751 as of June 30, 2023. The gross investment returns were approximately -13.59% and 8.88%, respectively. This investment performance is below the 6.25% assumption for 2021 plan year but above for the 2022 plan year. We advise the Town to continue to monitor actual and anticipated returns relative to the assumed long-term rate of return on investments assumption of 6.25%.

The Plan experienced a combined net actuarial loss of approximately \$871,000 during 2021 and 2022. The actuarial value of plan assets increased from \$28,700,912 to \$29,695,791 during the 2021 plan year and increased additionally to \$30,367,826 during the 2022 plan year. The net investment returns were approximately 5.19% and 4.28%, respectively, for plan years 2021 and 2022. The investment return assumption is 6.25% (net of investment expenses), so actual returns created an actuarial experience loss of about \$903,000. This loss was offset by a liability gain of approximately \$32,000, due to a net mortality loss among retirees partially offset by net termination and retirement activity gains among actives. The liability gain is about 0.1% of liabilities.

Actuarial Methods and Assumptions

All actuarial assumptions used in the July 1, 2023 valuation report are the same as those used in the 2021 report with the following exceptions noted below. The mortality scaling was updated from the Pub(G)-2010 (below median) headcount weighted Mortality Tables for public plans with Scale MP-2020 to Scale MP-2021. The impact was an increase in accrued liabilities of approx. 0.2% (or \$58,000) as of July 1, 2023. The period for amortizing the unfunded liability was changed from 4 years to 10 years. This change reduced the 2023 plan year ADC by roughly \$587,000.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

VALUATION AS OF 7/1/2023

**EXECUTIVE SUMMARY
(Continued)**

Plan Provisions

All plan provisions have remained the same as those from the prior year. Please see the Summary of Plan Provisions section of this report for more details.

Funded Status

The actuarial value of assets, as a percentage of the actuarial accrued liability, increased from 87.4% to 88.7%. The market value funded ratio decreased from 97.5% to 84.1%.

Actuarially Determined Contribution

Based on the prior funding policy which amortized the unfunded liability over a period of 4 years, the actuarially determined contribution (ADC) for the plan year commencing on July 1, 2023 and ending on June 30, 2024 would have been \$1,255,874, which is approximately 39.2% of covered payroll for active participants. This is an increase in the contribution level of about \$126,000 from the 2022 plan year ADC, and a sizeable increase over the 25.8% of covered payroll from the last valuation, which is expected due to the shrinking active population. Under the new funding policy adopted for the July 1, 2023 plan year which amortizes the unfunded liability over a period of 10 years, the ADC drops by nearly \$587,000 to \$669,144, or 20.9% of covered payroll.

Actuarial valuations are performed every two years. Beginning July 1, 2023, each biennial valuation determines the ADCs for the next two plan years starting one year after the valuation date. The ADCs are developed by increasing the ADC calculated as of the valuation date by 3.0% each year. However, to transition from the prior valuation timing method to the new valuation timing method used to develop the ADCs, the July 1, 2023, valuation was the basis for the PYB 2023 ADC and the next two plan years. Thus, the ADC for PYB July 1, 2024, is \$689,218 and the ADC for PYB July 1, 2025, is \$709,895.

Funding Policy

Actuarially determined contributions to the Plan are determined each year as part of the Actuarial Valuation process. These contributions are determined according to the following funding policy:

Actuarial Cost Method: Entry Age Normal

Asset Valuation Method: The market value of assets less unrecognized returns in each of the last five (5) years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a five-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 20% of the market value of assets.

Amortization Method: Amortization of unfunded liability with 3.00% per year increase, closed

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

VALUATION AS OF 7/1/2023

**EXECUTIVE SUMMARY
(Continued)**

Funding Policy (continued)

The plan's current actuarial cost method, amortization method and asset valuation method make up the Plan's funding policy. The policy does not incorporate an output smoothing method. Each of the previously noted methods, on a stand-alone basis and in aggregate, are reasonable and satisfy the requirements outlined in Actuarial Standard of Practice No. 4. Therefore, by incorporating these specific methods of the Plan's funding policy to develop the ADC calculated in this report, the plan sponsor's contribution allocation procedure is reasonable if the Plan Sponsor contributes the ADC to the Plan. If the plan sponsor continually makes less/more than the ADC, we expect that future contributions will be higher/lower, and the funded status will deteriorate/improve, if all current assumptions are met.

Certification of Report

The actuarial methods and assumptions used in this valuation are, in our opinion, reasonable. Please note that the calculations in the report are for funding valuation purposes only and that computations for purposes other than this may vary significantly.

This report has been prepared in accordance with generally accepted actuarial standards and procedures and conforms to the Guidelines for Professional Conduct of the American Academy of Actuaries. It is based on the employee and financial data submitted to USI Consulting Group by the plan sponsor and the retirement plan provisions outlined herein.

I, Frederica S. Daniels, FCA, EA, 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. There exists no relationship with the Plan or the Sponsor that would impair the objectivity of my work.

