

Town of Stow 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 January 5, 2021



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January 5, 2021

Personal and Confidential

Ms. Julie Costello
Town Accountant
Town of Stow
380 Great Road
Stow, MA 01775

Dear Ms. Costello:

We have performed an actuarial valuation of the Town of Stow 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 Stow, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal years ending June 30, 2019 and June 30, 2020 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', written over a light blue horizontal line.

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

January 5, 2021

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Stow 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', with a long horizontal flourish extending to the right.

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

EXECUTIVE SUMMARY

How did plan liabilities change from FY 19 to FY 20?

Plan Experience

For the year ending on the Measurement Date of June 30, 2020, the Plan saw an experience gain of \$1,083,445 or 10.41% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for Medicare Supplement plans increasing less than expected.

Assumption Changes

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 5.50% to 6.50% decreasing the disclosed liability by \$930 thousand.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$250 thousand.
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Mortality Table projected 18 years to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females increasing the disclosed liability by \$400 thousand.
- ✓ The percentage of employees assumed to elect coverage in retirement has been updated decreasing the disclosed liability by \$1.5 million.
- ✓ Assumption changes caused Service Cost to decrease by \$110 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.

Investment Experience

- ✓ During the period there was an investment loss of \$14,068 due to asset performance below the expected rate of return.

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 5.00 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 \$589,985 of OPEB assets as of June 30, 2020.
- ✓ Funding Policy - The Town is expected to contribute \$235,000 in Fiscal 2021. For Fiscal 2022 and beyond, we have assumed that the Town will contribute an amount each year equal to the average of their Fiscal 2018-2021 annual contributions to the Trust, which was \$155,000.
- ✓ Investment Policy - The Town is expected to earn 6.54% 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 66.00% 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 (6.50%) – 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. While the Town currently has no retirees or covered spouses who are over the age of 65 and enrolled in an Active medical plan, it is something you’ll want to monitor to avoid larger OPEB costs than they otherwise would be. If you are in this situation, we encourage you to talk to your healthcare consultant to see if this might be viable.

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, 2018
Measurement Date & Period Ending	June 30, 2020	June 30, 2019
Reporting Date/Fiscal Year End	June 30, 2020	June 30, 2019
Total OPEB Liability	7,409,078	10,405,763
Per Eligible Active Plan Participant	57,430	N/A
Per Retiree/Spouse Plan Participant	71,334	N/A
Total Annual Service Cost (Annual Benefit Accrual)	149,043	226,496
Per Eligible Active Plan Participant	2,866	4,194
Expected Employer Share of Retiree Costs	370,619	258,000
Per Retiree/Spouse Plan Participant	5,978	N/A
Net OPEB Liability as a % of Covered Payroll	127.30%	N/A

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	62	7,409,078	7,409,078	370,619	370,619
June 30, 2025	67	8,564,632	7,387,927	468,612	404,229
June 30, 2030	66	9,803,599	7,294,798	539,446	401,398
June 30, 2035	61	11,354,256	7,287,865	593,758	381,111
June 30, 2040	57	13,421,400	7,431,104	633,130	350,549
June 30, 2045	54	15,962,802	7,623,923	766,808	366,232
June 30, 2050	51	18,945,790	7,805,415	891,936	367,466

PRINCIPAL RESULTS OF THE VALUATION

Town of Stow
Assuming Funding - 6.50% discount rate
Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2019	July 1, 2018
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	2,986,356	N/A
B. Retirees/Disabled	<u>4,422,722</u>	<u>N/A</u>
C. Total	7,409,078	10,405,763
II. Fiduciary Net Position [Plan Assets]	589,985	339,300
III. Net OPEB Liability (Asset) [I. - II.]	6,819,093	10,066,463
IV. Funded Ratio [III. / I.]	7.96%	3.26%
V. Number of Eligible Participants		
A. Actives	52	54
B. Retirees/Disabled & Dependents	<u>62</u>	<u>45*</u>
C. Total	114	99
VI. Service Cost	149,043	226,496
VII. Financial Statement Expense	23,449	67,464
VIII. Employer Contribution to the OPEB Trust	(235,000)	(100,000)
IX. Deferred Inflow of Resources	(2,676,454)	0
X. Deferred Outflow of Resources	11,254	0
XI. Money Weighted Rate of Return	3.05%	N/A
XII. 20-year Municipal Bond Rate (SAPIHG)	2.66%	3.50%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.54%	N/A
XIV. Crossover Year	N/A	N/A
XV. Discount Rate	6.50%	5.50%

* Excludes Spouses of Current Retirees

PRINCIPAL RESULTS OF THE VALUATION

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

	Town Employees and Retirees	School Retirees	Public Safety Employees and Retirees	Total
I. Total OPEB Liability				
A. Actives	955,535	0	2,030,821	2,986,356
B. Retirees/Disabled	<u>2,754,484</u>	<u>290,608</u>	<u>1,377,630</u>	<u>4,422,722</u>
C. Total	3,710,019	290,608	3,408,451	7,409,078
II. Fiduciary Net Position [Plan Assets]	295,429	23,141	271,415	589,985
III. Net OPEB Liability (Asset) [I. - II.]	3,414,590	267,467	3,137,036	6,819,093
IV. Number of Eligible Participants				
A. Actives	27	0	25	52
B. Retirees/Disabled	<u>37</u>	<u>9</u>	<u>16</u>	<u>62</u>
C. Total	64	9	41	114
For the Reporting Date and Fiscal Year Ending June 30, 2020				
V. Service Cost	65,600	0	83,443	149,043
VI. Financial Statement Expense	821	(6,105)	28,733	23,449
VII. Employer Share of Costs	(215,248)	(32,651)	(122,720)	(370,619)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(116,386)	(8,419)	(110,195)	(235,000)
IX. Total Employer Contribution [VII. + VIII.]	(331,634)	(41,070)	(232,915)	(605,619)

