

**Town of Halifax
Other Postemployment Benefits Plan**

GASB 74 & GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2018

As of the Measurement Date:
June 30, 2019

For the Reporting Date:
June 30, 2019

Delivered September 9, 2019



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September 9, 2019

Personal and Confidential

Ms. Linda Cole
Assistant Town Treasurer
Town of Halifax
499 Plymouth Street
Halifax, MA 02338

Dear Ms. Cole:

We have performed an actuarial valuation of the Town of Halifax Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2019 with a Measurement Date of June 30, 2019 and a Valuation Date of July 1, 2018. The figures presented in this report reflect the adoption, by the Town of Halifax, 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', written over a light blue horizontal line.

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

September 9, 2019

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Halifax other postemployment benefit programs with a Valuation Date of July 1, 2018 with a Measurement Date of June 30, 2019 for the Reporting Date & fiscal year ending June 30, 2019 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.



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

EXECUTIVE SUMMARY

What caused plan liabilities to change from FY 18 to FY 19?

For the year ending on the Measurement Date of June 30, 2019, the Plan saw an experience gain of \$5,376,838 or 31.89% of the beginning Total OPEB Liability ("TOL"). This was mainly due to Medicare premiums decreasing by 14% over the two year period vs an expected 11% increase. During the period there was an investment loss of \$8,084 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 \$480 thousand.
- ✓ Retirement assumptions have been updated increasing the disclosed liability by \$770 thousand.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$990 thousand.
- ✓ The method for developing expected medical claims has been updated increasing the disclosed liability by \$640 thousand.
- ✓ Assumption changes caused Service Cost to increase by \$16 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 time until fully recognized
- ✓ 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 2.79% as of June 30, 2019.
- ✓ Current Asset Level – The Town had \$312,766 of assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to contribute \$36,000 in Fiscal Year 2020 increasing by \$1,000 annually.
- ✓ Investment Policy - The Town is expected to earn 6.80% 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 integrated) plans - represent 67.13% 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 non-Medicare integrated plans and 4.50% per year for Medicare integrated plans.
- ✓ Discount Rate (4.25%) – 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. 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.

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, 2018	July 1, 2016
Measurement Date & Period Ending	June 30, 2019	July 1, 2017
Reporting Date/Fiscal Year End	June 30, 2019	June 30, 2018
Total OPEB Liability	13,086,832	20,010,932
Per Eligible Active Plan Participant	53,602	98,342
Per Retiree/Spouse Plan Participant	51,416	73,971
Total Annual Service Cost (annual benefit accrual)	425,597	690,747
Per Eligible Active Plan Participant	3,274	5,616
Expected Employer Share of Retiree Costs	449,805	388,896
Per Retiree/Spouse Plan Participant	3,780	3,635
Net OPEB Liability as a % of Covered Payroll	134.10%	232.80%
Average Annual Medical Plan Premium (Single Coverage)	7,924	8,140
Average Annual Medical Plan Premium (Family Coverage)	29,544	26,211
<u>Projected 2022 Excise Tax Thresholds</u>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	

PRINCIPAL RESULTS OF THE VALUATION

Town of Halifax

Assuming Funding - 4.25% discount rate

Comparison of Plan Liabilities to Prior Valuation

Valuation Date	July 1, 2018	July 1, 2016
For the Measurement Period ending on the Measurement Date of:	June 30, 2019	July 1, 2017
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
I. Total OPEB Liability		
A. Actives	6,968,311	12,096,040
B. Retirees/Disabled	<u>6,118,521</u>	<u>7,914,892</u>
C. Total	13,086,832	20,010,932
II. Fiduciary Net Position [Plan Assets]	312,766	229,842
III. Net OPEB Liability (Asset) [I. - II.]	12,774,066	19,781,090
IV. Funded Ratio [II. / I.]	2.39%	1.15%
V. Number of Eligible Participants		
A. Actives	130	123
B. Retirees/Disabled & Dependents	<u>119</u>	<u>107</u>
C. Total	249	230
VI. Service Cost	425,597	690,747
VII. Financial Statement Expense	760,606	1,715,991
VIII. Employer Contribution to the OPEB Trust	(35,000)	(35,000)
IX. Deferred Inflow of Resources	(4,381,641)	(46,484)
X. Deferred Outflow of Resources	1,814,085	1,572,186
XI. Money Weighted Rate of Return	3.95%	7.84%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	3.13%
XIII. Expected Long Term Rate of Return (Net of Expense)	6.80%	6.80%
XIV. Crossover Year	Immediate	Immediate
XV. Discount Rate	4.25%	3.00%

PRINCIPAL RESULTS OF THE VALUATION

Town of Halifax Plan Liabilities as of the June 30, 2019 Measurement Date Assuming Funding - 4.25% discount rate