USI CONSULTING GROUP



Frederica S. Daniels, FCA, EA, MAAA
Vice President and Managing Actuary



Matthew J. Henderson, FSA, EA, MAAA
Senior Actuarial Consultant



Nelroy Giddings
Actuarial Consultant

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

MARKET VALUE OF ASSETS AS OF 7/1/2023

<u>Statement of Income and Expenses</u>	<u>2021 to 2022</u>	<u>2022 to 2023</u>
Net Assets at Beginning of Year (7/1/XXXX)	\$32,013,838	\$27,120,434
Contributions Received or Receivable		
Employer	1,131,235	1,163,197
Employee	195,857	176,215
Total Contributions	1,327,092	1,339,412
Net Unrealized Appreciation	(7,266,861)	1,317,095
Net Realized Gain/Loss	1,550,849	33,559
Interest and Dividends	1,370,134	672,396
Other Income	34,384	353,395
Total Income	(2,984,402)	3,715,857
Distribution of Benefits		
Directly to Participants or Beneficiaries	1,808,430	1,924,510
Total Distribution of Benefits	1,808,430	1,924,510
Administrative Expenses	30,812	18,352
Investment Expenses	69,760	102,678
Total Distributions	1,909,002	2,045,540
Net Income / (Expenses)	(4,893,404)	1,670,317
Net Assets at End of Year (6/30/XXXX)	\$27,120,434	\$28,790,751
Rates of Return		
Gross Investment Return:	-13.59%	8.88%
Net Investment Return:*	-13.80%	8.48%
Expected Rate of Return:	6.25%	6.25%

* Net of investment expenses only.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

DETERMINATION OF ACTUARIAL VALUE OF ASSETS AS OF 7/1/2023

I. MARKET VALUE OF ASSETS GAIN/(LOSS) - PLAN YEAR ENDING:	<u>6/30/2022</u>	<u>6/30/2023</u>
(1) Expected Market Value of Assets:		
(a) Market Value of Assets at Beginning of Plan Year	32,013,838	27,120,434
(b) Expected Return on Assets at 6.25%	2,000,865	1,695,027
(c) ER + EE Contributions	1,327,092	1,339,412
(d) Benefit Payments	(1,808,430)	(1,924,510)
(e) Administrative Expenses	(30,812)	(18,352)
(f) Net Interest (half year) on (c) + (d) + (e)	<u>(15,762)</u>	<u>(18,572)</u>
(g) Total: (a) + (b) + (c) + (d) + (e) + (f)	33,486,791	28,193,439
(2) Actual Market Value of Assets:	27,120,434	28,790,751
(3) Market Value of Assets Gain/(Loss): (2) - (1)(g)	(6,366,357)	597,312

II. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

(1) Market Value of Assets:	27,120,434	28,790,751	
(2) Amortization of Asset Gain/(Loss) Over a 5-year Period (20% Per Year):			
Plan Year Ending	Original Amount	Unrecognized	Unrecognized
<u>June 30,</u>	<u>Asset Gain/(Loss)</u>	<u>Amount</u>	<u>Amount</u>
2019	(421,396)	(84,279)	N/A
2020	(453,253)	(181,301)	(90,651)
2021	4,638,849	2,783,309	1,855,540
2022	(6,366,357)	(5,093,086)	(3,819,814)
2023	597,312	<u>N/A</u>	<u>477,850</u>
Total Unrecognized Amount:		(2,575,357)	(1,577,075)
(3) Preliminary Actuarial Value of Assets: (1) - (2)	29,695,791	30,367,826	
(4) 80% of Market Value of Assets :	21,696,347	23,032,601	
(5) 120% of Market Value of Assets :	32,544,521	34,548,901	
(6) Actuarial Value of Assets: max (3) or (4), but less than (5)	29,695,791	30,367,826	
(7) Actuarial Value as a Percentage of Market Value: (6) / (1)	109.50%	105.48%	

III. DEVELOPMENT OF ACTUARIAL VALUE ASSETS AS OF 7/1/23

(1) Actuarial Value of Assets Beginning of Year:	28,700,912	29,695,791
(2) Employer and Employee Contributions:	1,327,092	1,339,412
(3) Benefit payments:	(1,808,430)	(1,924,510)
(4) Administrative Expenses:	(30,812)	(18,352)
(5) Return on assets:	<u>1,507,029</u>	<u>1,275,485</u>
(6) Actuarial Value of Assets End of Year: (1) + (2) + (3) + (4) + (5)	29,695,791	30,367,826
Gross Investment Return (Actuarial Value of Assets):	5.30%	4.34%
Net Investment Return (Actuarial Value of Assets):	5.19%	4.28%
Assumed Rate of Return (Actuarial Value of Assets):	6.25%	6.25%

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

HISTORICAL INFORMATION: ACTUARIAL VALUE OF ASSETS & MEMBER POPULATION DATA

Development of Actuarial Value of Assets

Year Ended June 30*	Employer Contributions	Employee Contributions	Net Investment Return**	Admin Expenses	Benefit Payments	Actuarial Assets at Year-End
2008	1,100,000	390,805	(722,261)	39,150	422,495	10,237,948
2009	1,231,247	329,502	99,850	30,690	481,962	11,385,895
2010	1,000,000	352,160	752,425	32,468	461,299	12,996,713
2011	960,792	398,481	432,705	32,752	603,566	14,152,373
2012	947,690	338,740	294,984	30,605	1,416,343 ^	14,286,839
2013	927,576	344,069	662,439	32,353	650,366	15,538,204
2014	969,442	339,724	1,554,806	20,959	644,882	17,736,335
2015	1,075,000	306,172	1,352,123	18,653	845,509	19,605,468
2016	1,109,374	273,142	907,172	49,939	986,331	20,858,886
2017	1,057,393	275,250	1,209,474	19,389	1,057,539	22,324,075
2018	1,278,376	256,415	1,309,643	30,473	1,088,259	24,049,777
2019	1,278,376	239,257	1,065,761	14,910	1,242,451	25,375,810
2020	1,066,295	219,562	1,324,567	32,004	1,468,176	26,486,054
2021	1,098,284	209,846	2,525,784	15,687	1,603,369	28,700,912
2022	1,131,235	195,857	1,507,029	30,812	1,808,430	29,695,791
2023	1,163,197	176,215	1,275,485	18,352	1,924,510	30,367,826

* Results for plan years ending prior to June 30, 2020 were calculated by the prior actuary for the plan.