PRINCIPAL RESULTS OF THE VALUATION

Town of Stow

Assuming Funding - 6.50% 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	882,405	1,431,847	2,314,252	883,700	2,235,845	3,119,545	5,433,797
B. Spouses	<u>775,565</u>	<u>1,204,064</u>	<u>1,979,629</u>	<u>501,659</u>	<u>801,518</u>	<u>1,303,177</u>	<u>3,282,806</u>
C. Total	1,657,970	2,635,911	4,293,881	1,385,359	3,037,363	4,422,722	8,716,603
Total OPEB Liability							
A. Participants	598,274	999,130	1,597,404	883,700	2,235,845	3,119,545	4,716,949
B. Spouses	<u>535,787</u>	<u>853,165</u>	<u>1,388,952</u>	<u>501,659</u>	<u>801,518</u>	<u>1,303,177</u>	<u>2,692,129</u>
C. Total	1,134,061	1,852,295	2,986,356	1,385,359	3,037,363	4,422,722	7,409,078
Service Cost							
A. Participants	28,299	52,703	81,002	0	0	0	81,002
B. Spouses	<u>24,661</u>	<u>43,380</u>	<u>68,041</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>68,041</u>
C. Total	52,960	96,083	149,043	0	0	0	149,043

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	149,043
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	570,459
III. Deferred (Inflows)/Outflows from Plan Experience*	(216,689)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions*	(452,425)
V. Projected Earnings on OPEB Plan Investments	(29,753)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments**	2,814
VII. Financial Statement Expense Prior to Plan Design Changes [I. + II. + III. + IV. + V. + VI.]	23,449
VIII. Expense Related to Change in Benefit Terms***	0
IX. Financial Statement Expense [VII. + VIII.]	23,449

* Amortized over 5.00 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	10,405,763	339,300	10,066,463
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2019 with Adjustment [I. + II.]	10,405,763	339,300	10,066,463
Changes for the year:			
IV. Service Cost	149,043	0	149,043
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	570,459	0	570,459
VI. Changes in Benefit Terms *	0	0	0
VII. Change in Assumptions **	(2,262,123)	0	(2,262,123)
VIII. Differences Between Actual and Expected Experience **	(1,083,445)	0	(1,083,445)
IX. Net Investment Income	0	15,685	(15,685)
X. Employer Contributions to Trust	0	605,619	(605,619)
XI. Benefit Payments Withdrawn from Trust	0	(370,619)	370,619
XII. Benefit Payments Excluding Implicit Cost	(320,468)	0	(320,468)
XIII. Implicit Cost Amount	(50,151)	0	(50,151)
XIV. Total Benefit Payments Including Implicit Cost [XII. + XIII.]	(370,619)	0	(370,619)
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.]	(2,996,685)	250,685	(3,247,370)
XVIII. Balances at June 30, 2020 [III.+XVII.]	7,409,078	589,985	6,819,093

* Recognized Immediately

** Amortized over 5.00 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	0	1.00	0						
2019	0	1.00	0						
2020	(1,083,445)	5.00	(866,756)	(216,689)	(216,689)	(216,689)	(216,689)	(216,689)	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(866,756)						
Net increase (decrease) in OPEB Expense				(216,689)	(216,689)	(216,689)	(216,689)	(216,689)	0

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	0	1.00	0						
2019	0	1.00	0						
2020	(2,262,123)	5.00	(1,809,698)	(452,425)	(452,425)	(452,425)	(452,425)	(452,423)	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(1,809,698)						
Net increase (decrease) in OPEB Expense				(452,425)	(452,425)	(452,425)	(452,425)	(452,423)	0

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	0	5.00	0	0	0	0			
2019	0	5.00	0	0	0	0	0		
2020	14,068	5.00	11,254	2,814	2,814	2,814	2,814	2,812	
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			11,254						
Net increase (decrease) in OPEB Expense				2,814	2,814	2,814	2,814	2,812	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	0	(866,756)	(866,756)
III. Changes of Assumptions	0	(1,809,698)	(1,809,698)
IV. Net Difference Between Projected & Actual Earnings on OPEB Plan Investments	<u>11,254</u>	<u>0</u>	<u>11,254</u>
V. Total [I.+II.+III.+IV.]	11,254	(2,676,454)	(2,665,200)

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	(666,300)
2022	(666,300)
2023	(666,300)
2024	(666,300)
2025	0
Thereafter	0

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 6.50% as of June 30, 2020 and 5.50% 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 \$370,619. The Town also contributed \$235,000 to an OPEB Trust for a total contribution during the measurement period of \$605,619 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	23.00%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	16.00%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	13.00%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	7.00%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	28.00%	Domestic Fixed Income	2.05%
International Fixed Income	5.00%	International Fixed Income	3.00%
Alternatives	7.00%	Alternatives	6.50%
Real Estate	0.00%	Real Estate	6.25%
Cash & Cash Equivalents	1.00%	Cash & Cash Equivalents	0.00%
Total	100.00%		
		I. Real Rate of Return**	4.29%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	6.79%
		IV. Investment Expense	0.25%
		V. Net Investment Return [III.-IV.]	6.54%

* 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	503,056	(605,619)	(102,563)	5,356,433	11.31%
June 30, 2019	968,568	(358,000)	610,568	N/A	N/A
June 30, 2018	716,038	(290,000)	426,038	N/A	N/A

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	6,677,611	7,409,078	8,303,599
II. Fiduciary Net Position	<u>589,985</u>	<u>589,985</u>	<u>589,985</u>
III. Net OPEB Liability (Asset) [I.-II.]	6,087,626	6,819,093	7,713,614
IV. Service Cost	120,922	149,043	187,310

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	8,340,026	7,409,078	6,576,699
II. Fiduciary Net Position	<u>589,985</u>	<u>589,985</u>	<u>589,985</u>
III. Net OPEB Liability (Asset) [I.-II.]	7,750,041	6,819,093	5,986,714
IV. Service Cost	190,987	149,043	113,312

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	339,300	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	235,000	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	0	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>	0	0.0000
II. Total net external cash flow	235,000		
III. Earnings and increase in fair value	15,685		
IV. Ending value - June 30, 2020 [I.+II.+III.]	589,985		
Money Weighted Rate of Return	3.05%		
Asset Value - June 30, 2020	589,985		

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 Retirees	Public Safety Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2020	3,710,019	290,608	3,408,451	7,409,078
II. Fiduciary Net Position as of June 30, 2020	295,429	23,141	271,415	589,985
III. Net OPEB Liability (Asset) as of June 30, 2020 [I. - II.]	3,414,590	267,467	3,137,036	6,819,093
IV. Service Cost	65,600	0	83,443	149,043
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	283,736	21,179	265,544	570,459
VI. Projected Earnings on OPEB Plan Investments	(14,872)	(1,150)	(13,731)	(29,753)
VII. Net Recognition of Deferred (Inflows)/Outflows	(333,643)	(26,134)	(306,523)	(666,300)
VIII. Expense Related to Change in Benefit Terms	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	821	(6,105)	28,733	23,449
X. Employer Share of Costs	(215,248)	(32,651)	(122,720)	(370,619)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(116,386)	(8,419)	(110,195)	(235,000)
XII. Total Employer Contribution [X. + XI.]	(331,634)	(41,070)	(232,915)	(605,619)
XIII. Net OPEB Expense [IX. + XII.]	(330,813)	(47,175)	(204,182)	(582,170)

