

Town of Dover Other Postemployment Benefits Plan

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2019

As of the Measurement Date:
June 30, 2020

For the Reporting Date:
June 30, 2020

Delivered March 8, 2021



TABLE OF CONTENTS

	<u>PAGE</u>
<u>EXECUTIVE SUMMARY</u>	I
<u>PRINCIPAL RESULTS OF THE VALUATION</u>	1
<u>EXHIBITS</u>	
A FINANCIAL STATEMENT DISCLOSURES	4
B REQUIRED SUPPLEMENTARY INFORMATION	16
<u>APPENDIX</u>	
I LIABILITIES, ASSETS, & CASH FLOWS	21
II PLAN PROVISIONS	28
III ACTUARIAL METHODS & ASSUMPTIONS	30
IV PLAN DEMOGRAPHICS	37
V OVERVIEW OF GASB 74 & 75	39
<u>GLOSSARY</u>	41

March 8, 2021

Personal and Confidential

Mr. Gerald Lane
Treasurer-Collector
Town of Dover
5 Springdale Avenue, P.O. Box 250
Dover, MA 02030-0250

Dear Mr. Lane:

We have performed an actuarial valuation of the Town of Dover Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2020 with a Measurement Date of June 30, 2020 and a Valuation Date of July 1, 2019. The figures presented in this report reflect the adoption, by the Town of Dover, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2017 and June 30, 2018 respectively.

The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, reflecting the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,

A handwritten signature in black ink, appearing to read 'P. Elmore', with a long horizontal flourish extending to the right.

Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary

March 8, 2021

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Dover other postemployment benefit programs with a Valuation Date of July 1, 2019 with a Measurement Date of June 30, 2020 for the Reporting Date & fiscal year ending June 30, 2020 in accordance with Government Account Standards Board Statement No. 74 & 75 and Actuarial Standards of Practice as issued by the American Academy of Actuaries. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

The actuarial data is based on the plan of benefits verified by the Town and on participant claims or premium data provided by the Town and/or vendors employed by the Town.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may yield results significantly different than those reported here. As such, additional determinations may be needed for other purposes including determining the benefit security at termination and/or adequacy of the funding of an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion represents the information necessary to comply with GASB Statements Number 74 and 75 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries and other professional actuarial organizations and meet their "General Qualification Standards for Statements of Actuarial Opinion" to render the actuarial opinion contained herein. Further, in our opinion, the assumptions as approved by the Town are reasonably related to the experience and expectations of the postemployment benefits programs.

A handwritten signature in black ink, appearing to read 'P. Elmore', written in a cursive style.

Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary

EXECUTIVE SUMMARY

What caused plan liabilities to change from FY 19 to FY 20?

For the year ending on the Measurement Date of June 30, 2020, the Plan saw an experience gain of \$1,270,581 or 12.39% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for Medicare supplement plans increasing by 3% vs. the expected 5% increase as well as offering high deductible health plans which decreased the average active plan premium by 6% vs. the expected 5% increase. Additionally, there are fewer retirees than expected and there was a reduction in the number of retirees over the age of 65 enrolled in active plans. During the period there was an investment loss of \$189,886 below the expected return.

Assumption Changes

Some key assumptions have changed since the prior valuation - their impact is detailed below.

- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females increasing the disclosed liability by \$440 thousand.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$730 thousand.
- ✓ Based on recommendations by PERAC, retirement and withdrawal assumptions have been updated increasing the disclosed liability by \$71 thousand.
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care increasing the disclosed liability by \$1.1 million.
- ✓ Assumption changes caused Service Cost to increase by \$25 thousand.

It is important to remember that actuarial assumptions or changes in such do not impact the actual cost of the Plan. Rather, they impact the timing of the recognition of such costs.

Changes in Benefits Terms

- ✓ To the best of our knowledge there have been no material changes in benefit terms that would impact the figures shown in this report.

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 5.54 years.
- ✓ Differences between projected & actual earnings on OPEB plan investments are amortized into the net OPEB expense over 5.00 years
- ✓ Changes in benefit terms are to be recognized in full immediately

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Discount Rate Determinants

- ✓ Employer Current and Future Benefit Payments
- ✓ Municipal Bond Rate – The municipal bond rate was 2.66% as of June 30, 2020.
- ✓ Current Asset Level – The Town had \$5,737,015 of OPEB assets as of June 30, 2020.
- ✓ Funding Policy - The Town is expected to contribute the Actuarially Determined Contribution ("ADC") less benefit payments each year.
- ✓ Investment Policy - The Town is expected to earn 6.10% on assets based on its investment policy.

EXECUTIVE SUMMARY

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare supplement) plans - represent 74.55% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate - We currently assume medical costs increase at 4.50% per year for Active plans and 4.50% per year for Medicare supplement plans.
- ✓ Discount Rate (6.25%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The Town currently has three retirees or covered spouses who are over the age of 65 and are enrolled in Active medical plans rather than Medicare Supplement (Senior) plans. You may wish to review their Medicare eligibility to see if they are already eligible for Medicare or if a “buy-in” is appropriate as this could yield a reduction in your OPEB annual costs and disclosed liabilities.

EXECUTIVE SUMMARY

Key Plan Metrics

While an actuarial valuation under GASB 74/75 can be very complex with many variables, we find it helpful to look at several key metrics (shown below) to better allow you to manage your plan.

Representative Plan Statistics		
Valuation Date	July 1, 2019	July 1, 2017
Measurement Date & Period Ending	June 30, 2020	June 30, 2019
Reporting Date/Fiscal Year End	June 30, 2020	June 30, 2019
Total OPEB Liability	10,423,578	10,257,746
Per Eligible Active Plan Participant	36,486	36,044
Per Retiree/Spouse Plan Participant	51,433	54,105
Total Annual Service Cost (Annual Benefit Accrual)	278,003	306,189
Per Eligible Active Plan Participant	1,782	1,950
Expected Employer Share of Retiree Costs	383,292	360,380
Per Retiree/Spouse Plan Participant	4,166	4,240
Net OPEB Liability as a % of Covered Payroll	36.60%	43.40%
Average Annual Medical Plan Premium (Single Coverage)	6,987	7,263
Average Annual Medical Plan Premium (Family Coverage)	25,184	27,139

EXECUTIVE SUMMARY

Liabilities & Benefit Payments in Today's Dollars

With the growth of medical care costs over time, the nominal accrued liabilities ("TOL") and benefit payments can appear daunting. However, it is important to remember that a dollar paid in the future is worth less than a dollar paid today.

For the Period Ending on the Measurement Date of:	Number of Retirees, Spouses, & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums/Claims Including "Implicit Cost"	Present Value at 3.00% of Employer Share of Premiums / Claims Including "Implicit Cost"
June 30, 2020	92	10,423,578	10,423,578	383,292	383,292
June 30, 2025	124	12,803,614	11,044,510	649,273	560,069
June 30, 2030	137	15,387,552	11,449,784	761,288	566,470
June 30, 2035	138	18,664,663	11,980,137	918,936	589,830
June 30, 2040	132	22,720,869	12,579,994	1,043,569	577,799
June 30, 2045	127	27,949,464	13,348,820	1,215,776	580,661
June 30, 2050	125	34,597,787	14,253,830	1,414,061	582,574

PRINCIPAL RESULTS OF THE VALUATION

Town of Dover

Assuming Funding - 6.25% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2019	July 1, 2017
For the Measurement Period ending on the Measurement Date of:	June 30, 2020	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2020	June 30, 2019
I. Total OPEB Liability		
A. Actives	5,691,742	5,658,849
B. Retirees/Disabled	<u>4,731,836</u>	<u>4,598,897</u>
C. Total	10,423,578	10,257,746
II. Fiduciary Net Position [Plan Assets]	5,737,015	5,450,925
III. Net OPEB Liability (Asset) [I. - II.]	4,686,563	4,806,821
IV. Funded Ratio [II. / I.]	55.04%	53.14%
V. Number of Eligible Participants		
A. Actives	156	157
B. Retirees/Disabled & Dependents	<u>92</u>	<u>85</u>
C. Total	248	242
VI. Service Cost	278,003	306,189
VII. Financial Statement Expense	944,571	996,014
VIII. Employer Contribution to the OPEB Trust	(139,284)	(140,437)
IX. Deferred Inflow of Resources	(1,073,015)	(47,670)
X. Deferred Outflow of Resources	2,004,600	1,521,508
XI. Money Weighted Rate of Return	2.66%	3.32%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	0.00%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.10%	6.10%
XIV. Crossover Year	N/A	N/A
XV. Discount Rate	6.25%	6.25%