** Net of investment fees but including actuarial adjustment to the market value.

^ Including Aetna annuity contract purchase for retirees in 2011.

Member Population

Year Ended June 30*	Active Members	Terminated Vested Participants	Retirees and Beneficiaries	Total Members**	Total Non- Active Members**	Ratio of Non- Actives to Actives
2002	146	17	38	201	55	0.38
2003	152	16	41	209	57	0.38
2005	143	19	51	213	70	0.49
2007	149	24	55	228	79	0.53
2009	155	24	56	235	80	0.52
2011	151	29	64	244	93	0.62
2013	144	29	49	222	78	0.54
2015	108	43	65	216	108	1.00
2017	91	39	79	209	118	1.30
2019	74	39	92	205	131	1.77
2021	63	35	100	198	135	2.14
2023	48	36	114	198	150	3.13

* Results for plan years ending prior to June 30, 2020 were determined by the prior actuary for the plan.

** Excludes terminated non-vested members due a refund of employee contributions.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

VALUATION RESULTS AS OF 7/1/2023

(1) Present Value of Future Benefits

The value of all projected retirement, death and vested termination benefits projected to be paid to current plan participants, discounted to the valuation date with interest, mortality and withdrawal rates.

	<u>Participants</u>	<u>Liability</u>
Active Participants	48	11,869,022
Terminated / Inactive Participants	36	2,472,283
Terminated Participants Due EE-Contributions Only	4	16,159
Retired Participants & Beneficiaries	<u>114</u>	<u>22,120,850</u>
Totals	202	36,478,314
 (2) Actuarial Value of Assets		 30,367,826
(3) Actuarial Accrued Liability		34,234,228
(4) Unfunded Actuarial Accrued Liability: (3) - (2)		3,866,402
 (5) Employer Normal Cost		
a. Total Normal Cost		322,897
b. Expected Employee Contributions		<u>(146,618)</u>
c. Employer Normal Cost		176,279

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ACTUARIALLY DETERMINED CONTRIBUTION FOR PLAN YEAR ENDING 06/30/2024

ACTUARIALLY DETERMINED CONTRIBUTION ("ADC")

(1) Total Employer Normal Cost	322,897
(2) Administrative Expenses	30,000
(3) Expected Employee Contributions	(146,618)
(4) Amortization Payment of Unfunded Actuarial Accrued Liability ("UAAL")	442,886
(5) Net Interest (half year) on Items (1) + (2) + (3) + (4)	<u>19,979</u>
(6) Actuarially Determined Contribution: (1) + (2) + (3) + (4) + (5)	669,144

ADC ALLOCATED BY GROUP

	Town	Board of Education	Police	TOTAL
Accrued Liability	16,169,797	5,361,400	12,703,031	34,234,228
Allocated Assets*	14,343,586	4,755,885	11,268,355	30,367,826
ADC	296,407	111,482	261,255	669,144

* Assets have been allocated, for illustration purposes only, to each major group based upon the actuarial accrued liability for each group as of the beginning of the current plan year.

AMORTIZATION SCHEDULE FOR FUNDING POLICY (EAN COST METHOD)

Description	Plan Year	Original Amount	Outstanding Balance	Amortization Payment **	Years Remaining
UAAL	2023	3,866,402	<u>3,866,402</u>	<u>442,886</u>	10
			3,866,402	442,886	

** The Town set the funding policy to calculate the amortization payment of the UAAL based on a closed amortization period with payments increasing 3.0% each year.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ACTUARIAL EXPERIENCE FOR THE TWO-YEAR PERIOD ENDING 6/30/2023

I. LIABILITY EXPERIENCE (GAIN)/LOSS

(1) Actuarial Accrued Liability as of 7/1/2021	32,850,603
(2) Total Normal Cost for Plan Years 2021 and 2022	992,409
(3) Benefit Payments During Plan Years 2021 and 2022	(3,732,940)
(4) Net Interest at 6.25% (full year on (1) & (2), half year on (3))	4,097,586
(5) Increase/(Decrease) Due to Assumption Changes	<u>58,182</u>
(6) Expected Accrued Liability as of 7/1/2023: (1) + (2) + (3) + (4) + (5)	34,265,840
(7) Actual Accrued Liability as of 7/1/2023	<u>34,234,228</u>
(8) Liability (Gain)/Loss: (7) - (6)	(31,612)

II. ACTUARIAL ASSETS (GAIN)/LOSS

(1) Actuarial Value of Assets as of 7/1/2021	28,700,912
(2) ER + EE Contributions During Plan Years 2021 and 2022	2,666,504
(3) Benefit Payments During Plan Years 2021 and 2022	(3,732,940)
(4) Net Interest at 6.25% (full year on (1), half year on (2) & (3))	<u>3,635,895</u>
(5) Expected Actuarial Value of Assets as of 7/1/2023 (1 + 2 + 3 + 4)	31,270,371
(6) Actual Actuarial Value of Assets as of 7/1/2023	<u>30,367,826</u>
(7) Actuarial Asset (Gain)/Loss (5 - 6)	902,545