	Town Employees and Retirees	School Employees and Retirees	Public Safety Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability					
A. Actives	2,039,550	3,676,694	1,051,986	200,081	6,968,311
B. Retirees/Disabled	<u>2,250,759</u>	<u>2,552,854</u>	<u>1,314,908</u>	<u>0</u>	<u>6,118,521</u>
C. Total	4,290,309	6,229,548	2,366,894	200,081	13,086,832
II. Fiduciary Net Position [Plan Assets]	(87,885)	283,556	107,901	9,194	312,766
III. Net OPEB Liability (Asset) [I. - II.]	4,378,194	5,945,992	2,258,993	190,887	12,774,066
IV. Number of Eligible Participants					
A. Actives	48	58	21	3	130
B. Retirees/Disabled	<u>50</u>	<u>54</u>	<u>15</u>	<u>0</u>	<u>119</u>
C. Total	98	112	36	3	249
For the Reporting Date and Fiscal Year Ending June 30, 2019					
V. Service Cost	140,055	165,430	112,917	7,195	425,597
VI. Financial Statement Expense	259,531	316,000	172,767	12,308	760,606
VII. Employer Share of Costs	(174,282)	(195,400)	(79,712)	(411)	(449,805)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(11,398)	(16,612)	(6,434)	(556)	(35,000)
IX. Total Employer Contribution [VII. + VIII.]	(185,680)	(212,012)	(86,146)	(967)	(484,805)

PRINCIPAL RESULTS OF THE VALUATION

Town of Halifax

Assuming Funding - 4.25% discount rate

For the Period ending on the June 30, 2019 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	3,468,840	3,581,793	7,050,633	780,902	3,315,876	4,096,778	11,147,411
B. Spouses	<u>1,829,401</u>	<u>2,555,046</u>	<u>4,384,447</u>	<u>318,277</u>	<u>1,703,466</u>	<u>2,021,743</u>	<u>6,406,190</u>
C. Total	5,298,241	6,136,839	11,435,080	1,099,179	5,019,342	6,118,521	17,553,601
Total OPEB Liability							
A. Participants	2,108,266	2,196,213	4,304,479	780,902	3,315,876	4,096,778	8,401,257
B. Spouses	<u>1,094,679</u>	<u>1,569,153</u>	<u>2,663,832</u>	<u>318,277</u>	<u>1,703,466</u>	<u>2,021,743</u>	<u>4,685,575</u>
C. Total	3,202,945	3,765,366	6,968,311	1,099,179	5,019,342	6,118,521	13,086,832
Service Cost							
A. Participants	121,299	139,947	261,246	0	0	0	261,246
B. Spouses	<u>65,870</u>	<u>98,481</u>	<u>164,351</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>164,351</u>
C. Total	187,169	238,428	425,597	0	0	0	425,597

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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, 2019	
Description	Amount
I. Service Cost	425,597
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	725,097
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	(545,254)
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	173,314
VI. Projected earnings on OPEB plan investments	(19,296)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	1,148
VIII. Financial statement expense [I. + II.+ III. + IV. + V. + VI. + VII.]	760,606

* Recognized Immediately

** Amortized over 5.22 years

*** Amortized over 5.00 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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, 2018	20,010,932	229,842	19,781,090
II. Prior Period Adjustment	<u>(3,152,855)</u>	<u>36,712</u>	<u>(3,189,567)</u>
III. Balances for June 30, 2018 with Adjustment [I. + II.]	16,858,077	266,554	16,591,523
Changes for the year:			
IV. Service Cost	425,597	0	425,597
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	725,097	0	725,097
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	904,704	0	904,704
VIII. Differences between actual and expected experience **	<u>(5,376,838)</u>	0	<u>(5,376,838)</u>
IX. Net investment income	0	11,212	<u>(11,212)</u>
X. Employer contributions to Trust	0	484,805	<u>(484,805)</u>
XI. Benefit payments withdrawn from Trust	0	<u>(449,805)</u>	449,805
XII. Benefit payments excluding Implicit Cost	<u>(363,382)</u>	0	<u>(363,382)</u>
XIII. Implicit Cost amount	<u>(86,423)</u>	0	<u>(86,423)</u>
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	<u>(449,805)</u>	0	<u>(449,805)</u>
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.]	<u>(3,771,245)</u>	<u>46,212</u>	<u>(3,817,457)</u>
XVIII. Balances at June 30, 2019 [III.+XVII.]	13,086,832	312,766	12,774,066