PRINCIPAL RESULTS OF THE VALUATION

Town of Dover Plan Liabilities as of the June 30, 2020 Measurement Date

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Total
I. Total OPEB Liability					
A. Actives	1,238,996	3,143,182	1,096,047	213,517	5,691,742
B. Retirees/Disabled	<u>1,462,600</u>	<u>2,766,553</u>	<u>425,471</u>	<u>77,212</u>	<u>4,731,836</u>
C. Total	2,701,596	5,909,735	1,521,518	290,729	10,423,578
II. Fiduciary Net Position [Plan Assets]	1,486,926	3,252,649	837,426	160,014	5,737,015
III. Net OPEB Liability (Asset) [I. - II.]	1,214,670	2,657,086	684,092	130,715	4,686,563
IV. Number of Eligible Participants					
A. Actives	40	95	19	2	156
B. Retirees/Disabled	<u>28</u>	<u>53</u>	<u>9</u>	<u>2</u>	<u>92</u>
C. Total	68	148	28	4	248
For the Reporting Date and Fiscal Year Ending June 30, 2020					
V. Service Cost	62,123	161,628	51,234	3,018	278,003
VI. Financial Statement Expense	234,087	539,273	149,827	21,384	944,571
VII. Employer Share of Costs	(103,787)	(233,042)	(38,230)	(8,233)	(383,292)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(35,891)	(78,791)	(20,749)	(3,853)	(139,284)
IX. Total Employer Contribution [VII. + VIII.]	(139,678)	(311,833)	(58,979)	(12,086)	(522,576)

PRINCIPAL RESULTS OF THE VALUATION

Town of Dover

Assuming Funding - 6.25% discount rate

For the Period Ending on the June 30, 2020 Measurement Date

	Actives			Retirees/Disabled			Grand Total
	Under Age 65	Age 65+	Actives Total	Under Age 65	Age 65 +	Retirees Total	
Present Value of Future Benefits							
A. Participants	2,097,784	2,906,609	5,004,393	248,367	4,384,767	4,633,134	9,637,527
B. Spouses	<u>1,121,660</u>	<u>2,043,974</u>	<u>3,165,634</u>	<u>50,248</u>	<u>48,454</u>	<u>98,702</u>	<u>3,264,336</u>
C. Total	3,219,444	4,950,583	8,170,027	298,615	4,433,221	4,731,836	12,901,863
Total OPEB Liability							
A. Participants	1,507,613	1,940,612	3,448,225	248,367	4,384,767	4,633,134	8,081,359
B. Spouses	<u>846,521</u>	<u>1,396,996</u>	<u>2,243,517</u>	<u>50,248</u>	<u>48,454</u>	<u>98,702</u>	<u>2,342,219</u>
C. Total	2,354,134	3,337,608	5,691,742	298,615	4,433,221	4,731,836	10,423,578
Service Cost							
A. Participants	63,534	110,269	173,803	0	0	0	173,803
B. Spouses	<u>30,123</u>	<u>74,077</u>	<u>104,200</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>104,200</u>
C. Total	93,657	184,346	278,003	0	0	0	278,003

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES (As of the June 30, 2020 Measurement Date)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions require the following disclosures in the financial statements:

1. OPEB Expense Development

Components of the Town's OPEB Expenses for the Fiscal Year Ending June 30, 2020	
Description	Amount
I. Service Cost	278,003
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	646,688
III. Deferred (Inflows)/Outflows from Plan Experience*	(101,535)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	406,652
V. Projected Earnings on OPEB Plan Investments	(336,692)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	51,455
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II. + III. + IV. + V. + VI.]	944,571
VIII. Deferred (Inflows)/Outflows from Plan Design Changes***	0
IX. Financial Statement Expense [VII. + VIII.]	944,571

* Amortized over 5.54 years

** Amortized over 5.00 years

*** Recognized Immediately

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

2. Changes in Net OPEB Liability

Changes in Net OPEB Liability			
		Increase (Decrease)	
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
I. Balances for June 30, 2019	10,257,746	5,450,925	4,806,821
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2019 with Adjustment [I. + II.]	10,257,746	5,450,925	4,806,821
Changes for the year:			
IV. Service Cost	278,003	0	278,003
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	646,688	0	646,688
VI. Changes in Benefit Terms *	0	0	0
VII. Change in Assumptions **	895,014	0	895,014
VIII. Differences Between Actual and Expected Experience **	(1,270,581)	0	(1,270,581)
IX. Net Investment Income	0	146,806	(146,806)
X. Employer Contributions to Trust	0	522,576	(522,576)
XI. Benefit Payments Withdrawn from Trust	0	(383,292)	383,292
XII. Benefit Payments Excluding Implicit Cost	(294,287)	0	(294,287)
XIII. Implicit Cost Amount	(89,005)	0	(89,005)
XIV. Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(383,292)	0	(383,292)
XV. Administrative Expense	0	0	0
XVI. Other Charges	0	0	0
XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]	165,832	286,090	(120,258)
XVIII. Balances at June 30, 2020 [III.+XVII.]	10,423,578	5,737,015	4,686,563

* Recognized Immediately

** Amortized over 5.54 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Differences Between Expected & Actual Experience									
Fiscal	Differences Between Actual & Expected Experience	Recognition Period (Years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	720,852	5.64	337,419	127,811	127,811	127,811	81,797		
2019	0	5.64	0	0	0	0	0	0	
2020	(1,270,581)	5.54	(1,041,235)	(229,346)	(229,346)	(229,346)	(229,346)	(229,346)	(123,851)
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(703,816)						
Net increase (decrease) in OPEB Expense				(101,535)	(101,535)	(101,535)	(147,549)	(229,346)	(123,851)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of the Effects of Changes in Assumptions									
Fiscal	Differences from Changes in Actuarial Assumptions	Recognition Period (years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	1,119,261	5.64	523,908	198,451	198,451	198,451	127,006		
2019	263,092	5.64	169,798	46,647	46,647	46,647	46,647	29,857	
2020	895,014	5.54	733,460	161,554	161,554	161,554	161,554	161,554	87,244
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			1,427,166						
Net increase (decrease) in OPEB Expense				406,652	406,652	406,652	335,207	191,411	87,244

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Deferred (Inflows)/Outflows in OPEB Expense Arising from the Recognition of Differences Between Projected & Actual Earnings on OPEB Plan Investments									
Fiscal	Differences Between Actual & Expected Earnings	Recognition Period (years)	Remaining Balance	2020	2021	2022	2023	2024	2025
2017									
2018	(79,450)	5.00	(31,780)	(15,890)	(15,890)	(15,890)			
2019	146,842	5.00	88,106	29,368	29,368	29,368	29,370		
2020	189,886	5.00	151,909	37,977	37,977	37,977	37,977	37,978	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			208,235						
Net increase (decrease) in OPEB Expense				51,455	51,455	51,455	67,347	37,978	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Statement of Outflows & Inflows Arising from Current & Prior Reporting Periods for the Measurement Period Ending on June 30, 2020 to be Reported for the Fiscal Year Ending June 30, 2020			
	Deferred Outflows of Resources	Deferred Inflows of Resources	Total
I. Contributions made subsequent to the Measurement Date	0	0	0
II. Differences Between Actual & Expected Experience	337,419	(1,041,235)	(703,816)
III. Changes of Assumptions	1,427,166	0	1,427,166
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>240,015</u>	<u>(31,780)</u>	<u>208,235</u>
V. Total [I.+II.+III.+IV.]	2,004,600	(1,073,015)	931,585

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

3. Changes in Net OPEB Expense (Continued)

Annual Amortization of Deferred (Inflows)/Outflows

The balance of deferred (inflows)/outflows as of June 30, 2020 will be recognized in future years as shown below.

Year ending June 30:

2021	356,572
2022	356,572
2023	255,005
2024	43
2025	(36,607)
Thereafter	0

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 6.25% as of June 30, 2020 and 6.25% as of June 30, 2019. The projection of cash flows used to determine the discount rate assumed that contributions will be made in accordance with the Town's funding policy. Based on these assumptions, the OPEB Plan's Fiduciary Net Position is projected to be sufficient to make all projected benefit payments to current plan members. Therefore, the long-term expected rate of return on the OPEB Plan assets was applied to all projected future benefits payments.

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

5. Funding Policy

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the period ending on the June 30, 2020 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$383,292. The Town also contributed \$139,284 to an OPEB Trust for a total contribution during the measurement period of \$522,576 to be reported on the financial statement for the fiscal year ending June 30, 2020.

6. Investment Policy

The chart below shows how the long-term rate of return on assets is developed based on the Town's Investment Policy.