III. NET ACTUARIAL EXPERIENCE (GAIN)/LOSS (I.8 + II.7) 870,933

DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

(1) Prior Valuation Year Unfunded Accrued Liability (UAL)	4,149,691
(2) Total Normal Cost for Plan Years 2021 and 2022	992,409
(3) Interest on (1 + 2)	629,252
(4) Employer Contributions	2,294,432
(5) Employee Contributions	372,072
(6) Interest on Total Contributions	167,561
(7) Increase/(Decrease) due to Change in Assumptions/Cost Method	<u>58,182</u>
(8) Expected UAL (1 + 2 + 3 - 4 - 5 - 6 + 7)	2,995,469
(9) Actual Unfunded Actuarial Accrued Liability	<u>3,866,402</u>
(10) Net Actuarial (Gain)/Loss (9 - 8)	870,933

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

PARTICIPANT DATA AS OF 7/1/2023

Active Employees		
Number		48
Total annual compensation		3,202,829
Balance of Employee Contributions		3,317,675
Average accrued benefit		1,529.83
Average projected benefit		3,064.70
Average attained age		57.22
Average Credited service		20.74
Non-Vested Terminated Employees Due Employee Contributions		
Number		4
Balance of Employee Contributions		16,159
Terminated Deferred Vested		
Number		36
Average accrued benefit		600.54
Average attained age		58.46
Retired Employees and Beneficiaries		
Number		114
Average monthly benefit		1,478.06
Average attained age		70.51

RECONCILIATION OF PARTICIPANT STATUS

	<u>Active</u>	<u>Inactive</u>	<u>Due Employee Contributions</u>	<u>Deferred Vested</u>	<u>Retired</u>	<u>Total</u>
Prior Valuation	63	0	37	35	100	235
Transferred to Inactive	0	0	0	0	0	0
Terminated - Not Vested	0	0	0	0	0	0
Terminated - Vested	(3)	0	(1)	4	0	0
Retired	(12)	0	0	(3)	15	0
Cashed Out	0	0	(32)	0	0	(32)
Deceased - With Beneficiary	0	0	0	0	0	0
Deceased - No Beneficiary	0	0	0	0	(2)	(2)
Rehired	0	0	0	0	0	0
New Entrants or Spouse	0	0	0	0	1	1
Data Corrections	0	0	0	0	0	0
Current Valuation	48	0	4	36	114	202

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

Age and Service Distribution as of July 1, 2023

Years of Credited Service

Attained Age	<u>Under 1</u>	<u>1 to 4</u>	<u>5 to 9</u>	<u>10 to 14</u>	<u>15 to 19</u>	<u>20 to 24</u>	<u>25 to 29</u>	<u>30 to 34</u>	<u>35 to 39</u>	<u>40 & up</u>
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	2	2	0	0	0	0	0
45 to 49	0	0	0	2	2	0	0	0	0	0
50 to 54	0	0	0	1	2	4	1	0	0	0
55 to 59	0	0	1	1	6	1	2	0	1	0
60 to 64	0	0	0	3	2	3	4	0	1	0
65 to 69	0	0	0	2	1	1	1	1	0	0
70 & up	0	0	0	0	0	0	0	0	1	0

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASC 960 ACCOUNTING INFORMATION

The following information has been prepared to assist in meeting the requirements of FASB ASC 960. The information presented is calculated in accordance with out understanding of the Statement. Except as noted below, the actuarial assumptions are as set forth in the Summary of Actuarial Methods and Assumptions section of this report.

<u>Actuarial Present Value of Accumulated Plan Benefits</u>	<u>7/1/2021</u>	<u>7/1/2023</u>
Vested Benefits		
Participants currently receiving payments	18,220,028	22,120,850
Other Participants		
Active Employees	9,355,296	7,573,261
Deferred Vested Terminated Employees	2,076,906	2,472,283
Terminated Non-Vested Due Return of Contributions	216,684	16,159
Total - Other Participants	<u>11,648,886</u>	<u>10,061,703</u>
Total Vested Benefits	29,868,914	32,182,553
Nonvested Benefits	0	0
Total Actuarial Present Value of Accumulated Benefits	<u><u>29,868,914</u></u>	<u><u>32,182,553</u></u>

Statement of Changes in Accumulated Plan Benefits

Actuarial Present Value of Accumulated Plan Benefits as of 7/1/2021	29,868,914
Increase (Decrease) during the year attributable to:	
Plan Amendment	0
Change in Actuarial Assumptions	55,324
Benefits Accumulated and Other Experience	2,372,357
Increase Due to Change in the Discount Period	3,618,898
Benefits Paid	<u>(3,732,940)</u>
Net Increase	<u>2,313,639</u>
Actuarial Present Value of Accumulated Plan Benefits as of 7/1/2023	<u><u>32,182,553</u></u>

General Assumptions

	7/1/2021	7/1/2023
Measurement Date		
Discount Rate	6.25%	6.25%
Annual Salary Increase	4.00%	4.00%
Cost of Living Assumption	N/A	N/A
Mortality Improvement Projection Scale	MP-2020	MP-2021
Mortality Table	PubG-2010(B), Headcount- Weighted	PubG-2010(B), Headcount- Weighted

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

SUMMARY OF PLAN PROVISIONS

Effective Date 6/1/1977

Plan Year Beginning 7/1/2023

Participation Eligibility Eligible employee with completion of one year of service. Employee must work 20 hours per week or completion of 5 months per year.