* Recognized Immediately

** Amortized over 5.22 years

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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	2019	2020	2021	2022	2023	2024
				2017	2,564,102	5.17	1,076,228	495,958	495,958
2018	(55,834)	5.00	(33,500)	(11,167)	(11,167)	(11,167)	(11,166)		
2019	(5,376,838)	5.22	(4,346,793)	(1,030,045)	(1,030,045)	(1,030,045)	(1,030,045)	(1,030,045)	(226,613)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(3,304,065)						
Net increase (decrease) in OPEB expense				(545,254)	(545,254)	(545,254)	(956,899)	(1,030,045)	(226,613)

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	2019	2020	2021	2022	2023	2024
				2017	0	5.17	0	0	0
2018	0	5.00	0	0	0	0	0		
2019	904,704	5.22	731,390	173,314	173,314	173,314	173,314	173,314	38,134
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			731,390						
Net increase (decrease) in OPEB expense				173,314	173,314	173,314	173,314	173,314	38,134

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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	Recognition	Remaining	2019	2020	2021	2022	2023	2024
	actual & expected earnings								
2017	(312)	5.00	(126)	(62)	(62)	(64)			
2018	(2,036)	5.00	(1,222)	(407)	(407)	(407)	(408)		
2019	8,084	5.00	6,467	1,617	1,617	1,617	1,617	1,616	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			5,119						
Net increase (decrease) in OPEB expense				1,148	1,148	1,146	1,209	1,616	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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, 2019 to be reported for the fiscal year ending June 30, 2019		
	Deferred Outflows of Resources	Deferred Inflows of Resources
I. Differences between actual & expected experience	1,076,228	(4,380,293)
II. Changes of assumptions	731,390	0
III. Net difference between projected & actual earnings on OPEB plan investments	<u>6,467</u>	<u>(1,348)</u>
IV. Total [I.+II.+III.]	1,814,085	(4,381,641)
Annual Amortization of Deferred (Inflows)/Outflows		
The balance of deferred (inflows)/outflows as of June 30, 2019 will be recognized in future years as shown below.		
	Year ending June 30:	
	2020	(370,792)
	2021	(370,794)
	2022	(782,376)
	2023	(855,115)
	2024	(188,479)
	Thereafter	0

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES (As of the June 30, 2019 Measurement Date)

4. 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, 2019 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$449,805. The Town also made a contribution to an OPEB Trust of \$35,000 for a total contribution during the measurement period of \$484,805 to be reported on the financial statement for the fiscal year ending June 30, 2019.

5. 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	20.00%	Domestic Equity - Large Cap	4.00%
Domestic Equity - Small/Mid Cap	10.00%	Domestic Equity - Small/Mid Cap	6.00%
International Equity - Developed Market	10.00%	International Equity - Developed Market	4.50%
International Equity-Emerging Market	5.00%	International Equity-Emerging Market	7.00%
Domestic Fixed Income	25.00%	Domestic Fixed Income	2.00%
International Fixed Income	10.00%	International Fixed Income	3.00%
Alternatives	20.00%	Alternatives	6.50%
Real Estate	0.00%	Real Estate	6.25%
Cash & Cash Equivalents	0.00%	Cash & Cash Equivalents	0.00%
Total	<u>100.00%</u>		
		I. Real Rate of Return*	<u>4.30%</u>
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	7.05%
		IV. Investment Expense	0.25%
		V. Net Investment Return [III.-IV.]	<u>6.80%</u>

*Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

6. Funded Status and Funding Progress

Fiscal Year	Measurement Date	Fiduciary Net Position	Total OPEB Liability	Net OPEB Liability	Funded Ratio	Covered Payroll	NOL as a % of
							Covered Payroll
2016	7/1/2015	\$141,174	\$11,902,425	\$11,761,251	1.2%	\$4,976,171	236.4%
2017	7/1/2016	\$179,434	\$19,174,741	\$18,995,307	0.9%	\$8,249,689	230.3%
2018	7/1/2017	\$229,842	\$20,010,932	\$19,781,090	1.1%	\$8,497,179	232.8%
2019	6/30/2019	\$312,766	\$13,086,832	\$12,774,066	2.4%	\$9,527,659	134.1%
2020	6/30/2020 (est.)	\$371,238	\$13,592,198	\$13,220,960	2.7%	\$9,813,489	134.7%
2021	6/30/2021 (est.)	\$434,719	\$14,071,299	\$13,636,580	3.1%	\$10,107,893	134.9%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

7. Effect of 1% Change in Healthcare Trend

<u>Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	11,258,055	13,086,832	15,421,111
II. Fiduciary Net Position	<u>312,766</u>	<u>312,766</u>	<u>312,766</u>
III. Net OPEB Liability (Asset) [I.-II.]	10,945,289	12,774,066	15,108,345
IV. Service Cost	330,932	425,597	556,629