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	(866,756)
II. Deferred (Inflow)/Outflow from Investment Experience	11,254
III. Deferred (Inflow)/Outflow from Changes in Assumptions	(1,809,698)
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	0
II. Deferred Outflow created during the period	14,068
III. Deferred Outflow recognized during the period	2,814
IV. Change in Deferred Outflow (II. - III.)	11,254
V. Deferred Outflow at end of the period (I. + IV.)	11,254
VI. Deferred Inflow at the beginning of the period	0
VII. Deferred Inflow created during the period	(3,345,568)
VIII. Deferred Inflow recognized during the period	(669,114)
IX. Change in Deferred Inflow (VII. - VIII.)	(2,676,454)
X. Deferred Inflow at end of the period (VI. + IX.)	(2,676,454)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	10,066,463
II. Service Cost	149,043
III. Interest on Total OPEB Liability, Service Cost, and Payments	570,459
IV. Projected Investment Income	(29,753)
V. Total Employer Contributions	(605,619)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	84,130
VIII. Deferred Outflow created during the period	14,068
IX. Deferred Inflow created during the period	(3,345,568)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	6,819,093
Net OPEB Expense	
I. Service Cost	149,043
II. Interest on Total OPEB Liability, Service Cost, and Payments	570,459
III. Projected Investment Income	(29,753)
IV. Recognition of Deferred (Inflow)/Outflow	(666,300)
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	23,449
VII. Benefit Payments	(370,619)
VIII. Contributions to Trust	(235,000)
IX. Total Employer Payments (VII. + VIII.)	(605,619)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	(582,170)

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. For FY 2020 and future years we have used a 30 year amortization increasing by 3.00% per year 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)			
	For the Fiscal Year Ending:		
	<u>June 30, 2020</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
I. Service Cost	149,043	226,496	226,491
II. Amortization of NOL	<u>354,013</u>	<u>742,072</u>	<u>489,547</u>
III. Actuarial Determined Contribution [I. + II.]	503,056	968,568	716,038
IV. Contributions in Relation to the Actuarially Determined Contribution	<u>(605,619)</u>	<u>(358,000)</u>	<u>(290,000)</u>
V. Contribution Deficiency / (Excess) [III. + IV.]	<u>(102,563)</u>	610,568	426,038
Covered Employee Payroll	5,356,433	N/A	N/A
Contributions as a % of Covered Employee Payroll	11.31%	N/A	N/A
Discount Rate	6.50%	5.50%	5.30%
Money Weighted Rate of Return	3.05%	N/A	N/A

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Schedule of Changes in the Town's Net OPEB Liability and Related Ratios			
Valuation Date	July 1, 2019	July 1, 2018	July 1, 2018
GASB 75 Measurement Date	June 30, 2020	June 30, 2019	June 30, 2018
For the Reporting Period & Fiscal Year Ending on:	June 30, 2020	June 30, 2019	June 30, 2018
Total OPEB Liability	7,409,078	10,405,763	10,579,755
I. Service Cost	149,043	226,496	226,491
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	570,459	565,983	330,583
III. Changes in Benefit Terms	0	0	0
IV. Difference Between Expected & Actual Plan Experience	(1,083,445)	(471,538)	0
V. Changes of Assumptions	(2,262,123)	(236,933)	563,764
VI. Benefit Payments Excluding Implicit Cost	(320,468)	N/A	N/A
VII. Implicit Cost Amount	(50,151)	N/A	N/A
VIII. Total Benefit Payments Including Implicit Cost [VI.+VII.]	(370,619)	(258,000)	(240,000)
IX. Net Change in OPEB Liability [I.+II.+III.+IV.+V.+VIII.]	(2,996,685)	(173,992)	880,838
X. Total OPEB Liability - Beginning of Period	10,405,763	10,579,755	9,698,917
XI. Prior Period Adjustment	0	0	0
XII. Total OPEB Liability - Beginning of Period with Adjustment	10,405,763	10,579,755	9,698,917
XIII. Total OPEB Liability - End of Period [IX.+XII.]	7,409,078	10,405,763	10,579,755
Plan Fiduciary Net Position	589,985	339,300	222,761
XIV. Earning from Plan Investments	15,685	16,539	8,011
XV. Employer Contribution to Trust	605,619	358,000	290,000
XVI. Benefit Payments from Trust, Including Refunds of Member Contributions	(370,619)	(258,000)	(240,000)
XVII. Administrative Expense	0	0	0
XVIII. Other	0	0	0
XIX. Net Change in Plan Fiduciary Net Position [XIV.+XV.+XVI.+XVII.+XVIII.]	250,685	116,539	58,011
XX. Plan Fiduciary Net Position - Beginning of Period	339,300	222,761	164,750
XXI. Prior Period Adjustment	0	0	0
XXII. Plan Fiduciary Net Position - Beginning of Period with Adjustment	339,300	222,761	164,750
XXIII. Plan Fiduciary Net Position - End of Period [XIX.+XXII.]	589,985	339,300	222,761
XXIV. Net OPEB Liability [XIII.-XXIII.]	6,819,093	10,066,463	10,356,994
XXV. Plan Fiduciary Net Position as % of Total OPEB Liability [XXIII. / XIII.]	7.96%	3.26%	2.11%
XXVI. Covered Employee Payroll	5,356,433	N/A	N/A
XXVII. Plan NOL as % of Covered Employee Payroll [XXIV. / XXVI.]	127.31%	N/A	N/A
Single Discount Rate to calculate Plan Liabilities	6.50%	5.50%	5.30%

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:	6.54%, 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:	6.50%, 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 BREQUIRED 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, set forward 1 year for 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, set forward 1 year for 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:	62
Active Employees:	<u>52</u>
Total:	114

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

- ✓ Due to the GASB 75 standards the discount rate has been changed from 5.50% to 6.50%
- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ Based on recommendations by PERAC, the mortality table has been updated from the RP-2000 Mortality Table projected 18 years to the RP-2014 Mortality Table projected generationally with scale MP-2016 for males and females
- ✓ The percentage of employees assumed to elect coverage in retirement has been updated

Contributions/Withdrawals:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed beyond the pay-as-you-go cost \$235,000 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 \$370,619. \$50,151 of the \$370,619 represents implicit cost.