Group	Close Date
Town (except Supervisors)	7/1/2009
Town Supervisors	6/6/2012
Police	7/1/2012
Board of Education	7/1/2012
Public Works	7/1/2012
Fire	1/1/2013

Employee Contributions *Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Police, Fire, Administrative Non-Union Professionals and Public Works Employee* – 5% of earnings (Police contributions are not capped at 130% of base pay)

Non-Certified Board of Education – 3% of earnings. Employee contributions receive interest at 5% per year

Normal Retirement Date *Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Administrative Non-Union Professionals and Non-Certified Board of Education* – Age 65 and 1 year Credited Service

Fire Employees – Age 55 and 10 years Credited Service (but not later than age 65)

Police Employees – Age 55 and 10 years Credited Service or 25 years of Credited Service with no age requirement (but not later than age 65)

Public Work Employees – Age 65 and 1 year Credited Service or Rule of 82 if hired pre 7/1/2007 or Rule of 85 if hired post 7/1/2007.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

**SUMMARY OF PLAN PROVISIONS
(continued)**

Normal Retirement Benefit

Benefit Formula

Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Administrative Non-Union Professionals, Nurses and Library Employees – 1.5% of Final Average Earnings times Credited Service. Maximum normal retirement benefit is 50% of Final Average Earnings.

Fire & Police Employees – 2.0% of Final Average Earnings times Credited Service. Maximum normal retirement benefit is 75% of Final Average Earnings.

Public Works Employee – 1.5% of Final Average Earnings times Credited Service. Maximum normal retirement benefit is 50% of Final Average Earnings. Unreduced benefit per Rule of 82 if hired before July 1st, 2007. Unreduced benefit per Rule of 85 if hired post July 1st, 2007.

Final Average Earnings

Non-Certified Board of Education – 1.0% of Final Average Earnings times Credited Service (capped at 30 years).

Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Police, Fire, Administrative Non-Union Professionals, Public Work Employees, Nurses and Library Employees – Highest 3 out of last 10 consecutive Plan Year. Police earnings are capped at 130% of base pay.

Credited Service

Non-Certified Board of Education – Highest 5 out of last 10 consecutive Plan Year

Years and months of service from Date of Hire upon member satisfying annual employee contributions provision.

Early Retirement Date

Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Administrative Non-Union Professionals, Public Works Employee, Nurses and Public Library Employees – Age 55 with 10 years of Credited Service

Non-Certified Board of Education – Age 62 with 10 years of Credited Service

Fire Employees – Completion of 10 years of Credited Service (no age requirement)

Police Employees – None

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

**SUMMARY OF PLAN PROVISIONS
(continued)**

<u>Early Retirement Benefit</u>	<i>Supervisors/Professional Employees, Town Hall Employees, Educational Secretaries, Administrative Non-Union Professionals, Public Works Employee, Nurses and Public Library Employees</i> – 0.5% reduced each month prior to age 65 <i>Fire Employees</i> – 0.5% reduced each month prior to Normal Retirement Age.
<u>Late Retirement Benefit</u>	Accrued benefit. Payments are suspended while active and accruing.
<u>Disability Benefit</u>	10 years of Credited Service. Normal pension accrued based on Final Average Earnings and Credited Service at disability. Payment stops at Normal Retirement Age.
<u>Normal Form of Benefit</u>	Modified Cash Refund
<u>Optional Forms of Payment</u>	50%, 66.67%, 75% & 100% Joint & Survivor annuities; Life Annuity with 10 years certain; Social Security Adjustment Option; Lump Sum Option if the present value is less than \$1,000 or monthly annuity benefit is under \$50.
<u>Accrued Benefit</u>	Normal Retirement Benefit based on Final Average Earnings and Credited Service to date of separation from employment.
<u>Vesting Service</u>	Years and months of service from Date of Hire. 100% Vested upon attainment of Early Retirement and Normal Retirement. 5-Year cliff for all members (excluding Non-Certified Board of Education employees). 10-Year cliff for Non-Certified Board of Education employees.
<u>Actuarial Equivalence</u>	1951 Group Annuity Mortality Table; Participant Males 75%/Female 25%, with ages set-back one year for males and six years for females; 2.50% interest.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

In order to determine the size of the liabilities and costs for a given level of benefits, an actuary must make certain assumptions as to future experience among the covered group of employees and as to the rate of investment return. In particular, assumptions are made regarding rates of employment termination, disability and mortality, in order to determine the likelihood of each employee reaching retirement age. In addition, since benefits are based in part on salary, it is also necessary to project the amount of each employee's salary at the time he or she retires. Investment earnings are a source of income to the pension plan fund and the actuary makes an assumption as to the rate to be earned each year in the future.

As a result of these assumptions applied to the covered group of participants, a total liability for future retirement benefits is determined. This total liability is then apportioned for payment to future years by use of an actuarial cost method. There are many different cost methods in use, some resulting in increasing annual contributions, some causing decreasing annual contributions, and others which result in level contributions. The level contribution method is the most common. Below is a summary of the actuarial methods and assumptions used in this valuation.