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return*
Domestic Equity - Large Cap	30.25%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	12.50%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	12.25%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	4.50%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	9.75%	Domestic Fixed Income	2.05%
International Fixed Income	9.25%	International Fixed Income	3.00%
Alternatives	3.00%	Alternatives	6.50%
Real Estate	1.75%	Real Estate	6.25%
Cash & Cash Equivalents	16.75%	Cash & Cash Equivalents	0.00%
Total	100.00%		
		I. Real Rate of Return**	3.85%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	6.35%
		IV. Investment Expense	0.25%
		V. Net Investment Return* [III.-IV.]	6.10%

* Based on 2019 Horizon Survey of Capital Market Assumptions

** Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

7. Schedule of The Town's Contributions

For the Fiscal Year Ending	Actuarial Determined Contribution	Contributions in Relation to the Actuarially Determined Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
June 30, 2020	607,067	(522,576)	84,491	12,789,381	4.09%
June 30, 2019	643,697	(500,817)	142,880	11,065,403	4.53%
June 30, 2018	565,561	(470,440)	95,121	10,743,109	4.38%
June 30, 2017	447,438	(447,438)	0	10,430,203	4.29%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

8. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	9,163,532	10,423,578	11,964,772
II. Fiduciary Net Position	<u>5,737,015</u>	<u>5,737,015</u>	<u>5,737,015</u>
III. Net OPEB Liability (Asset) [I.-II.]	3,426,517	4,686,563	6,227,757
IV. Service Cost	218,662	278,003	359,594

9. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2020 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	11,795,183	10,423,578	9,254,709
II. Fiduciary Net Position	<u>5,737,015</u>	<u>5,737,015</u>	<u>5,737,015</u>
III. Net OPEB Liability (Asset) [I.-II.]	6,058,168	4,686,563	3,517,694
IV. Service Cost	357,108	278,003	215,236

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2020 Measurement Date)

10. Money Weighted Rate of Return

	Plan Investments / Net External Cash Flows	Periods Invested	Period Weight
I. Beginning value - June 30, 2019	5,450,925	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	139,284	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>0</u>	<u>0</u>	<u>0.0000</u>
II. Total net external cash flow	139,284		
III. Earnings and increase in fair value	146,806		
IV. Ending value - June 30, 2020 [I.+II.+III.]	5,737,015		
Money Weighted Rate of Return	2.66%		
Asset Value - June 30, 2020	5,737,015		

EXHIBIT A
FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2020 Measurement Date)

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2020				
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2020	2,701,596	5,909,735	1,521,518	290,729	10,423,578
II. Fiduciary Net Position as of June 30, 2020	1,486,926	3,252,649	837,426	160,014	5,737,015
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	1,214,670	2,657,086	684,092	130,715	4,686,563
IV. Service Cost	62,123	161,628	51,234	3,018	278,003
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	166,803	366,367	95,708	17,810	646,688
VI. Projected Earnings on OPEB Plan Investments	(87,257)	(190,883)	(49,163)	(9,389)	(336,692)
VII. Net Recognition of Deferred (Inflows)/Outflows	92,418	202,161	52,048	9,945	356,572
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	234,087	539,273	149,827	21,384	944,571
X. Employer Share of Costs	(103,787)	(233,042)	(38,230)	(8,233)	(383,292)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(35,891)	(78,791)	(20,749)	(3,853)	(139,284)
XII. Total Employer Contribution [X. + XI.]	(139,678)	(311,833)	(58,979)	(12,086)	(522,576)
XIII. Net OPEB Expense [IX. + XII.]	94,409	227,440	90,848	9,298	421,995

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2020 Measurement Date)

12. OPEB Liability, OPEB Expense and Deferred Inflow/Outflow

Valuation Date	July 1, 2019
For the Measurement Period ending on the Measurement Date of:	June 30, 2020
For the Reporting Period & Fiscal Year ending on:	June 30, 2020
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(703,816)
II. Deferred (Inflow)/Outflow from Investment Experience	208,235
III. Deferred (Inflow)/Outflow from Changes in Assumptions	1,427,166
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	1,521,508
II. Deferred Outflow created during the period	1,084,900
III. Deferred Outflow recognized during the period	601,808
IV. Change in Deferred Outflow (II. - III.)	483,092
V. Deferred Outflow at end of the period (I. + IV.)	2,004,600
VI. Deferred Inflow at the beginning of the period	(47,670)
VII. Deferred Inflow created during the period	(1,270,581)
VIII. Deferred Inflow recognized during the period	(245,236)
IX. Change in Deferred Inflow (VII. - VIII.)	(1,025,345)
X. Deferred Inflow at end of the period (VI. + IX.)	(1,073,015)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	4,806,821
II. Service Cost	278,003
III. Interest on Total OPEB Liability, Service Cost, and Payments	646,688
IV. Projected Investment Income	(336,692)
V. Total Employer Contributions	(522,576)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	65,423
VIII. Deferred Outflow created during the period	1,084,900
IX. Deferred Inflow created during the period	(1,270,581)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	4,686,563
Net OPEB Expense	
I. Service Cost	278,003
II. Interest on Total OPEB Liability, Service Cost, and Payments	646,688
III. Projected Investment Income	(336,692)
IV. Recognition of Deferred (Inflow)/Outflow	356,572
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	944,571
VII. Benefit Payments	(383,292)
VIII. Contributions to Trust	(139,284)
IX. Total Employer Payments (VII. + VIII.)	(522,576)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	421,995

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION (As of the June 30, 2020 Measurement Date)

The Town's Actuarially Determined Contribution (ADC) is an amount actuarially determined in accordance with the parameters of GASB Statement No. 74/75 which is composed of the service cost and an amortization of the unfunded liability. We have used a 30 year flat dollar amortization of the Town's unfunded liability for the purpose of calculating ADC. The following table shows the components of the Town's annual ADC and the amount actually contributed to the plan:

Actuarially Determined Contribution - Deficiency / (Excess)				
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	For the Fiscal Year Ending:	
			<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	278,003	306,189	257,232	251,253
II. 30 Year Level Dollar Amortization of NOL	<u>329,064</u>	<u>337,508</u>	<u>308,329</u>	<u>196,185</u>
III. Actuarial Determined Contribution [I. + II.]	607,067	643,697	565,561	447,438
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(522,576)</u>	<u>(500,817)</u>	<u>(470,440)</u>	<u>(447,438)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>84,491</u>	<u>142,880</u>	<u>95,121</u>	<u>0</u>
Covered Employee Payroll	12,789,381	11,065,403	10,743,109	10,430,203
Contributions as a % of Covered Employee Payroll	4.09%	4.53%	4.38%	4.29%
Discount Rate	6.25%	6.25%	6.50%	6.50%
Money Weighted Rate of Return	2.66%	3.32%	8.19%	N/A

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION (As of the June 30, 2020 Measurement Date)

Valuation Date For the Reporting Period & Fiscal Year Ending on:	Schedule of Changes in the Town's Net OPEB Liability and Related Ratios			
	July 1, 2019 June 30, 2020	July 1, 2017 June 30, 2019	July 1, 2017 June 30, 2018	June 30, 2015 June 30, 2017
Total OPEB Liability	10,423,578	10,257,746	9,427,672	7,187,010
I. Service Cost	278,003	306,189	257,232	251,253
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	646,688	621,173	473,320	446,235
III. Changes in Benefit Terms	0	0	0	0
IV. Difference Between Expected & Actual Plan Experience	(1,270,581)	0	720,852	0
V. Changes of Assumptions	895,014	263,092	1,119,261	0
VI. Benefit Payments Excluding Implicit Cost	(294,287)	(315,931)	(288,056)	N/A
VII. Implicit Cost Amount	(89,005)	(44,449)	(41,947)	N/A
VIII. Total Benefit Payments Including Implicit Cost [VI.+VII.]	(383,292)	(360,380)	(330,003)	(244,908)
IX. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.]	165,832	830,074	2,240,662	452,580
X. Total OPEB Liability - Beginning of Period	10,257,746	9,427,672	7,187,010	6,734,430
XI. Prior Period Adjustment	0	0	0	0
XII. Total OPEB Liability - Beginning of Period with Adjustment	10,257,746	9,427,672	7,187,010	6,734,430
XIII. Total OPEB Liability - End of Period [IX.+XII.]	10,423,578	10,257,746	9,427,672	7,187,010
Plan Fiduciary Net Position	5,737,015	5,450,925	5,139,595	4,615,666
XIV. Earning from Plan Investments	146,806	170,893	383,492	432,438
XV. Employer Contribution to Trust	522,576	500,817	470,440	422,146
XVI. Benefit Payments from Trust, Including Refunds of Member Contributions	(383,292)	(360,380)	(330,003)	(244,908)
XVII. Administrative Expense	0	0	0	0
XVIII. Other	0	0	0	0
XIX. Net Change in Plan Fiduciary Net Position [14.+XV.+XVI.+XVII.+XVIII.]	286,090	311,330	523,929	609,676
XX. Plan Fiduciary Net Position - Beginning of Period	5,450,925	5,139,595	4,615,666	4,005,990
XXI. Prior Period Adjustment	0	0	0	0
XXII. Plan Fiduciary Net Position - Beginning of Period with Adjustment	5,450,925	5,139,595	4,615,666	4,005,990
XXIII. Plan Fiduciary Net Position - End of Period [XIX.+XXII.]	5,737,015	5,450,925	5,139,595	4,615,666
XXIV. Net OPEB Liability [XIII.-XXIII.]	4,686,563	4,806,821	4,288,077	2,571,344
XXV. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIII. / XIII.]	55.04%	53.14%	54.52%	64.22%
XXVI. Covered Employee Payroll	12,789,381	11,065,403	10,743,109	10,430,203
XXVII. Plan NOL as % of Covered Employee Payroll [XXIV. / XXVI.]	36.64%	43.44%	39.91%	24.65%
Single Discount Rate to calculate Plan Liabilities	6.25%	6.25%	6.50%	6.50%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Notes to Required Supplementary Information:

Valuation Date:	Actuarially Determined Contribution was calculated as of July 1, 2019.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, June 30, 2020.