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2020 Measurement Date)

Census Data Manipulation:

In the absence of data, the following was assumed:

Spouse Sex:	Male participants had female spouses and vice versa.
Spouse Age:	Male spouses were three years older than female spouses and same sex spouses were the same age.
Hire Age:	Participants who were not on the previous valuation were hired halfway between last valuation and the current valuation. If we did not have census data related to the last valuation, the participants were assumed to have been hired at age forty.
Retiree Age:	Retirees had the same birth date as they had the prior valuation. If we did not have census data related to the last valuation, retirees who were enrolled in Active plans were assumed to be age sixty-two and retirees who were enrolled in Medicare Supplement plans were assumed to be age seventy-two. Those not enrolled in a medical plan were assumed to be sixty-seven.
School Demographics:	Two thirds of school participants were teachers.
Other Material Changes:	No other data changes were deemed to be material.

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 6.50% 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 6.54% 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	7,409,078	589,985	6,819,093	7.96%	149,043	370,619	235,000	605,619	370,619	0	235,000
2021	June 30, 2021	7,663,005	871,133	6,791,872	11.37%	158,811	384,497	235,000	619,497	384,497	0	235,000
2022	June 30, 2022	7,865,571	1,088,093	6,777,478	13.83%	164,363	418,777	155,000	573,777	418,777	0	155,000
2023	June 30, 2023	8,086,806	1,319,243	6,767,563	16.31%	170,274	441,465	155,000	596,465	441,465	0	155,000
2024	June 30, 2024	8,329,273	1,565,510	6,763,763	18.80%	175,976	440,139	155,000	595,139	440,139	0	155,000
2025	June 30, 2025	8,564,632	1,827,883	6,736,749	21.34%	182,747	468,612	155,000	623,612	468,612	0	155,000
2026	June 30, 2026	8,790,179	2,107,415	6,682,764	23.97%	186,604	498,056	155,000	653,056	498,056	0	155,000
2027	June 30, 2027	9,021,679	2,405,228	6,616,451	26.66%	192,907	518,035	155,000	673,035	518,035	0	155,000
2028	June 30, 2028	9,275,478	2,722,518	6,552,960	29.35%	200,232	523,669	155,000	678,669	523,669	0	155,000
2029	June 30, 2029	9,535,523	3,060,559	6,474,964	32.10%	206,184	523,917	155,000	678,917	523,917	0	155,000
2030	June 30, 2030	9,803,599	3,420,708	6,382,891	34.89%	211,550	539,446	155,000	694,446	539,446	0	155,000
2031	June 30, 2031	10,091,872	3,804,411	6,287,461	37.70%	219,089	565,223	155,000	720,223	565,223	0	155,000
2032	June 30, 2032	10,380,974	4,213,208	6,167,766	40.59%	225,470	567,950	155,000	722,950	567,950	0	155,000
2033	June 30, 2033	10,691,172	4,648,740	6,042,432	43.48%	233,311	571,329	155,000	726,329	571,329	0	155,000
2034	June 30, 2034	11,013,414	5,112,756	5,900,658	46.42%	240,537	585,694	155,000	740,694	585,694	0	155,000
2035	June 30, 2035	11,354,256	5,607,118	5,747,138	49.38%	247,997	593,758	155,000	748,758	593,758	0	155,000
2036	June 30, 2036	11,738,909	6,133,812	5,605,097	52.25%	256,359	598,491	155,000	753,491	598,491	0	155,000
2037	June 30, 2037	12,147,248	6,694,952	5,452,296	55.11%	265,064	598,972	155,000	753,972	598,972	0	155,000
2038	June 30, 2038	12,543,379	7,292,790	5,250,589	58.14%	274,204	632,964	155,000	787,964	632,964	0	155,000
2039	June 30, 2039	12,968,647	7,929,727	5,038,920	61.15%	284,343	636,937	155,000	791,937	636,937	0	155,000
2040	June 30, 2040	13,421,400	8,608,319	4,813,081	64.14%	295,071	633,130	155,000	788,130	633,130	0	155,000
2041	June 30, 2041	13,906,654	9,331,291	4,575,363	67.10%	305,718	659,319	155,000	814,319	659,319	0	155,000
2042	June 30, 2042	14,400,313	10,101,546	4,298,767	70.15%	317,342	674,506	155,000	829,506	674,506	0	155,000
2043	June 30, 2043	14,906,685	10,922,175	3,984,510	73.27%	329,600	699,681	155,000	854,681	699,681	0	155,000
2044	June 30, 2044	15,436,266	11,796,473	3,639,793	76.42%	343,380	743,063	155,000	898,063	743,063	0	155,000
2045	June 30, 2045	15,962,802	12,727,951	3,234,851	79.74%	357,775	766,808	155,000	921,808	766,808	0	155,000
2046	June 30, 2046	16,495,846	13,720,347	2,775,499	83.17%	373,347	792,382	155,000	947,382	792,382	0	155,000
2047	June 30, 2047	17,076,650	14,777,646	2,299,004	86.54%	389,354	822,661	155,000	977,661	822,661	0	155,000
2048	June 30, 2048	17,680,972	15,904,092	1,776,880	89.95%	407,693	856,759	155,000	1,011,759	856,759	0	155,000
2049	June 30, 2049	18,317,370	17,104,208	1,213,162	93.38%	425,714	880,440	155,000	1,035,440	880,440	0	155,000
2050	June 30, 2050	18,945,790	18,382,811	562,979	97.03%	444,344	891,936	155,000	1,046,936	891,936	0	155,000
2051	June 30, 2051	19,591,435	19,745,035	(153,600)	100.78%	463,682	927,765	155,000	1,082,765	927,765	0	155,000