8. Effect of 1% Change in Discount Rates

<u>Impact of a 1% Change in the Discount Rate as of the June 30, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	15,135,210	13,086,832	11,451,671
II. Fiduciary Net Position	<u>312,766</u>	<u>312,766</u>	<u>312,766</u>
III. Net OPEB Liability (Asset) [I.-II.]	14,822,444	12,774,066	11,138,905
IV. Service Cost	552,840	425,597	331,655

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 Measurement Date)

9. Money Weighted Rate of Return

	Plan	Periods	Period
	Investments /	Invested	Weight
	Net External		
	Cash Flows		
I. Beginning value - June 30, 2018	266,554	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	35,000	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	35,000		
III. Earnings and increase in fair value	11,212		
IV. Ending value - June 30, 2019 [I.+II.+III.]	312,766		
Money Weighted Rate of Return	3.95%		
Asset Value - June 30, 2019	312,766		

EXHIBIT A
FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 Measurement Date)

10. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2019				
	Town Employees and Retirees	School Employees and Retirees	Public Safety Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability as of June 30, 2019	4,290,309	6,229,548	2,366,894	200,081	13,086,832
II. Fiduciary Net Position as of June 30, 2019	<u>(87,885)</u>	283,556	107,901	9,194	312,766
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	4,378,194	5,945,992	2,258,993	190,887	12,774,066
IV. Service Cost	140,055	165,430	112,917	7,195	425,597
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	236,939	343,626	133,214	11,318	725,097
VI. Projected Earnings on OPEB Plan Investments	4,795	(17,047)	(6,491)	(553)	(19,296)
VII. Net Recognition of Deferred (Inflows)/Outflows	(122,258)	(176,009)	(66,873)	(5,652)	(370,792)
VIII. Expense Related to Change in Benefit Terms	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
IX. Financial Statement Expense [IV. + V. + VI. + VII. + VIII.]	259,531	316,000	172,767	12,308	760,606
X. Employer Share of Costs	(174,282)	(195,400)	(79,712)	(411)	(449,805)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(11,398)	(16,612)	(6,434)	(556)	(35,000)
XII. Total Employer Contribution [X. + XI.]	<u>(185,680)</u>	<u>(212,012)</u>	<u>(86,146)</u>	<u>(967)</u>	<u>(484,805)</u>
XIII. Net OPEB Expense [IX. + XII.]	73,851	103,988	86,621	11,341	275,801

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

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

Valuation Date	July 1, 2018
For the Measurement Period ending on the Measurement Date of:	June 30, 2019
For the Reporting Period & Fiscal Year ending on:	June 30, 2019
Source of Deferred Inflow/Outflow	
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(3,304,065)
II. Deferred (Inflow)/Outflow from Investment Experience	5,119
III. Deferred (Inflow)/Outflow from Changes in Assumptions	731,390
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	1,572,186
II. Deferred Outflow created during the period	912,788
III. Deferred Outflow recognized during the period	670,889
IV. Change in Deferred Outflow (II. - III.)	241,899
V. Deferred Outflow at end of the period (I. + IV.)	1,814,085
VI. Deferred Inflow at the beginning of the period	(46,484)
VII. Deferred Inflow created during the period	(5,376,838)
VIII. Deferred Inflow recognized during the period	(1,041,681)
IX. Change in Deferred Inflow (VII. - VIII.)	(4,335,157)
X. Deferred Inflow at end of the period (VI. + IX.)	(4,381,641)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	16,591,523
II. Service Cost	425,597
III. Interest on Total OPEB Liability, Service Cost, and Payments	725,097
IV. Projected Investment Income	(19,296)
V. Total Employer Contributions	(484,805)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	646,593
VIII. Deferred Outflow created during the period	912,788
IX. Deferred Inflow created during the period	(5,376,838)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	12,774,066
Net OPEB Expense	
I. Service Cost	425,597
II. Interest on Total OPEB Liability, Service Cost, and Payments	725,097
III. Projected Investment Income	(19,296)
IV. Recognition of Deferred (Inflow)/Outflow	(370,792)
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	760,606
VII. Benefit Payments	(449,805)
VIII. Contributions to Trust	(35,000)
IX. Total Employer Payments (VII. + VIII.)	(484,805)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	275,801

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 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, 2019</u>	<u>June 30, 2018</u>	For the Fiscal Year Ending:	
			<u>June 30, 2017</u>	<u>June 30, 2016</u>
I. Service Cost	425,597	519,257	690,747	641,713
II. 30 year level dollar amortization of NOL	<u>730,275</u>	<u>1,130,857</u>	<u>979,822</u>	<u>992,719</u>
III. Actuarial Determined Contribution [I. + II.]	1,155,872	1,650,114	1,670,569	1,634,432
IV. Contributions in relation to the actuarially determined contribution	<u>(484,805)</u>	<u>(462,943)</u>	<u>(423,896)</u>	<u>(423,896)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>671,067</u>	<u>1,187,171</u>	<u>1,246,673</u>	<u>1,210,536</u>
Covered employee payroll	9,527,659	8,497,180	8,249,689	8,249,689
Contributions as a % of covered employee payroll	5.09%	5.45%	5.14%	5.14%
Discount Rate	4.25%	4.25%	3.00%	3.00%
Money Weighted Rate of Return	3.95%	5.07%	7.84%	2.31%