Actuarial Assumptions:

Investment Rate of Return:	6.10%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	6.25%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% as of June 30, 2020 and for future periods
Salary Increases:	3.00% annually as of June 30, 2020 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Pre-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females
Post-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
Disabled Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Plan Membership

At July 1, 2019, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	92
Active Employees:	<u>156</u>
Total:	248

Events Subsequent to the Measurement Date

To the best of our knowledge there were no material events subsequent to the Measurement Date that would impact the figures shown in this report.

Changes in Assumptions: From June 30, 2019 to June 30, 2020

- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females
- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ Based on recommendations by PERAC, retirement and withdrawal assumptions have been updated
- ✓ Based on recommendations by PERAC, retirement and withdrawal assumptions have been updated
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$139,284 beyond the pay-as-you-go cost for the period ending on the June 30, 2020 Measurement Date. For the year ending on the June 30, 2020 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$383,292. \$89,005 of the \$383,292 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 6.25% discount rate

For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with an expected 6.10% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Benefit Payments (With Implicit Cost)	VII. Trust Contributions Beyond Pay-as-you-go	VIII. Gross Trust Contributions [VI. + VII.]	IX. Benefit Payments Reimbursed from the Trust	X. Administrative & Investment Expenses Reimbursed from the Trust	XI. Total Employer Payments Less Reimbursements [VIII. - IX. - X.]
2020	June 30, 2020	10,423,578	5,737,015	4,686,563	55.04%	278,003	383,292	139,284	522,576	383,292	0	139,284
2021	June 30, 2021	10,941,665	6,286,004	4,655,661	57.45%	297,258	435,811	193,225	629,036	435,811	0	193,225
2022	June 30, 2022	11,397,111	6,801,607	4,595,504	59.68%	313,985	499,642	128,301	627,943	499,642	0	128,301
2023	June 30, 2023	11,868,188	7,311,635	4,556,553	61.61%	327,223	557,539	92,355	649,894	557,539	0	92,355
2024	June 30, 2024	12,335,279	7,816,320	4,518,959	63.37%	341,651	604,623	56,964	661,587	604,623	0	56,964
2025	June 30, 2025	12,803,614	8,316,004	4,487,610	64.95%	354,198	649,273	22,221	671,494	649,273	0	22,221
2026	June 30, 2026	13,288,019	8,833,204	4,454,815	66.47%	367,389	672,850	9,634	682,484	672,850	0	9,634
2027	June 30, 2027	13,780,690	9,372,029	4,408,661	68.01%	384,202	714,966	0	714,966	714,966	0	0
2028	June 30, 2028	14,294,382	9,943,723	4,350,659	69.56%	396,782	733,948	0	733,948	733,948	0	0
2029	June 30, 2029	14,817,791	10,550,290	4,267,501	71.20%	410,512	778,470	0	778,470	778,470	0	0
2030	June 30, 2030	15,387,552	11,193,858	4,193,694	72.75%	426,375	761,288	0	761,288	761,288	0	0
2031	June 30, 2031	15,973,884	11,876,683	4,097,201	74.35%	441,437	790,603	0	790,603	790,603	0	0
2032	June 30, 2032	16,619,788	12,601,161	4,018,627	75.82%	457,681	835,398	0	835,398	835,398	0	0
2033	June 30, 2033	17,269,756	13,369,832	3,898,924	77.42%	474,204	854,338	0	854,338	854,338	0	0
2034	June 30, 2034	17,946,751	14,185,392	3,761,359	79.04%	491,591	872,547	0	872,547	872,547	0	0
2035	June 30, 2035	18,664,663	15,050,701	3,613,962	80.64%	509,308	918,936	0	918,936	918,936	0	0
2036	June 30, 2036	19,380,944	15,968,794	3,412,150	82.39%	527,768	952,965	0	952,965	952,965	0	0
2037	June 30, 2037	20,151,331	16,942,890	3,208,441	84.08%	547,065	966,888	0	966,888	966,888	0	0
2038	June 30, 2038	20,972,656	17,976,406	2,996,250	85.71%	567,728	1,004,420	0	1,004,420	1,004,420	0	0
2039	June 30, 2039	21,821,457	19,072,967	2,748,490	87.40%	588,722	1,014,436	0	1,014,436	1,014,436	0	0
2040	June 30, 2040	22,720,869	20,236,418	2,484,451	89.07%	611,198	1,043,569	0	1,043,569	1,043,569	0	0
2041	June 30, 2041	23,635,945	21,470,839	2,165,106	90.84%	634,737	1,061,864	0	1,061,864	1,061,864	0	0
2042	June 30, 2042	24,624,266	22,780,560	1,843,706	92.51%	660,574	1,084,380	0	1,084,380	1,084,380	0	0
2043	June 30, 2043	25,656,119	24,170,174	1,485,945	94.21%	688,193	1,135,851	0	1,135,851	1,135,851	0	0
2044	June 30, 2044	26,744,820	25,644,555	1,100,265	95.89%	717,818	1,163,799	0	1,163,799	1,163,799	0	0
2045	June 30, 2045	27,949,464	27,208,873	740,591	97.35%	749,343	1,215,776	0	1,215,776	1,215,776	0	0
2046	June 30, 2046	29,204,907	28,868,614	336,293	98.85%	783,301	1,252,649	0	1,252,649	1,252,649	0	0
2047	June 30, 2047	30,472,024	30,629,599	(157,575)	100.52%	818,937	1,309,627	0	1,309,627	1,309,627	0	0
2048	June 30, 2048	31,806,980	31,962,091	(155,111)	100.49%	856,886	1,377,166	(520,280)	856,886	1,377,166	0	(520,280)
2049	June 30, 2049	33,193,263	33,386,770	(193,507)	100.58%	896,580	1,406,273	(509,693)	896,580	1,406,273	0	(509,693)
2050	June 30, 2050	34,597,787	34,934,000	(336,213)	100.97%	938,974	1,414,061	(475,087)	938,974	1,414,061	0	(475,087)
2051	June 30, 2051	36,092,694	36,551,243	(458,549)	101.27%	982,046	1,480,790	(498,744)	982,046	1,480,790	0	(498,744)

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2020	12,789,381	0	12,789,381	0	383,292	0	383,292
June 30, 2021	11,724,482	1,448,580	13,173,062	0	435,811	0	435,811
June 30, 2022	10,925,470	2,642,784	13,568,254	0	499,642	0	499,642
June 30, 2023	10,153,847	3,821,455	13,975,302	0	557,539	0	557,539
June 30, 2024	9,443,895	4,950,666	14,394,561	0	604,623	0	604,623
June 30, 2025	8,832,737	5,993,661	14,826,398	0	649,273	0	649,273
June 30, 2026	8,228,264	7,042,926	15,271,190	0	672,850	0	672,850
June 30, 2027	7,720,202	8,009,124	15,729,326	0	714,966	0	714,966
June 30, 2028	7,243,698	8,957,508	16,201,206	0	733,948	0	733,948
June 30, 2029	6,749,056	9,938,186	16,687,242	0	778,470	0	778,470
June 30, 2030	6,360,259	10,827,600	17,187,859	0	761,288	0	761,288
June 30, 2031	5,981,610	11,721,885	17,703,495	0	785,454	5,149	790,603
June 30, 2032	5,657,657	12,576,943	18,234,600	0	823,103	12,295	835,398
June 30, 2033	5,367,629	13,414,009	18,781,638	0	832,298	22,040	854,338
June 30, 2034	5,145,044	14,200,043	19,345,087	0	836,785	35,762	872,547
June 30, 2035	4,922,691	15,002,749	19,925,440	0	866,505	52,431	918,936
June 30, 2036	4,711,160	15,812,043	20,523,203	0	889,283	63,682	952,965
June 30, 2037	4,534,243	16,604,656	21,138,899	0	888,967	77,921	966,888
June 30, 2038	4,385,529	17,387,537	21,773,066	0	910,860	93,560	1,004,420
June 30, 2039	4,239,157	18,187,101	22,426,258	0	909,808	104,628	1,014,436
June 30, 2040	4,096,182	19,002,864	23,099,046	0	926,055	117,514	1,043,569
June 30, 2041	3,916,117	19,875,900	23,792,017	0	924,328	137,536	1,061,864
June 30, 2042	3,769,737	20,736,041	24,505,778	0	921,269	163,111	1,084,380
June 30, 2043	3,624,046	21,616,905	25,240,951	0	940,113	195,738	1,135,851
June 30, 2044	3,482,383	22,515,797	25,998,180	0	927,242	236,557	1,163,799
June 30, 2045	3,304,901	23,473,224	26,778,125	0	931,628	284,148	1,215,776
June 30, 2046	3,152,724	24,428,745	27,581,469	0	931,925	320,724	1,252,649
June 30, 2047	3,005,629	25,403,284	28,408,913	0	946,209	363,418	1,309,627
June 30, 2048	2,852,123	26,409,057	29,261,180	0	966,919	410,247	1,377,166
June 30, 2049	2,681,634	27,457,381	30,139,015	0	959,428	446,845	1,406,273
June 30, 2050	2,487,784	28,555,401	31,043,185	0	926,194	487,867	1,414,061
June 30, 2051	2,337,666	29,636,815	31,974,481	0	943,209	537,581	1,480,790
June 30, 2052	2,155,301	30,778,414	32,933,715	0	937,874	592,458	1,530,332
June 30, 2053	1,976,001	31,945,725	33,921,726	0	930,859	655,788	1,586,647
June 30, 2054	1,741,947	33,197,431	34,939,378	0	935,229	726,273	1,661,502
June 30, 2055	1,552,672	34,434,887	35,987,559	0	911,612	803,851	1,715,463
June 30, 2056	1,342,046	35,725,140	37,067,186	0	910,705	874,857	1,785,562
June 30, 2057	1,111,771	37,067,431	38,179,202	0	884,027	951,956	1,835,983
June 30, 2058	840,320	38,484,258	39,324,578	0	881,404	1,034,195	1,915,599
June 30, 2059	643,347	39,860,968	40,504,315	0	857,353	1,114,258	1,971,611