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Table 1: 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	5,356,433	0	5,356,433	0	370,619	0	370,619
June 30, 2021	4,920,671	596,455	5,517,126	0	384,497	0	384,497
June 30, 2022	4,629,933	1,052,707	5,682,640	0	418,777	0	418,777
June 30, 2023	4,352,259	1,500,860	5,853,119	0	441,465	0	441,465
June 30, 2024	4,005,352	2,023,361	6,028,713	0	440,139	0	440,139
June 30, 2025	3,736,196	2,473,378	6,209,574	0	468,612	0	468,612
June 30, 2026	3,484,276	2,911,585	6,395,861	0	498,056	0	498,056
June 30, 2027	3,220,183	3,367,554	6,587,737	0	518,035	0	518,035
June 30, 2028	3,001,892	3,783,477	6,785,369	0	523,669	0	523,669
June 30, 2029	2,841,451	4,147,479	6,988,930	0	523,917	0	523,917
June 30, 2030	2,666,107	4,532,491	7,198,598	0	539,446	0	539,446
June 30, 2031	2,542,709	4,871,847	7,414,556	0	562,646	2,577	565,223
June 30, 2032	2,433,354	5,203,639	7,636,993	0	562,441	5,509	567,950
June 30, 2033	2,338,398	5,527,705	7,866,103	0	561,798	9,531	571,329
June 30, 2034	2,258,325	5,843,761	8,102,086	0	570,473	15,221	585,694
June 30, 2035	2,193,407	6,151,742	8,345,149	0	571,709	22,049	593,758
June 30, 2036	2,110,844	6,484,659	8,595,503	0	571,715	26,776	598,491
June 30, 2037	1,980,441	6,872,927	8,853,368	0	565,448	33,524	598,972
June 30, 2038	1,859,270	7,259,699	9,118,969	0	591,987	40,977	632,964
June 30, 2039	1,760,681	7,631,857	9,392,538	0	590,532	46,405	636,937
June 30, 2040	1,672,720	8,001,594	9,674,314	0	580,200	52,930	633,130
June 30, 2041	1,589,222	8,375,321	9,964,543	0	596,323	62,996	659,319
June 30, 2042	1,524,588	8,738,891	10,263,479	0	600,314	74,192	674,506
June 30, 2043	1,455,322	9,116,061	10,571,383	0	611,899	87,782	699,681
June 30, 2044	1,342,343	9,546,181	10,888,524	0	637,766	105,297	743,063
June 30, 2045	1,238,995	9,976,185	11,215,180	0	641,763	125,045	766,808
June 30, 2046	1,146,308	10,405,327	11,551,635	0	651,805	140,577	792,382
June 30, 2047	1,045,387	10,852,797	11,898,184	0	661,867	160,794	822,661
June 30, 2048	898,242	11,356,888	12,255,130	0	673,894	182,865	856,759
June 30, 2049	814,335	11,808,449	12,622,784	0	679,304	201,136	880,440
June 30, 2050	737,476	12,263,992	13,001,468	0	669,696	222,240	891,936
June 30, 2051	657,854	12,733,658	13,391,512	0	679,978	247,787	927,765
June 30, 2052	562,604	13,230,653	13,793,257	0	694,014	273,423	967,437
June 30, 2053	505,133	13,701,922	14,207,055	0	680,233	301,640	981,873
June 30, 2054	455,685	14,177,582	14,633,267	0	687,164	334,530	1,021,694
June 30, 2055	419,860	14,652,405	15,072,265	0	677,052	369,326	1,046,378
June 30, 2056	336,983	15,187,450	15,524,433	0	688,610	401,653	1,090,263
June 30, 2057	285,183	15,704,983	15,990,166	0	670,478	439,475	1,109,953
June 30, 2058	236,240	16,233,631	16,469,871	0	653,929	480,053	1,133,982
June 30, 2059	203,618	16,760,349	16,963,967	0	651,512	519,630	1,171,142

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Table 1: 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	163,550	17,309,336	17,472,886	0	598,292	562,513	1,160,805
June 30, 2061	138,028	17,859,045	17,997,073	0	584,414	609,906	1,194,320
June 30, 2062	98,390	18,438,595	18,536,985	0	572,623	658,475	1,231,098
June 30, 2063	78,309	19,014,786	19,093,095	0	538,617	710,294	1,248,911
June 30, 2064	56,946	19,608,942	19,665,888	0	520,114	767,527	1,287,641
June 30, 2065	35,499	20,220,366	20,255,865	0	506,510	828,030	1,334,540
June 30, 2066	16,689	20,846,852	20,863,541	0	495,929	888,170	1,384,099
June 30, 2067	12,624	21,476,823	21,489,447	0	484,754	954,445	1,439,199
June 30, 2068	9,547	22,124,583	22,134,130	0	464,537	1,024,856	1,489,393
June 30, 2069	7,215	22,790,939	22,798,154	0	451,869	1,094,554	1,546,423
June 30, 2070	0	23,482,099	23,482,099	0	440,581	1,168,708	1,609,289
June 30, 2071	0	24,186,562	24,186,562	0	427,268	1,246,555	1,673,823
June 30, 2072	0	24,912,159	24,912,159	0	413,863	1,325,652	1,739,515
June 30, 2073	0	25,659,524	25,659,524	0	400,397	1,407,560	1,807,957
June 30, 2074	0	26,429,310	26,429,310	0	386,867	1,494,253	1,881,120
June 30, 2075	0	27,222,189	27,222,189	0	373,325	1,584,091	1,957,416
June 30, 2076	0	28,038,855	28,038,855	0	359,772	1,677,607	2,037,379
June 30, 2077	0	28,880,021	28,880,021	0	346,214	1,776,313	2,122,527
June 30, 2078	0	29,746,422	29,746,422	0	332,649	1,879,994	2,212,643
June 30, 2079	0	30,638,815	30,638,815	0	319,022	1,988,035	2,307,057
June 30, 2080	0	31,557,979	31,557,979	0	305,311	2,100,584	2,405,895
June 30, 2081	0	32,504,718	32,504,718	0	291,466	2,216,824	2,508,290
June 30, 2082	0	33,479,860	33,479,860	0	277,442	2,338,090	2,615,532
June 30, 2083	0	34,484,256	34,484,256	0	263,240	2,464,069	2,727,309
June 30, 2084	0	35,518,784	35,518,784	0	248,806	2,595,291	2,844,097
June 30, 2085	0	36,584,348	36,584,348	0	234,201	2,732,418	2,966,619
June 30, 2086	0	37,681,878	37,681,878	0	219,444	2,876,160	3,095,604
June 30, 2087	0	38,812,334	38,812,334	0	204,617	3,026,014	3,230,631
June 30, 2088	0	39,976,704	39,976,704	0	189,791	3,183,358	3,373,149
June 30, 2089	0	41,176,005	41,176,005	0	175,047	3,348,065	3,523,112
June 30, 2090	0	42,411,285	42,411,285	0	160,489	3,519,659	3,680,148
June 30, 2091	0	43,683,624	43,683,624	0	146,189	3,698,215	3,844,404
June 30, 2092	0	44,994,133	44,994,133	0	132,229	3,885,014	4,017,243
June 30, 2093	0	46,343,957	46,343,957	0	118,682	4,079,562	4,198,244
June 30, 2094	0	47,734,276	47,734,276	0	105,605	4,282,723	4,388,328