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION
(As of the June 30, 2019 Measurement Date)

Schedule of Changes in the Town's Net OPEB Liability and Related Ratios				
Valuation Date	July 1, 2018	July 1, 2016	July 1, 2016	July 1, 2016
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018	June 30, 2017	June 30, 2016
Total OPEB Liability	13,086,832	16,858,077	20,010,932	19,174,741
I. Service Cost	425,597	519,257	690,747	641,713
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	725,097	863,534	590,174	489,214
III. Changes in Benefit terms	0	0	0	0
IV. Difference between Expected & Actual Plan Experience	(5,376,838)	(871,730)	(55,834)	2,564,102
V. Changes of assumptions	904,704	(3,235,973)	0	0
VI. Benefit Payments Excluding Implicit Cost	(363,382)	N/A	N/A	N/A
VII. Implicit Cost Amount	(86,423)	N/A	N/A	N/A
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	(449,805)	(427,943)	(388,896)	(368,764)
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	(3,771,245)	(3,152,855)	836,191	3,326,265
X. Total OPEB liability - beginning of period	16,858,077	20,010,932	19,174,741	15,848,476
XI. Total OPEB liability - end of period [IX.+X.]	13,086,832	16,858,077	20,010,932	19,174,741
Plan Fiduciary Net Position	312,766	266,554	229,842	179,434
XII. Earning from Plan Investments	11,212	1,712	15,408	3,260
XIII. Employer Contribution to trust	484,805	462,943	423,896	403,764
XIV. Benefit payments from trust, including refunds of member contributions	(449,805)	(427,943)	(388,896)	(368,764)
XV. Administrative expense	0	0	0	0
XVI. Other	0	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	46,212	36,712	50,408	38,260
XVIII. Plan fiduciary net position - beginning of period	266,554	229,842	179,434	141,174
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	312,766	266,554	229,842	179,434
XX. Net OPEB Liability [XI.-XIX.]	12,774,066	16,591,523	19,781,090	18,995,307
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	2.39%	1.58%	1.15%	0.94%
XXII. Covered employee payroll	9,527,659	8,497,180	8,249,689	8,249,689
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	134.07%	195.26%	239.78%	230.25%
Single Discount Rate to calculate Plan Liabilities	4.25%	4.25%	3.00%	3.00%

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Notes to Required Supplementary Information:

Valuation Date:	Actuarially Determined Contribution was calculated as of July 1, 2018.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, June 30, 2019.

Actuarial Assumptions:

Investment Rate of Return:	6.80%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	4.25%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of June 30, 2019 and for future periods
Salary Increases:	3.00% annually as of June 30, 2019 and for future periods
Cost of Living Adjustment:	Not Applicable

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

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

EXHIBIT BREQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Plan Membership

At July 1, 2018, OPEB plan membership consisted of the following:

Inactive employees or beneficiaries currently receiving benefits:	119
Active Employees:	<u>130</u>
Total:	249

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, 2018 to June 30, 2019

- ✓ 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
- ✓ Retirement assumptions have been updated
- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ The method for developing expected medical claims has been updated