The plan's funding policy enables the plan sponsor to meet contribution requirements. Future measurements may differ significantly from the information contained within this report. These measurements will be based on the market value of assets, which varies based on the underlying portfolio experience, as well as plan sponsor contributions, benefit payments and expenses paid from plan assets. Liability calculations will be produced in accordance with current census data, as well as the interest rates and mortality tables in effect at that time. There has been no analysis of potential future impacts associated with this report. Please refer to the plan's Funding Policy for a more detailed disclosure of how the policy enables the plan sponsor to meet contribution requirements.

The funded ratio is appropriate for assessing the need for or the amount of future contributions, based on the assumptions stated in this report. The funded ratio will differ if based on market value of assets rather than actuarial value of assets.

LIABILITY COST METHOD

Entry Age Normal Cost Method (EAN). Under this method, the annual cost is equal to the normal cost, plus a payment to amortize the unfunded accrued liability over a fixed (closed) period of 10 years as of July 1, 2023.

The normal cost is the sum of individual normal costs, determined as a level percentage of compensation which would have been necessary to fund the employee's projected retirement, death and withdrawal benefits, from entry age (the age at which the employee would have entered the plan had it been in effect on his employment date), to his retirement age. Thus, the dollar normal cost is expected to increase with the salary projection assumption.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)**

The actuarial accrued liability is the accumulation, based on the actuarial assumptions, of all assumed prior normal costs. Thus, it represents the amount of reserves, which would be held by the plan, had it always been in effect for the present group of participants and had plan experience followed that predicted by the actuarial assumptions. The unfunded accrued liability is the excess, if any, of the accrued liability over the plan assets.

Liability and investment related actuarial gains and losses arising from differences between plan experience and that predicted by the actuarial assumptions, as measured by the difference between actual and expected UAAL, are amortized over a closed period of 10 years as of July 1, 2023. Similarly, both liability fluctuations due to future changes in actuarial assumptions and/or method changes and the effects of future Plan Provision changes will be amortized over a closed 10-year period.

ATTRIBUTION PARAMETERS

Attribution parameters determine how growth in the benefit formula is allocated to years of service. For this plan, the attribution parameters use accrual rate proration by component. This method attributes the benefit separately for each component of the benefit formula, based on the credited service. If there are no accrual definitions in the benefit formula, then the entire projected benefit is assigned to past service (and considered fully accrued as of the valuation date). This results in "natural" or "direct differencing" attribution.

ACTUARIAL ASSUMPTIONS

Pre- and Post-Retirement Mortality:

Prior Valuation Year: Pub(G)-2010 (below median) headcount weighted Mortality Tables for public plans and Scale MP-2020.

Current Valuation Year: Pub(G)-2010 (below median) headcount weighted Mortality Tables for public plans and Scale MP-2021. These tables were used as the plan is too small for credible experience. Contingent annuitants use the retiree mortality tables until the retiree is deceased.

Liability Interest Rate – 6.25% per annum. This rate is equal to the Expected Return on Assets (as disclosed within Investment Assumptions).

Salary Projection – 4.0% per annum. This assumption is a long-term estimate derived from historical data and the plan sponsor's current compensation practice, recent market expectations and professional judgement.

Retirement Rates for Active Members – 50% at the later of completion of 25 years of service and age 55, but not later than age 65, 20% for the two following years and 100% for the following year for Police members; 100% at the later of age 60 and 10 years of service for Fire members; for all others, 50% at each age of 65 through 69, then 100% by age 70. These rates were set based on historical and current data, adjusted to reflect estimated future experience and professional judgement.

Retirement Age for Inactive Vested Participants – 100% at Normal Retirement Age. The retirement age was based on historical and current data, adjusted to reflect estimated future experience and professional judgement.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)**

Payroll Growth Rate – 3.0%, used to amortize the unfunded actuarial accrued liability as a level percentage of payroll.

Expense Loading – Normal Cost increased by estimated administrative expenses of \$30,000. Recent expenses have been under this level.

Benefit Election – All participants are assumed to elect the modified cash refund form of payment based on historical and current data, adjusted to reflect the plan design, estimated future experience and professional judgment.

Percent of Population Assumed Married – 80% (spouses assumed 3 years younger).

Annual interest rate for accumulating employee contributions - 5% (per Plan Document)

Vested benefits are based on the plan document’s vesting schedule based on years of service. Please refer to the Summary of Plan Provisions section of this report for requirements for particular benefits.

Early retirement subsidies are only valued once participants become eligible by meeting the specified requirements.

Disability Rates – See sample rates below

Withdrawal Rates – See withdrawal rates in table below (excludes Police). There is no withdrawal assumption for Police. These rates were based on historical and current data, adjusted to reflect estimated future experience and professional judgement. The prior actuary compared the actual number of withdrawals and disability retirements versus the projected numbers based on the prior year’s assumption over the most recent five years.

<u>Age</u>	Withdrawal		Disability	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	7.94%	7.94%	0.06%	0.06%
25	7.72%	7.72%	0.09%	0.09%
30	7.22%	7.22%	0.11%	0.11%
35	6.28%	6.28%	0.15%	0.15%
40	5.15%	5.15%	0.22%	0.22%
45	3.98%	3.98%	0.36%	0.36%
50	2.56%	2.56%	0.61%	0.61%
55	0.94%	0.94%	1.01%	1.01%
60	0.09%	0.09%	1.63%	1.63%

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)**

ASSET VALUATION

The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a five-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 20% of the market value of assets.