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Table 2: 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	339,300	370,619	235,000	605,619	0	370,619	370,619	15,685	589,985
June 30, 2021	589,985	384,497	209,594	594,091	0	384,497	384,497	41,159	840,738
June 30, 2022	840,738	418,777	126,286	545,063	0	418,777	418,777	59,048	1,026,072
June 30, 2023	1,026,072	441,465	115,255	556,720	0	441,465	441,465	70,814	1,212,141
June 30, 2024	1,212,141	440,139	102,979	543,118	0	440,139	440,139	82,588	1,397,708
June 30, 2025	1,397,708	468,612	93,261	561,873	0	468,612	468,612	94,411	1,585,380
June 30, 2026	1,585,380	498,056	84,439	582,495	0	498,056	498,056	106,401	1,776,220
June 30, 2027	1,776,220	518,035	75,766	593,801	0	518,035	518,035	118,603	1,970,589
June 30, 2028	1,970,589	523,669	68,573	592,242	0	523,669	523,669	131,083	2,170,245
June 30, 2029	2,170,245	523,917	63,018	586,935	0	523,917	523,917	143,962	2,377,225
June 30, 2030	2,377,225	539,446	57,407	596,853	0	539,446	539,446	157,318	2,591,950
June 30, 2031	2,591,950	562,646	53,155	615,801	0	562,646	562,646	171,224	2,813,752
June 30, 2032	2,813,752	562,441	49,387	611,828	0	562,441	562,441	185,609	3,043,239
June 30, 2033	3,043,239	561,798	46,078	607,876	0	561,798	561,798	200,511	3,280,297
June 30, 2034	3,280,297	570,473	43,204	613,677	0	570,473	570,473	215,922	3,524,202
June 30, 2035	3,524,202	571,709	40,740	612,449	0	571,709	571,709	231,794	3,774,687
June 30, 2036	3,774,687	571,715	38,064	609,779	0	571,715	571,715	248,090	4,034,065
June 30, 2037	4,034,065	565,448	34,672	600,120	0	565,448	565,448	264,944	4,300,157
June 30, 2038	4,300,157	591,987	31,603	623,590	0	591,987	591,987	282,247	4,573,030
June 30, 2039	4,573,030	590,532	29,056	619,588	0	590,532	590,532	300,011	4,855,692
June 30, 2040	4,855,692	580,200	26,800	607,000	0	580,200	580,200	318,425	5,147,987
June 30, 2041	5,147,987	596,323	24,721	621,044	0	596,323	596,323	337,474	5,447,186
June 30, 2042	5,447,186	600,314	23,024	623,338	0	600,314	600,314	356,987	5,753,005
June 30, 2043	5,753,005	611,899	21,338	633,237	0	611,899	611,899	376,933	6,063,494
June 30, 2044	6,063,494	637,766	19,108	656,874	0	637,766	637,766	397,167	6,374,472
June 30, 2045	6,374,472	641,763	17,124	658,887	0	641,763	641,763	417,442	6,683,993
June 30, 2046	6,683,993	651,805	15,381	667,186	0	651,805	651,805	437,628	6,996,425
June 30, 2047	6,996,425	661,867	13,618	675,485	0	661,867	661,867	458,004	7,307,253
June 30, 2048	7,307,253	673,894	11,361	685,255	0	673,894	673,894	478,260	7,614,009
June 30, 2049	7,614,009	679,304	10,000	689,304	0	679,304	679,304	498,278	7,921,151
June 30, 2050	7,921,151	669,696	8,792	678,488	0	669,696	669,696	518,326	8,226,029
June 30, 2051	8,226,029	679,978	7,614	687,592	0	679,978	679,978	538,227	8,524,083
June 30, 2052	8,524,083	694,014	6,322	700,336	0	694,014	694,014	557,678	8,814,660
June 30, 2053	8,814,660	680,233	5,511	685,744	0	680,233	680,233	576,656	9,095,187
June 30, 2054	9,095,187	687,164	4,827	691,991	0	687,164	687,164	594,981	9,360,465
June 30, 2055	9,360,465	677,052	4,318	681,370	0	677,052	677,052	612,313	9,607,770
June 30, 2056	9,607,770	688,610	3,365	691,975	0	688,610	688,610	628,456	9,837,938
June 30, 2057	9,837,938	670,478	2,764	673,242	0	670,478	670,478	643,490	10,044,717
June 30, 2058	10,044,717	653,929	2,223	656,152	0	653,929	653,929	656,996	10,223,883
June 30, 2059	10,223,883	651,512	1,860	653,372	0	651,512	651,512	668,702	10,374,815