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$35,000 beyond the pay-as-you-go cost for the period ending on the June 30, 2019 Measurement Date. For the year ending on the June 30, 2019 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$449,805. \$86,423 of the \$449,805 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 4.25% 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 6.80% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [III. / I.]	V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Excess Employer Payments (beyond claims)	VIII. Total Employer Payments [VI. + VII.]
2019	June 30, 2019	13,086,832	312,766	12,774,066	2.39%	425,597	449,805	35,000	484,805
2020	June 30, 2020	13,592,198	371,238	13,220,960	2.73%	438,640	497,642	36,000	533,642
2021	June 30, 2021	14,071,299	434,719	13,636,580	3.09%	454,509	537,540	37,000	574,540
2022	June 30, 2022	14,585,701	503,551	14,082,150	3.45%	472,179	551,365	38,000	589,365
2023	June 30, 2023	15,097,765	578,097	14,519,668	3.83%	491,066	591,091	39,000	630,091
2024	June 30, 2024	15,600,256	658,745	14,941,511	4.22%	511,380	638,018	40,000	678,018
2025	June 30, 2025	16,141,636	745,911	15,395,725	4.62%	534,988	644,332	41,000	685,332
2026	June 30, 2026	16,700,496	840,037	15,860,459	5.03%	558,304	672,621	42,000	714,621
2027	June 30, 2027	17,279,186	941,597	16,337,589	5.45%	579,931	697,425	43,000	740,425
2028	June 30, 2028	17,929,879	1,051,097	16,878,782	5.86%	603,642	681,616	44,000	725,616
2029	June 30, 2029	18,614,330	1,169,076	17,445,254	6.28%	628,800	692,613	45,000	737,613
2030	June 30, 2030	19,333,966	1,296,111	18,037,855	6.70%	655,836	723,522	46,000	769,522
2031	June 30, 2031	20,111,096	1,432,818	18,678,278	7.12%	681,769	727,012	47,000	774,012
2032	June 30, 2032	20,857,958	1,579,855	19,278,103	7.57%	707,410	767,446	48,000	815,446
2033	June 30, 2033	21,582,336	1,737,924	19,844,412	8.05%	735,759	829,969	49,000	878,969
2034	June 30, 2034	22,285,878	1,907,775	20,378,103	8.56%	764,232	872,925	50,000	922,925
2035	June 30, 2035	23,055,362	2,090,209	20,965,153	9.07%	795,751	926,003	51,000	977,003
2036	June 30, 2036	23,811,930	2,286,082	21,525,848	9.60%	824,946	979,486	52,000	1,031,486
2037	June 30, 2037	24,671,481	2,496,308	22,175,173	10.12%	859,751	998,360	53,000	1,051,360
2038	June 30, 2038	25,600,530	2,721,863	22,878,667	10.63%	897,585	1,006,164	54,000	1,060,164
2039	June 30, 2039	26,537,096	2,963,789	23,573,307	11.17%	933,954	1,058,659	55,000	1,113,659
2040	June 30, 2040	27,491,341	3,223,199	24,268,142	11.72%	969,920	1,086,784	56,000	1,142,784
2041	June 30, 2041	28,400,276	3,501,283	24,898,993	12.33%	1,008,464	1,154,815	57,000	1,211,815
2042	June 30, 2042	29,375,563	3,799,310	25,576,253	12.93%	1,051,142	1,220,221	58,000	1,278,221
2043	June 30, 2043	30,397,733	4,118,636	26,279,097	13.55%	1,096,715	1,267,450	59,000	1,326,450
2044	June 30, 2044	31,421,786	4,460,710	26,961,076	14.20%	1,148,170	1,331,465	60,000	1,391,465
2045	June 30, 2045	32,492,458	4,827,078	27,665,380	14.86%	1,196,047	1,376,822	61,000	1,437,822
2046	June 30, 2046	33,647,015	5,219,393	28,427,622	15.51%	1,250,141	1,426,847	62,000	1,488,847
2047	June 30, 2047	34,835,572	5,639,418	29,196,154	16.19%	1,307,134	1,491,448	63,000	1,554,448
2048	June 30, 2048	36,052,747	6,089,039	29,963,708	16.89%	1,366,437	1,530,149	64,000	1,594,149
2049	June 30, 2049	37,398,055	6,570,267	30,827,788	17.57%	1,426,624	1,544,679	65,000	1,609,679
2050	June 30, 2050	38,759,824	7,085,252	31,674,572	18.28%	1,490,574	1,642,411	66,000	1,708,411

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

ALTERNATIVE FUNDING SCENARIO (OPEN GROUP)