INVESTMENT ASSUMPTIONS

Expected Return on Assets – 6.25% per annum

The investment return reflects the anticipated gross long-term rate of return on plan assets based on the plan's current and expected future asset portfolio, as supported by Fiducient Advisors. As part of the analysis, a building block approach was used that reflects the following factors:

- Current yields of fixed income securities (government and corporate)
- Forecasts of inflation and total returns for each asset class
- Investment policy and target asset allocation
- Investment volatility
- Investment manager performance
- Investment and other administrative expenses paid from plan assets

LDROM INTEREST RATE

Liabilities are valued using the tax-exempt, high quality general obligation municipal bond index rate prior to the valuation date. For the 2023 valuation, the interest rate is 3.88%.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASOP 51 - ASSESSMENT AND DISCLOSURE OF RISK

Additional Information Regarding Assessment and Disclosure of Risks

The valuation of pension liabilities requires the use of certain assumptions to estimate events that are expected to occur in the future. These events can be economic, non-economic or demographic in nature. When actual experience in the future differs from the expected experience there is a direct effect on future pension liabilities. This in turn can impact both the funded position of the pension plan as well as the actuarially determined contribution (“ADC”).

Certain variables carry more risk than others. Included below is a brief explanation of those variables that can potentially have a significant effect on the plan’s future financial condition.

Actuarially Determined Contribution Compared to Actual Contribution

The ADC is calculated using an actuarial funding method. The ADC can vary from year to year as actual experience differs from that expected. The funding method’s intent is that if the ADC is deposited by the plan sponsor each year, then the plan would be sufficiently funded over the life of the plan so that promised benefits could be paid to all participants. The Sponsor currently contributes at least 100% of the ADC. However, if actual contributions deposited are consistently lower than the ADCs then, barring unexpected actuarial gains, future contributions will need to be greater.

Risk Assessments

Investment volatility risk. There is an expectation that the assets of the pension plan will return an average long-term rate each year. If the actual annual net return on plan assets is consistently below the expected return then both the funded ratio and ADC would be negatively impacted – the funded ratio would be lower than expected and the ADC would be higher. For example, an actuarial asset “loss” of 10% (about \$3,037,000 based on current values) in a given year would hypothetically add \$359,000 to the ADC, increasing at a rate of 3% per year, over the next 10-year period. Also, the funded ratio would decrease by about 8.9 percentage points.

Investment return risk. The interest rate (which is equal to the Plan’s expected return on assets rate) is used to discount the projected benefit payments from the Plan to calculate the present value of the liabilities (Accrued Liability). Decreases in the interest rate (as noted above) will lead to increases in the Accrued Liability and the Normal Cost, which may increase contribution requirements. As an example, a decrease of 25 basis points would lead to an increase in Accrued Liability of about 3% and in Employer Normal Cost of about 11%, yielding an increase in the ADC of about \$113,000, which will grow at a rate of 3% per year, over a 10-year period. Absent any further changes to the interest rate, or future asset and liability gains or losses, the Normal Cost is expected to remain constant each year as a level % of payroll based on the Plan’s cost method.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASOP 51 - ASSESSMENT AND DISCLOSURE OF RISK (continued)

Longevity risk. To the extent participants live longer than expected relative to the mortality assumptions, liabilities (and, thus, the ADC) will increase. For example, an increase in life expectancy of one year could cause an increase in the Accrued Liability of between 2% and 2.5%.

Demographic risk. Several other assumptions are made with respect to anticipated plan experience, including rates of termination, disability, and the retirement age. To the extent actual experience differs from expected, plan liabilities and normal cost can vary up or down.

The most significant demographic risk for this Plan is the retirement rate. The plan uses a set of blended rates to predict retirement patterns for ages anywhere between ages 55 and 70. If participants retire at any age prior to this assumed age, plan liabilities may increase due to subsidized early retirement benefits. Also, to the extent participants retire later than assumed, the plan liabilities and the ADC may increase due to unplanned benefit accruals that were not funded for through prior normal costs. An experience study could help identify the magnitude of past gains or losses from this demographic risk to see if a 'graded-age' assumption may be more appropriate to better hedge future risk.

Salary Increases. Salary increases impact the cost of the plan and are reflected in the liabilities and the normal cost. Increases above that which are assumed will result in experience losses in the following year, while the inverse is true – lower than expected raises can lead to a decrease in normal costs. For example, if the annual salary increase assumption of 4% was increased to 5%, liabilities will increase 1% and the Employer Normal Cost would increase about 10%, adding another \$66,000 to the ADC, growing at a rate of 3% per year, over a 10-year period.

As a reminder, the liabilities included in the actuarial valuation report are based on those participants covered under the pension plan as of the valuation date. No assumption is included for employees expected to enter the pension plan in the future. To the extent you expect a significant increase or decrease in the future participant population, the pension plan liability and annual normal cost would be expected to fluctuate in a similar manner.

Expense Load. Certain expenses related to the administration of the plan are often paid out of plan assets (to the extent allowed by law). As a way to ensure plan assets are not depleted over time due to administrative costs, an expense load (usually a flat dollar amount or a small % of plan assets) is added to the plan's normal cost, which is part of the contribution made by the plan sponsor each year. When actual administrative expenses for a given year are different from the assumed load amount, the plan will experience gains or losses that will be factored into the following year's contribution levels. The current assumption is \$30,000 per year and actual experience has been slightly lower, creating small gains to the plan.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASOP 51 - ASSESSMENT AND DISCLOSURE OF RISK (continued)

Plan Maturity Measures

Certain statistics can help to gauge the financial strength of the pension plan as well as to help identify risk that the plan might be subject to as it matures over time. Certain plan maturity statistics for the current valuation year are included below for your review and analysis. Historical statistics incorporating some of the prior year results may be found in the Executive Summary section of this report.