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Table 2: 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 [III. + 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	10,374,815	598,292	1,451	599,743	0	598,292	598,292	678,560	9,782,874
June 30, 2061	9,782,874	584,414	1,189	585,603	0	584,414	584,414	639,838	9,203,368
June 30, 2062	9,203,368	572,623	823	573,446	0	572,623	572,623	601,927	8,633,940
June 30, 2063	8,633,940	538,617	636	539,253	0	538,617	538,617	564,680	8,097,639
June 30, 2064	8,097,639	520,114	449	520,563	0	520,114	520,114	529,600	7,579,058
June 30, 2065	7,579,058	506,510	272	506,782	0	506,510	506,510	495,679	7,073,417
June 30, 2066	7,073,417	495,929	124	496,053	0	495,929	495,929	462,605	6,577,858
June 30, 2067	6,577,858	484,754	91	484,845	0	484,754	484,754	430,195	6,093,357
June 30, 2068	6,093,357	464,537	67	464,604	0	464,537	464,537	398,508	5,628,991
June 30, 2069	5,628,991	451,869	49	451,918	0	451,869	451,869	368,138	5,177,239
June 30, 2070	5,177,239	440,581	0	440,581	0	440,581	440,581	338,591	4,736,658
June 30, 2071	4,736,658	427,268	0	427,268	0	427,268	427,268	309,777	4,309,390
June 30, 2072	4,309,390	413,863	0	413,863	0	413,863	413,863	281,834	3,895,527
June 30, 2073	3,895,527	400,397	0	400,397	0	400,397	400,397	254,767	3,495,130
June 30, 2074	3,495,130	386,867	0	386,867	0	386,867	386,867	228,581	3,108,263
June 30, 2075	3,108,263	373,325	0	373,325	0	373,325	373,325	203,280	2,734,938
June 30, 2076	2,734,938	359,772	0	359,772	0	359,772	359,772	178,865	2,375,166
June 30, 2077	2,375,166	346,214	0	346,214	0	346,214	346,214	155,336	2,028,952
June 30, 2078	2,028,952	332,649	0	332,649	0	332,649	332,649	132,693	1,696,303
June 30, 2079	1,696,303	319,022	0	319,022	0	319,022	319,022	110,938	1,377,281
June 30, 2080	1,377,281	305,311	0	305,311	0	305,311	305,311	90,074	1,071,970
June 30, 2081	1,071,970	291,466	0	291,466	0	291,466	291,466	70,107	780,504
June 30, 2082	780,504	277,442	0	277,442	0	277,442	277,442	51,045	503,062
June 30, 2083	503,062	263,240	0	263,240	0	263,240	263,240	32,900	239,822
June 30, 2084	239,822	248,806	0	248,806	0	248,806	248,806	15,684	15,684
June 30, 2085	15,684	234,201	0	234,201	0	234,201	234,201	1,026	1,026
June 30, 2086	1,026	219,444	0	219,444	0	219,444	219,444	67	67
June 30, 2087	67	204,617	0	204,617	0	204,617	204,617	4	4
June 30, 2088	4	189,791	0	189,791	0	189,791	189,791	0	0
June 30, 2089	0	175,047	0	175,047	0	175,047	175,047	0	0
June 30, 2090	0	160,489	0	160,489	0	160,489	160,489	0	0
June 30, 2091	0	146,189	0	146,189	0	146,189	146,189	0	0
June 30, 2092	0	132,229	0	132,229	0	132,229	132,229	0	0
June 30, 2093	0	118,682	0	118,682	0	118,682	118,682	0	0
June 30, 2094	0	105,605	0	105,605	0	105,605	105,605	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Table 3: 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 for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.54%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.36%]	
June 30, 2020	339,300	370,619	339,300	31,319	339,300	31,319	370,619	Sum of Column V.
June 30, 2021	589,985	384,497	384,497	0	360,894	0	361,510	8,305,301
June 30, 2022	840,738	418,777	418,777	0	368,941	0	370,201	
June 30, 2023	1,026,072	441,465	441,465	0	365,055	0	366,925	Sum of Column VI.
June 30, 2024	1,212,141	440,139	440,139	0	341,617	0	343,952	276,687
June 30, 2025	1,397,708	468,612	468,612	0	341,389	0	344,309	
June 30, 2026	1,585,380	498,056	498,056	0	340,567	0	344,065	Sum of Column VII.
June 30, 2027	1,776,220	518,035	518,035	0	332,484	0	336,472	[V. + VI.]
June 30, 2028	1,970,589	523,669	523,669	0	315,468	0	319,797	8,581,988
June 30, 2029	2,170,245	523,917	523,917	0	296,243	0	300,820	
June 30, 2030	2,377,225	539,446	539,446	0	286,300	0	291,219	
June 30, 2031	2,591,950	562,646	562,646	0	280,282	0	285,584	
June 30, 2032	2,813,752	562,441	562,441	0	262,981	0	268,412	
June 30, 2033	3,043,239	561,798	561,798	0	246,556	0	252,077	
June 30, 2034	3,280,297	570,473	570,473	0	234,994	0	240,666	
June 30, 2035	3,524,202	571,709	571,709	0	221,047	0	226,768	
June 30, 2036	3,774,687	571,715	571,715	0	207,480	0	213,213	
June 30, 2037	4,034,065	565,448	565,448	0	192,609	0	198,268	
June 30, 2038	4,300,157	591,987	591,987	0	189,271	0	195,164	
June 30, 2039	4,573,030	590,532	590,532	0	177,216	0	183,045	
June 30, 2040	4,855,692	580,200	580,200	0	163,427	0	169,091	
June 30, 2041	5,147,987	596,323	596,323	0	157,658	0	163,400	
June 30, 2042	5,447,186	600,314	600,314	0	148,970	0	154,659	
June 30, 2043	5,753,005	611,899	611,899	0	142,524	0	148,219	
June 30, 2044	6,063,494	637,766	637,766	0	139,430	0	145,249	
June 30, 2045	6,374,472	641,763	641,763	0	131,691	0	137,421	
June 30, 2046	6,683,993	651,805	651,805	0	125,542	0	131,227	
June 30, 2047	6,996,425	661,867	661,867	0	119,654	0	125,286	
June 30, 2048	7,307,253	673,894	673,894	0	114,350	0	119,936	
June 30, 2049	7,614,009	679,304	679,304	0	108,192	0	113,671	
June 30, 2050	7,921,151	669,696	669,696	0	100,114	0	105,364	
June 30, 2051	8,226,029	679,978	679,978	0	95,412	0	100,585	
June 30, 2052	8,524,083	694,014	694,014	0	91,403	0	96,524	
June 30, 2053	8,814,660	680,233	680,233	0	84,089	0	88,951	
June 30, 2054	9,095,187	687,164	687,164	0	79,731	0	84,485	
June 30, 2055	9,360,465	677,052	677,052	0	73,736	0	78,266	
June 30, 2056	9,607,770	688,610	688,610	0	70,391	0	74,843	
June 30, 2057	9,837,938	670,478	670,478	0	64,330	0	68,515	
June 30, 2058	10,044,717	653,929	653,929	0	58,891	0	62,829	
June 30, 2059	10,223,883	651,512	651,512	0	55,072	0	58,854	