7.00% discount rate and increasing at 3.00% per year									
For the Fiscal Year	Period Ending on the Measurement Date of:	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net	III. Net OPEB	IV. Funded	V. Service Cost	VI. Employer	VII. Annual Funding / (Payments)	VIII. Total
			Position as of Measurement Date with expected 6.80% return	Liability (Asset) ("NOL") [I. - II.]	Ratio [III. / I.]		Share of Premiums / Claims		Employer Payments [VI. + VII.]
2019	June 30, 2019	8,910,319	312,766	8,597,553	3.51%	217,094	449,805	35,000	484,805
2020	June 30, 2020	9,285,042	567,686	8,717,356	6.11%	226,294	497,642	226,091	723,733
2021	June 30, 2021	9,644,652	846,950	8,797,702	8.78%	235,236	537,540	232,874	770,414
2022	June 30, 2022	9,996,317	1,145,204	8,851,113	11.46%	245,015	551,365	239,860	791,225
2023	June 30, 2023	10,368,278	1,470,959	8,897,319	14.19%	255,430	591,091	247,056	838,147
2024	June 30, 2024	10,734,942	1,826,302	8,908,640	17.01%	266,391	638,018	254,468	892,486
2025	June 30, 2025	11,088,829	2,213,468	8,875,361	19.96%	279,294	644,332	262,102	906,434
2026	June 30, 2026	11,473,568	2,634,851	8,838,717	22.96%	292,022	672,621	269,965	942,586
2027	June 30, 2027	11,869,282	3,093,014	8,776,268	26.06%	303,608	697,425	278,064	975,489
2028	June 30, 2028	12,278,303	3,590,702	8,687,601	29.24%	316,120	681,616	286,406	968,022
2029	June 30, 2029	12,746,852	4,130,853	8,615,999	32.41%	329,578	692,613	294,998	987,611
2030	June 30, 2030	13,244,356	4,716,614	8,527,742	35.61%	343,942	723,522	303,848	1,027,370
2031	June 30, 2031	13,765,652	5,351,353	8,414,299	38.87%	357,748	727,012	312,963	1,039,975
2032	June 30, 2032	14,334,617	6,038,674	8,295,943	42.13%	371,266	767,446	322,352	1,089,798
2033	June 30, 2033	14,884,900	6,782,436	8,102,464	45.57%	386,137	829,969	332,023	1,161,992
2034	June 30, 2034	15,409,721	7,586,768	7,822,953	49.23%	401,045	872,925	341,984	1,214,909
2035	June 30, 2035	15,919,151	8,456,088	7,463,063	53.12%	417,600	926,003	352,244	1,278,247
2036	June 30, 2036	16,470,825	9,395,125	7,075,700	57.04%	432,781	979,486	362,811	1,342,297
2037	June 30, 2037	17,004,721	10,408,937	6,595,784	61.21%	450,867	998,360	373,695	1,372,055
2038	June 30, 2038	17,615,850	11,502,936	6,112,914	65.30%	470,747	1,006,164	384,906	1,391,070
2039	June 30, 2039	18,282,504	12,682,913	5,599,591	69.37%	489,789	1,058,659	396,453	1,455,112
2040	June 30, 2040	18,952,303	13,955,062	4,997,241	73.63%	508,484	1,086,784	408,347	1,495,131
2041	June 30, 2041	19,636,692	15,326,009	4,310,683	78.05%	528,502	1,154,815	420,597	1,575,412
2042	June 30, 2042	20,286,090	16,802,840	3,483,250	82.83%	550,883	1,220,221	433,215	1,653,436
2043	June 30, 2043	20,969,983	18,393,135	2,576,848	87.71%	574,670	1,267,450	446,211	1,713,661
2044	June 30, 2044	21,685,710	20,105,001	1,580,709	92.71%	601,474	1,331,465	459,597	1,791,062
2045	June 30, 2045	22,398,257	21,947,107	451,150	97.99%	626,490	1,376,822	473,385	1,850,207
2046	June 30, 2046	23,138,577	23,928,726	(790,149)	103.41%	654,750	1,426,847	451,150	1,877,997
2047	June 30, 2047	23,934,726	26,022,116	(2,087,390)	108.72%	684,498	1,491,448	0	1,491,448
2048	June 30, 2048	24,748,852	27,791,620	(3,042,768)	112.29%	715,432	1,530,149	0	1,530,149
2049	June 30, 2049	25,586,850	29,681,450	(4,094,600)	116.00%	746,856	1,544,679	0	1,544,679
2050	June 30, 2050	26,525,416	31,699,789	(5,174,373)	119.51%	780,275	1,642,411	0	1,642,411
2051	June 30, 2051	27,455,569	33,855,375	(6,399,806)	123.31%	817,264	1,695,828	0	1,695,828
2052	June 30, 2052	28,451,499	36,157,541	(7,706,042)	127.08%	855,499	1,743,251	0	1,743,251
2053	June 30, 2053	29,488,195	38,616,254	(9,128,059)	130.95%	895,453	1,765,166	0	1,765,166
2054	June 30, 2054	30,602,376	41,242,159	(10,639,783)	134.77%	936,962	1,843,843	0	1,843,843
2055	June 30, 2055	31,781,272	44,046,626	(12,265,354)	138.59%	982,181	1,848,910	0	1,848,910
2056	June 30, 2056	33,134,572	47,041,797	(13,907,225)	141.97%	1,027,329	1,898,944	0	1,898,944
2057	June 30, 2057	34,718,827	50,240,639	(15,521,812)	144.71%	1,075,069	1,978,960	0	1,978,960
2058	June 30, 2058	36,391,734	53,657,002	(17,265,268)	147.44%	1,125,426	2,053,434	0	2,053,434