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Projection of Contributions using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total Payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
June 30, 2060	481,553	41,237,891	41,719,444	0	858,549	1,199,165	2,057,714
June 30, 2061	353,062	42,617,965	42,971,027	0	823,270	1,293,362	2,116,632
June 30, 2062	214,380	44,045,778	44,260,158	0	806,101	1,395,283	2,201,384
June 30, 2063	133,118	45,454,845	45,587,963	0	791,698	1,508,130	2,299,828
June 30, 2064	80,764	46,874,838	46,955,602	0	786,598	1,631,969	2,418,567
June 30, 2065	58,158	48,306,112	48,364,270	0	777,448	1,766,023	2,543,471
June 30, 2066	26,741	49,788,457	49,815,198	0	763,141	1,898,358	2,661,499
June 30, 2067	7,956	51,301,698	51,309,654	0	754,061	2,040,238	2,794,299
June 30, 2068	0	52,848,944	52,848,944	0	742,288	2,190,742	2,933,030
June 30, 2069	0	54,434,412	54,434,412	0	728,149	2,336,819	3,064,968
June 30, 2070	0	56,067,444	56,067,444	0	713,524	2,490,409	3,203,933
June 30, 2071	0	57,749,467	57,749,467	0	698,355	2,651,704	3,350,059
June 30, 2072	0	59,481,951	59,481,951	0	682,554	2,818,371	3,500,925
June 30, 2073	0	61,266,410	61,266,410	0	666,023	2,993,799	3,659,822
June 30, 2074	0	63,104,402	63,104,402	0	648,661	3,176,779	3,825,440
June 30, 2075	0	64,997,534	64,997,534	0	630,382	3,367,787	3,998,169
June 30, 2076	0	66,947,460	66,947,460	0	611,097	3,570,229	4,181,326
June 30, 2077	0	68,955,884	68,955,884	0	590,767	3,780,340	4,371,107
June 30, 2078	0	71,024,561	71,024,561	0	569,326	4,000,458	4,569,784
June 30, 2079	0	73,155,298	73,155,298	0	546,752	4,231,190	4,777,942
June 30, 2080	0	75,349,957	75,349,957	0	523,074	4,470,092	4,993,166
June 30, 2081	0	77,610,456	77,610,456	0	498,292	4,717,693	5,215,985
June 30, 2082	0	79,938,770	79,938,770	0	472,473	4,974,867	5,447,340
June 30, 2083	0	82,336,933	82,336,933	0	445,693	5,242,094	5,687,787
June 30, 2084	0	84,807,041	84,807,041	0	418,084	5,522,125	5,940,209
June 30, 2085	0	87,351,252	87,351,252	0	389,817	5,814,865	6,204,682
June 30, 2086	0	89,971,790	89,971,790	0	361,103	6,121,715	6,482,818
June 30, 2087	0	92,670,944	92,670,944	0	332,142	6,442,402	6,774,544
June 30, 2088	0	95,451,072	95,451,072	0	303,173	6,779,071	7,082,244
June 30, 2089	0	98,314,604	98,314,604	0	274,468	7,131,950	7,406,418
June 30, 2090	0	101,264,042	101,264,042	0	246,243	7,499,495	7,745,738
June 30, 2091	0	104,301,963	104,301,963	0	218,828	7,882,490	8,101,318
June 30, 2092	0	107,431,022	107,431,022	0	192,434	8,281,696	8,474,130
June 30, 2093	0	110,653,953	110,653,953	0	167,319	8,697,414	8,864,733
June 30, 2094	0	113,973,572	113,973,572	0	143,697	9,132,582	9,276,279

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date									
For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2020	5,450,925	383,292	139,284	522,576	0	383,292	383,292	146,806	5,737,015
June 30, 2021	5,737,015	435,811	171,977	607,788	0	435,811	435,811	316,642	6,225,634
June 30, 2022	6,225,634	499,642	103,311	602,953	0	499,642	499,642	382,868	6,711,813
June 30, 2023	6,711,813	557,539	67,101	624,640	0	557,539	557,539	411,437	7,190,351
June 30, 2024	7,190,351	604,623	37,373	641,996	0	604,623	604,623	439,734	7,667,458
June 30, 2025	7,667,458	649,273	13,238	662,511	0	649,273	649,273	468,113	8,148,809
June 30, 2026	8,148,809	672,850	5,191	678,041	0	672,850	672,850	497,233	8,651,233
June 30, 2027	8,651,233	714,966	0	714,966	0	714,966	714,966	527,725	9,178,958
June 30, 2028	9,178,958	733,948	0	733,948	0	733,948	733,948	559,916	9,738,874
June 30, 2029	9,738,874	778,470	0	778,470	0	778,470	778,470	594,071	10,332,945
June 30, 2030	10,332,945	761,288	0	761,288	0	761,288	761,288	630,310	10,963,255
June 30, 2031	10,963,255	785,454	0	785,454	0	785,454	785,454	668,759	11,626,865
June 30, 2032	11,626,865	823,103	0	823,103	0	823,103	823,103	709,239	12,323,809
June 30, 2033	12,323,809	832,298	0	832,298	0	832,298	832,298	751,752	13,053,521
June 30, 2034	13,053,521	836,785	0	836,785	0	836,785	836,785	796,265	13,814,024
June 30, 2035	13,814,024	866,505	0	866,505	0	866,505	866,505	842,655	14,604,248
June 30, 2036	14,604,248	889,283	0	889,283	0	889,283	889,283	890,859	15,431,425
June 30, 2037	15,431,425	888,967	0	888,967	0	888,967	888,967	941,317	16,294,821
June 30, 2038	16,294,821	910,860	0	910,860	0	910,860	910,860	993,984	17,195,245
June 30, 2039	17,195,245	909,808	0	909,808	0	909,808	909,808	1,048,910	18,139,527
June 30, 2040	18,139,527	926,055	0	926,055	0	926,055	926,055	1,106,511	19,128,524
June 30, 2041	19,128,524	924,328	0	924,328	0	924,328	924,328	1,166,840	20,157,828
June 30, 2042	20,157,828	921,269	0	921,269	0	921,269	921,269	1,229,628	21,224,345
June 30, 2043	21,224,345	940,113	0	940,113	0	940,113	940,113	1,294,685	22,323,292
June 30, 2044	22,323,292	927,242	0	927,242	0	927,242	927,242	1,361,721	23,448,456
June 30, 2045	23,448,456	931,628	0	931,628	0	931,628	931,628	1,430,356	24,594,664
June 30, 2046	24,594,664	931,925	0	931,925	0	931,925	931,925	1,500,275	25,774,215
June 30, 2047	25,774,215	946,209	0	946,209	0	946,209	946,209	1,572,227	26,983,024
June 30, 2048	26,983,024	966,919	0	966,919	0	966,919	966,919	1,645,964	28,218,741
June 30, 2049	28,218,741	959,428	0	959,428	0	959,428	959,428	1,721,343	29,493,239
June 30, 2050	29,493,239	926,194	0	926,194	0	926,194	926,194	1,799,088	30,804,460
June 30, 2051	30,804,460	943,209	0	943,209	0	943,209	943,209	1,879,072	32,145,951
June 30, 2052	32,145,951	937,874	0	937,874	0	937,874	937,874	1,960,903	33,514,396
June 30, 2053	33,514,396	930,859	0	930,859	0	930,859	930,859	2,044,378	34,902,986
June 30, 2054	34,902,986	935,229	0	935,229	0	935,229	935,229	2,129,082	36,305,795
June 30, 2055	36,305,795	911,612	0	911,612	0	911,612	911,612	2,214,653	37,716,597
June 30, 2056	37,716,597	910,705	0	910,705	0	910,705	910,705	2,300,712	39,142,452
June 30, 2057	39,142,452	884,027	0	884,027	0	884,027	884,027	2,387,690	40,578,186
June 30, 2058	40,578,186	881,404	0	881,404	0	881,404	881,404	2,475,269	42,019,260
June 30, 2059	42,019,260	857,353	0	857,353	0	857,353	857,353	2,563,175	43,468,177