Ratio of Retiree Liability to Total Plan Liability

Ratio = \$22,120,850 / \$34,234,228 = 64.6%

A pension plan with a high ratio (for example, more than 50%) is considered to be a relatively mature plan since the primary liability is associated with former employees who are now in pay status. As a result, a large amount of plan assets is disbursed to retired participants to satisfy the monthly payments due to this group. Plan sponsors should consult with the investment advisors to the pension plan to determine whether plan assets are invested accordingly to account for the benefit outflows. For the Town's plan, having a ratio of 64.6% (i.e. over 50%) leads to annual contributions less than total benefit payments (a 'negative' cash flow).

Duration of the Actuarial Accrued Liability

The duration for your pension plan is approximately: 9.8, representing the average percentage change in the plan's actuarial accrued liability for a 100bp change in the interest rates used to measure plan liabilities. In general, pension plans with a younger participant group tend to have a larger duration than pension plans with an older population. Plans with a larger duration have liabilities that change more than pension plans with smaller duration when interest rates change. Also, changes in plan liabilities when interest rates drop will be larger than the changes in plan liabilities when interest rates rise by similar amounts. For example, a 100-basis point decrease in interest rates will increase your plan's actuarial accrued liability by 10.6% while a 100-basis point increase in interest rates will decrease your plan's actuarial accrued liability by 9.0%.

Ratio of Actuarially Determined Contribution to Total Covered Payroll

Ratio = \$669,144 / \$3,202,829 = 20.9%

Many plan sponsors find it helpful to look at the cost of the pension plan (on a cash basis) as a percentage of total covered payroll. Covered payroll is generally intended to mean total compensation for those employees actively accruing plan benefits during the year plan. An increase in this ratio (ADC/payroll) could be due to a number of different factors which may require further analysis. For example, the increase could be a result of a decline in the active population of a plan where participation for new employees is frozen - as the active group decreases over time, compensation for the remaining population increases due to service/raises/promotions.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASOP 51 - ASSESSMENT AND DISCLOSURE OF RISK (continued)

Ratio of Expected Outflows to Plan Assets

Ratio = $(\$2,387,495 + \$30,000) / \$28,790,751 = 8.4\%$

Outflows are defined as: Benefit Payments + Expenses. This ratio measures the liquidity and time-horizon of the plan's assets. It can be used as one of the considerations of how much of the plan's assets should be allocated to short-term fixed income (or cash). Having sufficient amounts of cash on-hand within plan assets better allows for monthly benefit payments (and expenses, if applicable) to be made throughout the year without having to liquidate funds for cash flow at unexpected points in time.

Funded Status

Ratio = $\$28,790,751 / \$34,234,228 = 84.1\%$

This statistic measures how well funded the pension plan is as of a specific point in time and is based on the ratio of the plan's market value of assets to the actuarial accrued liability. The funded status is impacted primarily by investment returns, interest rate changes, and pension plan funding policies. Additional factors, such as plan benefit or assumption changes, plan demographics and actual experiences, can also impact the funded status from year to year. Investment returns lower than expected may result in a ratio decrease. A drop in the interest rate would result in liability increases and the opposite occurs when interest rates increase. To the extent more or less than the actuarially determined contribution is deposited to plan assets during the year, then the plan would be better or worse funded than expected.

Low-Default-Risk Obligation Measurement

The newest risk measurement, effective February 15, 2023, and in accordance with Actuarial Standards of Practice (ASOP) No. 4, requires the plan actuary to provide a "Low-Default-Risk Obligation Measurement" (LDROM). The intended purpose of the measurement is to show what the pension obligation could hypothetically be if settled on the measurement date using current interest rate conditions. This may provide additional information regarding the security of benefits that members have earned. This is not intended to be a precise calculation as assumptions such as early retirement provisions, lump sum election percentages, and various other assumptions may need to be revised to reflect a terminal liability. This disclosure is required and does not imply the plan sponsor has considered or is considering the termination of this plan. This disclosure may not be appropriate for other uses. As of the valuation date, the Low-Default-Risk Obligation for the plan is \$41,474,735. Using LDROM interest rates, the Plan is 69.4% funded compared to a funded level of 89.5% using the Plan's ongoing interest rates.

**RETIREMENT PLAN FOR FULL-TIME EMPLOYEES OF
THE TOWN OF LEDYARD**

ASOP 51 - ASSESSMENT AND DISCLOSURE OF RISK (continued)

Summary of Risk Assessments and Maturity Measures

While the risk due to some variables may easily be understood or predictable, there are many risks that are much more variable in nature, making it quite difficult to hedge against drastic changes in the plan's funded status. While past actuarial and demographic experience is not a perfect indicator of what the future will bring, it does provide a strong foundation for setting assumptions related to risk.

Thus, we strongly recommend a plan experience study and/or cost projections and forecasts under various scenarios or stochastic modeling be performed at least once every 4 to 5 years to determine the validity of current assumptions, methods or plan provisions. However, before any decisions are made to adopt plan benefit or funding changes, we suggest discussions with the plan actuary and investment advisor are held by the plan sponsor to discuss types of potential actuarial or financial risks and impacts to the plan's funded status.