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Table 3: 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 for Current Plan Members	III. Funded Portion of Benefit Payments	IV. Unfunded Portion of Benefit Payments [II. - III.]	V. Present Value of Funded Benefit Payments using the Long-Term Rate of Return [6.54%]	VI. Present Value of Unfunded Benefit Payments using the Municipal Bond Rate [2.66%]	VII. Present Value of Benefit Payments using the Single Equivalent Discount Rate [6.36%]
June 30, 2060	10,374,815	598,292	598,292	0	47,468	0	50,816
June 30, 2061	9,782,874	584,414	584,414	0	43,521	0	46,669
June 30, 2062	9,203,368	572,623	572,623	0	40,025	0	42,994
June 30, 2063	8,633,940	538,617	538,617	0	35,337	0	38,023
June 30, 2064	8,097,639	520,114	520,114	0	32,029	0	34,522
June 30, 2065	7,579,058	506,510	506,510	0	29,276	0	31,609
June 30, 2066	7,073,417	495,929	495,929	0	26,905	0	29,098
June 30, 2067	6,577,858	484,754	484,754	0	24,685	0	26,742
June 30, 2068	6,093,357	464,537	464,537	0	22,203	0	24,095
June 30, 2069	5,628,991	451,869	451,869	0	20,272	0	22,036
June 30, 2070	5,177,239	440,581	440,581	0	18,552	0	20,201
June 30, 2071	4,736,658	427,268	427,268	0	16,887	0	18,420
June 30, 2072	4,309,390	413,863	413,863	0	15,353	0	16,775
June 30, 2073	3,895,527	400,397	400,397	0	13,942	0	15,259
June 30, 2074	3,495,130	386,867	386,867	0	12,644	0	13,862
June 30, 2075	3,108,263	373,325	373,325	0	11,452	0	12,577
June 30, 2076	2,734,938	359,772	359,772	0	10,359	0	11,396
June 30, 2077	2,375,166	346,214	346,214	0	9,357	0	10,311
June 30, 2078	2,028,952	332,649	332,649	0	8,438	0	9,314
June 30, 2079	1,696,303	319,022	319,022	0	7,596	0	8,399
June 30, 2080	1,377,281	305,311	305,311	0	6,823	0	7,557
June 30, 2081	1,071,970	291,466	291,466	0	6,114	0	6,783
June 30, 2082	780,504	277,442	277,442	0	5,462	0	6,071
June 30, 2083	503,062	263,240	263,240	0	4,865	0	5,416
June 30, 2084	239,822	248,806	248,806	0	4,316	0	4,813
June 30, 2085	15,684	234,201	73,543	160,658	1,197	29,158	4,259
June 30, 2086	1,026	219,444	54,612	164,832	835	29,140	3,752
June 30, 2087	67	204,617	49,455	155,162	709	26,720	3,290
June 30, 2088	4	189,791	45,340	144,451	610	24,231	2,869
June 30, 2089	0	175,047	41,411	133,636	523	21,836	2,488
June 30, 2090	0	160,489	37,612	122,877	446	19,557	2,145
June 30, 2091	0	146,189	33,943	112,246	378	17,402	1,837
June 30, 2092	0	132,229	30,447	101,782	318	15,371	1,562
June 30, 2093	0	118,682	27,105	91,577	266	13,472	1,318
June 30, 2094	0	105,605	23,937	81,668	220	11,703	1,103

APPENDIX II – PLAN PROVISIONS

Plan Year

July 1 through June 30.

Premium Effective Date

Medicare Supplement Plans: effective January 1, 2020

Non-Medicare Plans: effective June 1, 2020

Dental Plans: effective June 1, 2020

Creditable Service

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

Benefits Offered

Comprehensive Health, Dental, and \$2,000 of 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

Surviving spouses pay 50% of premiums.

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	30%	30%
Dental	30%	30%
Life	50%	N/A

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Pre-Retirement Mortality

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

6.50% per annum (previously 5.50%, used in the calculation of the Interest Cost)

Net Long Term Rate of Return

6.54% (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	Male	Female
0	15.00%	15.00%
5	7.60%	7.60%
10	5.40%	5.40%
15	3.30%	3.30%
20	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%.

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

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

Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical and dental 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.

Medicare Eligibility

It was assumed that retirees who were over age 66 on the valuation date and were enrolled in an Active plan were ineligible for Medicare and all other participants would be eligible for Medicare at age 65, absent any information to the contrary.

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. Total OPEB Liability	7,409,078	10,405,763
II. Total OPEB Liability (Excluding Implicit Subsidy)	<u>6,679,284</u>	<u>N/A</u>
III. Liability from Implicit Subsidy [I. - II.]	729,794	N/A

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2020</u>	<u>June 30, 2019</u>
IV. Employer Payments (Including Implicit Subsidy)	370,619	258,000
V. Actual Employer Payments	<u>320,468</u>	<u>N/A</u>
VI. Implicit Subsidy [IV. - V.]	50,151	N/A

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	4,289	2,703	44 & Under	8,778	5,752	65 to 69	4,541	4,541
25 to 29	6,327	2,813	45 to 49	9,641	7,262	70 to 74	4,541	4,541
30 to 34	7,995	3,531	50 to 54	11,342	9,564	75 to 79	4,541	4,541
35 to 39	8,236	4,433	55 to 59	13,112	12,434	80 to 84	4,541	4,541
40 to 44	8,430	5,524	60 to 64	15,603	15,956	85 to 89	4,541	4,541
45 to 49	9,259	6,974	65 to 69	18,703	19,903	90 & Over	4,541	4,541
50 to 54	10,893	9,185	70 to 74	22,056	23,851			
55 to 59	12,593	11,941	75 to 79	25,614	28,170			
60 to 64	14,985	15,324	80 to 84	29,369	32,380			
65 to 69	17,962	19,115	85 to 89	33,524	37,063			
70 & Over	21,182	22,906	90 & Over	33,524	37,063			

*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
A. Average Age at Hire	36.43
B. Average Service	<u>9.94</u>
C. Average Current Age	46.37

Retired Employees & Spouses

Valuation Date	July 1, 2019
A. Under Age 65	20
B. Age 65 & Over	<u>42</u>
C. Total	62

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	2	1								3
25-29	5									5
30-34	3	2								5
35-39		4		1						5
40-44	5			1	1					7
45-49		1	2		1					4
50-54	2	1		2	1	1				7
55-59	1	1	1			2				5
60-64	2		2	1	1					6
65-69	1		1		1	1				4
70+			1							1
Total	21	10	7	5	5	4				52

APPENDIX IV – PLAN DEMOGRAPHICS

Plan Offerings

	Number of Contracts			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Fallon Direct	1		5	6
Fallon Select	4		7	11
Harvard Pilgrim	3		9	12
Tufts Health	9		7	16
Tufts Preferred Supplement	9	8		17
Tufts Preferred HMO	7	4		11
Fallon Medicare	2			2
Total	35	12	28	75

	Per Contract Costs (monthly)		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Fallon Direct	697.00		1,863.00
Fallon Select	749.00		1,999.00
Harvard Pilgrim	940.00		2,471.00
Tufts Health	873.00		2,370.00
Tufts Preferred Supplement	430.00	860.00	
Tufts Preferred HMO	327.00	654.00	
Fallon Medicare	298.00	596.00	
BC/BS Dental Blue	60.66		157.35

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.