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2019 Valuation Date									
For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Employer Share of Benefit Payments for Current Plan Members	III. Contributions to Trust for Current Plan Members beyond Pay-as-you- go	IV. Gross Contributions to Trust for Current Plan Members [II. + III.]	V. Administrative Expenses Withdrawn from the Trust for Current Plan Members	VI. Benefit Payments Withdrawn from the Trust for Current Plan Members	VII. Trust Withdrawals for Current Plan Members [V. + VI.]	VIII. Investment Earnings	IX. Ending Fiduciary Net Position for Current Plan Members
June 30, 2060	43,468,177	858,549	0	858,549	0	858,549	858,549	2,651,559	42,640,234
June 30, 2061	42,640,234	823,270	0	823,270	0	823,270	823,270	2,601,054	41,838,335
June 30, 2062	41,838,335	806,101	0	806,101	0	806,101	806,101	2,552,138	41,044,596
June 30, 2063	41,044,596	791,698	0	791,698	0	791,698	791,698	2,503,720	40,260,209
June 30, 2064	40,260,209	786,598	0	786,598	0	786,598	786,598	2,455,873	39,477,835
June 30, 2065	39,477,835	777,448	0	777,448	0	777,448	777,448	2,408,148	38,703,282
June 30, 2066	38,703,282	763,141	0	763,141	0	763,141	763,141	2,360,900	37,941,409
June 30, 2067	37,941,409	754,061	0	754,061	0	754,061	754,061	2,314,426	37,187,707
June 30, 2068	37,187,707	742,288	0	742,288	0	742,288	742,288	2,268,450	36,445,419
June 30, 2069	36,445,419	728,149	0	728,149	0	728,149	728,149	2,223,171	35,717,270
June 30, 2070	35,717,270	713,524	0	713,524	0	713,524	713,524	2,178,753	35,003,746
June 30, 2071	35,003,746	698,355	0	698,355	0	698,355	698,355	2,135,228	34,305,391
June 30, 2072	34,305,391	682,554	0	682,554	0	682,554	682,554	2,092,629	33,622,837
June 30, 2073	33,622,837	666,023	0	666,023	0	666,023	666,023	2,050,993	32,956,814
June 30, 2074	32,956,814	648,661	0	648,661	0	648,661	648,661	2,010,366	32,308,153
June 30, 2075	32,308,153	630,382	0	630,382	0	630,382	630,382	1,970,797	31,677,771
June 30, 2076	31,677,771	611,097	0	611,097	0	611,097	611,097	1,932,344	31,066,674
June 30, 2077	31,066,674	590,767	0	590,767	0	590,767	590,767	1,895,067	30,475,907
June 30, 2078	30,475,907	569,326	0	569,326	0	569,326	569,326	1,859,030	29,906,581
June 30, 2079	29,906,581	546,752	0	546,752	0	546,752	546,752	1,824,301	29,359,829
June 30, 2080	29,359,829	523,074	0	523,074	0	523,074	523,074	1,790,950	28,836,755
June 30, 2081	28,836,755	498,292	0	498,292	0	498,292	498,292	1,759,042	28,338,463
June 30, 2082	28,338,463	472,473	0	472,473	0	472,473	472,473	1,728,646	27,865,990
June 30, 2083	27,865,990	445,693	0	445,693	0	445,693	445,693	1,699,825	27,420,297
June 30, 2084	27,420,297	418,084	0	418,084	0	418,084	418,084	1,672,638	27,002,213
June 30, 2085	27,002,213	389,817	0	389,817	0	389,817	389,817	1,647,135	26,612,396
June 30, 2086	26,612,396	361,103	0	361,103	0	361,103	361,103	1,623,356	26,251,293
June 30, 2087	26,251,293	332,142	0	332,142	0	332,142	332,142	1,601,329	25,919,151
June 30, 2088	25,919,151	303,173	0	303,173	0	303,173	303,173	1,581,068	25,615,978
June 30, 2089	25,615,978	274,468	0	274,468	0	274,468	274,468	1,562,575	25,341,510
June 30, 2090	25,341,510	246,243	0	246,243	0	246,243	246,243	1,545,832	25,095,267
June 30, 2091	25,095,267	218,828	0	218,828	0	218,828	218,828	1,530,811	24,876,439
June 30, 2092	24,876,439	192,434	0	192,434	0	192,434	192,434	1,517,463	24,684,005
June 30, 2093	24,684,005	167,319	0	167,319	0	167,319	167,319	1,505,724	24,516,686
June 30, 2094	24,516,686	143,697	0	143,697	0	143,697	143,697	1,495,518	24,372,989

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments	V. Present Value of Funded Benefit Payments	VI. Present Value of Unfunded Benefit Payments	VII. Present Value of Benefit Payments using Single Equivalent Discount Rate
June 30, 2020	5,450,925	383,292	383,292	0	383,292	0	383,292
June 30, 2021	5,737,015	435,811	435,811	0	410,755	0	410,755
June 30, 2022	6,225,634	499,642	499,642	0	443,842	0	443,842
June 30, 2023	6,711,813	557,539	557,539	0	466,798	0	466,798
June 30, 2024	7,190,351	604,623	604,623	0	477,115	0	477,115
June 30, 2025	7,667,458	649,273	649,273	0	482,892	0	482,892
June 30, 2026	8,148,809	672,850	672,850	0	471,657	0	471,657
June 30, 2027	8,651,233	714,966	714,966	0	472,365	0	472,365
June 30, 2028	9,178,958	733,948	733,948	0	457,027	0	457,027
June 30, 2029	9,738,874	778,470	778,470	0	456,881	0	456,881
June 30, 2030	10,332,945	761,288	761,288	0	421,110	0	421,110
June 30, 2031	10,963,255	785,454	785,454	0	409,498	0	409,498
June 30, 2032	11,626,865	823,103	823,103	0	404,454	0	404,454
June 30, 2033	12,323,809	832,298	832,298	0	385,460	0	385,460
June 30, 2034	13,053,521	836,785	836,785	0	365,257	0	365,257
June 30, 2035	13,814,024	866,505	866,505	0	356,484	0	356,484
June 30, 2036	14,604,248	889,283	889,283	0	344,821	0	344,821
June 30, 2037	15,431,425	888,967	888,967	0	324,881	0	324,881
June 30, 2038	16,294,821	910,860	910,860	0	313,743	0	313,743
June 30, 2039	17,195,245	909,808	909,808	0	295,364	0	295,364
June 30, 2040	18,139,527	926,055	926,055	0	283,354	0	283,354
June 30, 2041	19,128,524	924,328	924,328	0	266,565	0	266,565
June 30, 2042	20,157,828	921,269	921,269	0	250,408	0	250,408
June 30, 2043	21,224,345	940,113	940,113	0	240,839	0	240,839
June 30, 2044	22,323,292	927,242	927,242	0	223,884	0	223,884
June 30, 2045	23,448,456	931,628	931,628	0	212,011	0	212,011
June 30, 2046	24,594,664	931,925	931,925	0	199,885	0	199,885
June 30, 2047	25,774,215	946,209	946,209	0	191,281	0	191,281
June 30, 2048	26,983,024	966,919	966,919	0	184,230	0	184,230
June 30, 2049	28,218,741	959,428	959,428	0	172,292	0	172,292
June 30, 2050	29,493,239	926,194	926,194	0	156,762	0	156,762
June 30, 2051	30,804,460	943,209	943,209	0	150,463	0	150,463
June 30, 2052	32,145,951	937,874	937,874	0	141,011	0	141,011
June 30, 2053	33,514,396	930,859	930,859	0	131,910	0	131,910
June 30, 2054	34,902,986	935,229	935,229	0	124,909	0	124,909
June 30, 2055	36,305,795	911,612	911,612	0	114,755	0	114,755
June 30, 2056	37,716,597	910,705	910,705	0	108,050	0	108,050
June 30, 2057	39,142,452	884,027	884,027	0	98,854	0	98,854
June 30, 2058	40,578,186	881,404	881,404	0	92,895	0	92,895
June 30, 2059	42,019,260	857,353	857,353	0	85,165	0	85,165

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a July 1, 2019 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Benefit Payments	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments	V. Present Value of Funded Benefit Payments	VI. Present Value of Unfunded Benefit Payments	VII. Present Value of Benefit Payments using Single Equivalent Discount Rate
June 30, 2060	43,468,177	858,549	858,549	0	80,380	0	80,380
June 30, 2061	42,640,234	823,270	823,270	0	72,646	0	72,646
June 30, 2062	41,838,335	806,101	806,101	0	67,041	0	67,041
June 30, 2063	41,044,596	791,698	791,698	0	62,058	0	62,058
June 30, 2064	40,260,209	786,598	786,598	0	58,113	0	58,113
June 30, 2065	39,477,835	777,448	777,448	0	54,135	0	54,135
June 30, 2066	38,703,282	763,141	763,141	0	50,084	0	50,084
June 30, 2067	37,941,409	754,061	754,061	0	46,643	0	46,643
June 30, 2068	37,187,707	742,288	742,288	0	43,275	0	43,275
June 30, 2069	36,445,419	728,149	728,149	0	40,010	0	40,010
June 30, 2070	35,717,270	713,524	713,524	0	36,952	0	36,952
June 30, 2071	35,003,746	698,355	698,355	0	34,087	0	34,087
June 30, 2072	34,305,391	682,554	682,554	0	31,401	0	31,401
June 30, 2073	33,622,837	666,023	666,023	0	28,878	0	28,878
June 30, 2074	32,956,814	648,661	648,661	0	26,509	0	26,509
June 30, 2075	32,308,153	630,382	630,382	0	24,281	0	24,281
June 30, 2076	31,677,771	611,097	611,097	0	22,184	0	22,184
June 30, 2077	31,066,674	590,767	590,767	0	20,213	0	20,213
June 30, 2078	30,475,907	569,326	569,326	0	18,360	0	18,360
June 30, 2079	29,906,581	546,752	546,752	0	16,618	0	16,618
June 30, 2080	29,359,829	523,074	523,074	0	14,984	0	14,984
June 30, 2081	28,836,755	498,292	498,292	0	13,454	0	13,454
June 30, 2082	28,338,463	472,473	472,473	0	12,023	0	12,023
June 30, 2083	27,865,990	445,693	445,693	0	10,690	0	10,690
June 30, 2084	27,420,297	418,084	418,084	0	9,451	0	9,451
June 30, 2085	27,002,213	389,817	389,817	0	8,305	0	8,305
June 30, 2086	26,612,396	361,103	361,103	0	7,251	0	7,251
June 30, 2087	26,251,293	332,142	332,142	0	6,286	0	6,286
June 30, 2088	25,919,151	303,173	303,173	0	5,408	0	5,408
June 30, 2089	25,615,978	274,468	274,468	0	4,615	0	4,615
June 30, 2090	25,341,510	246,243	246,243	0	3,902	0	3,902
June 30, 2091	25,095,267	218,828	218,828	0	3,268	0	3,268
June 30, 2092	24,876,439	192,434	192,434	0	2,709	0	2,709
June 30, 2093	24,684,005	167,319	167,319	0	2,220	0	2,220
June 30, 2094	24,516,686	143,697	143,697	0	1,797	0	1,797

APPENDIX II – PLAN PROVISIONS

Effective Date

GASB 45 was adopted July 1, 2009

GASB 74 was adopted for the fiscal year ending June 30, 2017

GASB 75 was adopted for the fiscal year ending June 30, 2018

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective January 1, 2020

Non-Medicare Plans: effective July 1, 2019

Dental Plans: N/A

Creditable Service

Elapsed time from date of hire to termination of service date.

Benefits Offered

Comprehensive Medical Insurance and \$2,000 of Group Term Life Insurance.

Medicare Part B

Medicare Part B Premium reimbursements by the Town were not reflected in this valuation.

Medicare Part B Penalty reimbursements by the Town were not reflected in this valuation.

Surviving Spouse Coverage

Spousal benefits do not change after the death of a plan participant.

APPENDIX II – PLAN PROVISIONS

Eligibility

Hire Date	Eligibility
Before April 2, 2012	<ul style="list-style-type: none"> • Age 55 with 10 years of creditable service • 20 years of service regardless of age
On or after April 2, 2012	<ul style="list-style-type: none"> • Age 60 with 10 years of creditable service

Participant Contributions

Group	Individual	Two-Person / Family
Medical	<ul style="list-style-type: none"> • Retirees pay 50% of premiums for all Medical Plans • The town contributes \$1,000 annually for retirees enrolled in high deductible health plans 	<ul style="list-style-type: none"> • Retirees pay 50% of premiums for all Medical Plans • The town contributes \$2,000 annually for retirees enrolled in high deductible health plans
Dental	N/A	N/A
Life	50%	N/A

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONSPre-Retirement Mortality

General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females
Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females

Post-Retirement Mortality

General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

Disabled Mortality

General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year
Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

Assumption Experience Study

The actuarial assumptions used to calculate the actuarial accrued liability and the service cost primarily reflect the latest experience studies of the Massachusetts PERAC issued in 2014 and their most recent analysis of retiree mortality during 2015 and 2016.

Discount Rate

6.25% per annum (previously 6.25%, used in the calculation of the Interest Cost)

Net Long Term Rate of Return

6.10% (based on investment policy)

Municipal Bond Rate

2.66% as of June 30, 2020 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)

Actuarial Cost Method

Individual Entry Age Normal

Asset-Valuation Method

Market Value of Assets as of the Measurement Date, June 30, 2020

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

Non-Public Safety Employees

Service			5-9 Years of Service	5-9 Years of Service	10+ Years of Service	10+ Years of Service
	Male	Female	(Males)	(Females)	(Males)	(Females)
0	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
5	7.60%	7.60%	7.60%	7.60%	7.60%	7.60%
10	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%
15	3.30%	3.30%	3.30%	3.30%	3.30%	3.30%
20	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

Public Safety Employees

Service	Male	Female
0	9.00%	9.00%
5	6.00%	6.00%
10	3.50%	3.50%
15	2.00%	2.00%
20	1.50%	1.50%
25	1.50%	1.50%
30	1.50%	1.50%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Retirement Rates for Eligible Employees

Age	Standard Male	Standard Female	Male Teachers	Female Teachers	Public Safety
45 - 49	0.00%	0.00%	0.00%	0.00%	6.00%
50 - 51	3.00%	3.00%	2.00%	1.50%	6.00%
52	3.00%	3.00%	2.00%	1.50%	6.00%
53	3.00%	3.00%	2.00%	1.50%	7.50%
54	3.00%	3.50%	2.00%	2.00%	15.00%
55	3.50%	5.00%	6.00%	5.00%	25.00%
56	3.50%	5.00%	20.00%	15.00%	15.00%
57	4.00%	5.50%	40.00%	35.00%	15.00%
58	5.00%	6.00%	50.00%	35.00%	15.00%
59	6.00%	6.50%	50.00%	35.00%	15.00%
60	9.00%	7.50%	40.00%	35.00%	20.00%
61	11.00%	10.00%	40.00%	35.00%	20.00%
62	15.00%	15.00%	35.00%	35.00%	20.00%
63	15.00%	15.00%	35.00%	35.00%	20.00%
64	16.00%	15.00%	35.00%	35.00%	30.00%
65	20.00%	20.00%	35.00%	35.00%	50.00%
66	20.00%	20.00%	40.00%	35.00%	25.00%
67	20.00%	20.00%	40.00%	30.00%	25.00%
68	20.00%	20.00%	40.00%	30.00%	25.00%
69	20.00%	20.00%	40.00%	30.00%	25.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%	100.00%	100.00%

Permanent Disability Rates

Age	Standard	Teachers	Public
20	0.01%	0.05%	0.20%
30	0.01%	0.07%	0.21%
40	0.07%	0.21%	0.71%
50	0.13%	0.42%	1.10%
60	0.12%	0.50%	0.80%

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONSTrend Rate

Medicare Supplement Plans: Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Non-Medicare Plans: Initial Trend of 4.50% for 2020 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Dental Plans: N/A

Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

Spouse Participation Rate

It was assumed that 80% of male employees and 70% of female employees who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement.

Spouse Demographics

It was assumed that a male spouse is three years older than a female spouse and same sex spouses were assumed to be the same age. For current retirees, the actual census information was used, if available.

School Demographics

In the absence of census data specifying which participants were teachers it was assumed that two thirds of school participants were teachers. If available, actual census data was used.

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

The implicit subsidy arises because retirees who are not eligible for Medicare are charged the same premium as active employees, even though their actual medical costs are higher on average. Consequently, a portion of the premiums being paid for active employees are being used to “subsidize” the premiums of retirees. Actuarial Standards of Practice and GASB standards require the liability associated with this implicit subsidy to be valued. The chart below shows a breakdown of how implicit cost impacts reported cash flows and liabilities. Actuarial Standard of Practice No. 6 (“ASOP 6”) requires us to recognize this implicit subsidy while the plan sponsor may only pay the premiums billed by an insurance provider.

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2020</u>	<u>June 30, 2019</u>
I. Actuarial Accrued Liability	10,423,578	10,257,746
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>8,447,162</u>	<u>9,287,221</u>
III. Liability from Implicit Subsidy [I. - II.]	1,976,416	970,525

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2020</u>	<u>June 30, 2019</u>
IV. Employer Payments (Including Implicit Subsidy)	383,292	360,380
V. Actual Employer Payments	<u>294,287</u>	<u>315,931</u>
VI. Implicit Subsidy [IV. - V.]	89,005	44,449

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-65 and post-65 per capita costs were developed using fully insured premium rates.

ANNUAL PER CAPITA CLAIMS*

ACTIVE EMPLOYEES			RETIREE - NOT MEDICARE ELIGIBLE			RETIREE - MEDICARE ELIGIBLE		
Age Bracket	Female	Male	Age Bracket	Female	Male	Age Bracket	Female	Male
24 & Under	4,373	2,756	44 & Under	8,595	5,632	65 to 69	4,650	4,650
25 to 29	6,451	2,868	45 to 49	9,440	7,111	70 to 74	4,650	4,650
30 to 34	8,152	3,600	50 to 54	11,105	9,365	75 to 79	4,650	4,650
35 to 39	8,397	4,520	55 to 59	12,838	12,175	80 to 84	4,650	4,650
40 to 44	8,595	5,632	60 to 64	15,277	15,623	85 to 89	4,650	4,650
45 to 49	9,440	7,111	65 to 69	18,313	19,488	90 & Over	4,650	4,650
50 to 54	11,105	9,365	70 to 74	21,596	23,354			
55 to 59	12,838	12,175	75 to 79	25,080	27,583			
60 to 64	15,277	15,623	80 to 84	28,756	31,704			
65 to 69	18,313	19,488	85 to 89	32,825	36,290			
70 & Over	21,596	23,354	90 & Over	32,825	36,290			

*Based on SOA 'Health Care Costs--From Birth to Death' study published in 2013

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Open Group Forecast

For the projection of plan liabilities in future years, it was assumed that the number of active employees will remain constant and those who terminate employment or retire will be replaced with new employees with the demographics below:

Open Group Forecast Population Demographics		
Age	Male	Female
20	8.0%	5.0%
30	7.0%	14.0%
40	20.0%	19.0%
50	10.0%	10.0%
60	<u>3.0%</u>	<u>4.0%</u>
Total	48.0%	52.0%

Additional Comments

The liabilities being reported as of the Measurement Date of June 30, 2020 reflect a closed group and do not reflect any new entrants after the valuation date.

To the best of our knowledge all employees who are eligible on the valuation date are included in the actuarial valuation.

APPENDIX IV – PLAN DEMOGRAPHICS

Active Employees

Valuation Date	July 1, 2019	July 1, 2017
A. Average Age at Hire	34.92	36.14
B. Average Service	<u>10.37</u>	<u>11.03</u>
C. Average Current Age	45.29	47.17

Retired Employees & Spouses

Valuation Date	July 1, 2019	July 1, 2017
A. Under Age 65	7	10
B. Age 65 & Over	<u>85</u>	<u>75</u>
C. Total	92	85

Average Service Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-24	11									11
25-29	17	2								19
30-34	10	3	2							15
35-39	8	3	3	1						15
40-44	4	1	4	5		1				15
45-49	6	1	1	1	1	2				12
50-54	4	5	3	3	1	3	1			20
55-59	3	4	4	5	1	5	3	1		26
60-64	5		2	4	1	1	1	1		15
65-69	2		2		1			1		6
70+				1				1		2
Total	70	19	21	20	5	12	5	4		156

APPENDIX IV - PLAN DEMOGRAPHICS

<u>Plan Offerings</u>	<u>Number of Contracts</u>			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
HPHC PPO	1			1
HPHC EPO Benchmark	20		12	32
Tufts Navigator Benchmark	1			1
Network Blue Benchmark			2	2
Fallon SC Benchmark	7		9	16
Fallon DC Benchmark				0
HPHC EPO HDHP	15		24	39
Tufts Navigator HDHP	4		3	7
Network Blue HDHP	3		3	6
Fallon SC HDHP	4		6	10
Fallon DC HDHP	1		1	2
Tufts Medicare Supplement	14			14
Fallon Medicare Plus Premier				0
Fallon Medicare Plus Premier (Worcester County)				0
Managed Blue for Seniors	1			1
Tufts Medicare Preferred HMO	4			4
HPHC Medicare Enhanced	25			25
BCBS Medex Enhanced	37			37
Total	137	0	60	197

	<u>Per Contract Costs (monthly)</u>		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
HPHC PPO	2,612.00		5,800.00
HPHC EPO Benchmark	969.00		2,524.00
Tufts Navigator Benchmark	1,035.00		2,709.00
Network Blue Benchmark	1,029.00		2,759.00
Fallon SC Benchmark	754.00		2,032.00
Fallon DC Benchmark	702.00		1,890.00
HPHC EPO HDHP	750.00		1,957.00
Tufts Navigator HDHP	801.00		2,098.00
Network Blue HDHP	831.00		2,231.00
Fallon SC HDHP	635.00		1,713.00
Fallon DC HDHP	592.00		1,595.00
Tufts Medicare Supplement	369.00	738.00	
Fallon Medicare Plus Premier	228.00	456.00	
Fallon Medicare Plus Premier (Worcester County)	298.00	596.00	
Managed Blue for Seniors	375.74	751.48	
Tufts Medicare Preferred HMO	327.00	654.00	
HPHC Medicare Enhanced	382.00	764.00	
BCBS Medex Enhanced	405.00	810.00	
Dental Plan	N/A		N/A

APPENDIX V – OVERVIEW OF GASB 74 & 75

Before Statements 74 and 75, GASB statement 45 established the reporting standards for Other Postemployment Benefit (“OPEB”) plans. It was designed to recognize the Other Postemployment Benefits earned by employees throughout their working career vs. when they are paid in retirement – accrual accounting vs. “pay-as-you-go” accounting. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Service Cost”. These amounts are reflected in your financial statement each year so that OPEB benefits for an eligible employee shall be fully charged to the financial statement when that eligible employee terminates employment.

In 2012 GASB issued GASB Statements 67 and 68 to update and standardize the financial reporting of pension liabilities. This increased the transparency of pension liabilities by moving them to the balance sheet and made financial statement disclosures of pension liabilities more comparable between municipal entities. GASB Statements 74 and 75 are designed to have the same effect on OPEB plans.

GASB 74 and 75 require retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 74 only applies in situations where a separate trust is established to prefund these benefits. GASB 75 requires employers to perform periodic actuarial valuations to determine annual accounting costs and to keep a running tally of the extent to which these amounts are over or under funded.

GASB 74 and 75 apply to those benefits provided after retirement, except for pension benefits, such as medical, dental and life insurance. The philosophy behind the accounting standard is that these postemployment benefits are part of the compensation earned by employees in return for their services, and the cost of these benefits should be recognized while employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 74 and 75 extend this practice to all other postemployment benefits.

APPENDIX V – OVERVIEW OF GASB 74 & 75

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

Turnover and retirement rates – How likely is it that an employee will qualify for postemployment benefits and when will they start?

Medical inflation and claims cost assumptions – When an employee starts receiving postemployment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

Mortality assumption – How long is a retiree likely to receive benefits?

Discount rate assumption – What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the Town, the present value is divided into three pieces: the part that is attributed to past years (the "Total OPEB Liability" or "Past Service Liability"), the part that is being earned this year (the "Service Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Service Cost have been calculated, the next step is to determine an actuarially determined contribution. This is an amount that if paid annually would fully prefund the benefits for current active and retired employees. This consists of two pieces:

- ✓ Service Cost – because the benefits earned by active employees each year should be paid for each year
- ✓ Past Service Cost – a catch-up payment to fund the Accrued Liability over a period of time determined by an actuary

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the Town's financial statements as the Net OPEB Liability (NOL). If you decide to fully fund the NOL this will appear in the financial statement as a Net OPEB Asset. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

GLOSSARY

Accrual Accounting – A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

Actuarially Determined Contribution – Amount of funding required annually to fully fund plan benefits. Determined by the actuary using a consistent methodology.

Amortization – Allows the recognition of liability over a fixed period of time.

Cash Basis Accounting – A system of accounting in which revenues are recorded when received and outlays are recorded when payment is made.

Deferred Inflows/Outflows of Resources – Amounts arising from experience gains and losses that have not been recognized into the OPEB Expense but will be recognized in the future.

Discount Rate – The interest rate used to calculate the present value of future cash flows. Under GASB 75, the rate should be the expected long-term rate of return on investments for a plan that is being fully funded, the 20-year municipal bond index for a pay-as-you-go plan, and a blend of the two rates for a plan that is being partially funded.

Entry Age Normal – Under this method, the annual service cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement. The annual service cost for each active member is a level percent of payroll. The total OPEB liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Fiduciary Net Position – The value of cash, investments, other assets and property belonging to an OPEB trust.

GLOSSARY

Government Accounting Standards Board (GASB) – “The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities.”

Implicit Subsidy – The liability that arises because retirees who are not eligible for Medicare are charged the same premium as active employees even though their actual medical costs are higher on average.

Irrevocable Contribution – The transfer of assets to a qualified trust in which assets may only be withdrawn for the purpose of providing retiree other postemployment benefits.

Net OPEB Liability (NOL) – Total OPEB Liability less the Fiduciary Net Position.

Other Postemployment Benefits (OPEB) – Benefits that an employee will begin to receive at the start of retirement. This does not include pension benefits paid to the retired employee.

OPEB Trust – An entity which holds assets for the sole purpose of funding OPEB. All contributions and earnings within this entity must be irrevocable and protected from creditors.

Pay-as-you-go funding – Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

Service Cost – The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Service cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

Total OPEB Liability (TOL) – That portion, as determined by the Individual Entry Age Normal Actuarial Cost Method, of the Actuarial Present Value of benefits and expenses which are not provided for by future Service Costs.