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES

Projection of Contributions using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for current employees	II. Payroll for future employees	III. Total employee 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, 2019	9,527,659	0	9,527,659	0	449,805	0	449,805
June 30, 2020	9,180,215	633,274	9,813,489	0	497,642	0	497,642
June 30, 2021	8,953,509	1,154,384	10,107,893	0	537,540	0	537,540
June 30, 2022	8,763,290	1,647,840	10,411,130	0	551,365	0	551,365
June 30, 2023	8,569,054	2,154,410	10,723,464	0	591,091	0	591,091
June 30, 2024	8,379,900	2,665,268	11,045,168	0	638,018	0	638,018
June 30, 2025	8,229,327	3,147,196	11,376,523	0	644,332	0	644,332
June 30, 2026	8,078,846	3,638,973	11,717,819	0	672,621	0	672,621
June 30, 2027	7,841,132	4,228,222	12,069,354	0	697,425	0	697,425
June 30, 2028	7,603,441	4,827,994	12,431,435	0	681,616	0	681,616
June 30, 2029	7,361,455	5,442,923	12,804,378	0	692,613	0	692,613
June 30, 2030	7,199,372	5,989,137	13,188,509	0	718,988	4,534	723,522
June 30, 2031	7,033,954	6,550,210	13,584,164	0	715,600	11,412	727,012
June 30, 2032	6,803,627	7,188,062	13,991,689	0	746,261	21,185	767,446
June 30, 2033	6,595,993	7,815,447	14,411,440	0	794,789	35,180	829,969
June 30, 2034	6,376,360	8,467,423	14,843,783	0	820,017	52,908	872,925
June 30, 2035	6,178,466	9,110,630	15,289,096	0	859,982	66,021	926,003
June 30, 2036	5,876,591	9,871,178	15,747,769	0	897,664	81,822	979,486
June 30, 2037	5,650,666	10,569,536	16,220,202	0	898,397	99,963	998,360
June 30, 2038	5,498,120	11,208,688	16,706,808	0	891,977	114,187	1,006,164
June 30, 2039	5,307,431	11,900,581	17,208,012	0	928,532	130,127	1,058,659
June 30, 2040	5,085,569	12,638,683	17,724,252	0	933,990	152,794	1,086,784
June 30, 2041	4,788,034	13,467,946	18,255,980	0	972,771	182,044	1,154,815
June 30, 2042	4,460,840	14,342,819	18,803,659	0	1,002,891	217,330	1,220,221
June 30, 2043	4,127,482	15,240,287	19,367,769	0	1,006,191	261,259	1,267,450
June 30, 2044	3,969,116	15,979,686	19,948,802	0	1,018,024	313,441	1,331,465
June 30, 2045	3,718,099	16,829,167	20,547,266	0	1,021,244	355,578	1,376,822
June 30, 2046	3,489,875	17,673,809	21,163,684	0	1,022,847	404,000	1,426,847
June 30, 2047	3,292,821	18,505,774	21,798,595	0	1,033,545	457,903	1,491,448
June 30, 2048	3,107,903	19,344,650	22,452,553	0	1,025,944	504,205	1,530,149
June 30, 2049	2,832,772	20,293,358	23,126,130	0	989,675	555,004	1,544,679
June 30, 2050	2,542,970	21,276,944	23,819,914	0	1,029,579	612,832	1,642,411
June 30, 2051	2,308,678	22,225,833	24,534,511	0	1,019,328	676,500	1,695,828
June 30, 2052	2,080,530	23,190,016	25,270,546	0	998,754	744,497	1,743,251
June 30, 2053	1,858,850	24,169,812	26,028,662	0	947,025	818,141	1,765,166
June 30, 2054	1,573,241	25,236,281	26,809,522	0	944,476	899,367	1,843,843
June 30, 2055	1,431,701	26,182,107	27,613,808	0	871,051	977,859	1,848,910
June 30, 2056	1,213,116	27,229,106	28,442,222	0	836,969	1,061,975	1,898,944
June 30, 2057	969,613	28,325,876	29,295,489	0	827,299	1,151,661	1,978,960
June 30, 2058	729,401	29,444,953	30,174,354	0	810,830	1,242,604	2,053,434

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

CONTRIBUTION PROJECTION DISCLOSURES (CONTINUED)

Projection of Contributions using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Payroll for		III. Total employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
	current employees	II. Payroll for future employees			Payments for current plan members		
June 30, 2059	622,748	30,456,837	31,079,585	0	786,833	1,338,571	2,125,404
June 30, 2060	465,960	31,546,013	32,011,973	0	784,780	1,441,206	2,225,986
June 30, 2061	387,387	32,584,945	32,972,332	0	747,388	1,549,358	2,296,746
June 30, 2062	333,955	33,627,547	33,961,502	0	714,225	1,662,860	2,377,085
June 30, 2063	246,191	34,734,156	34,980,347	0	700,926	1,784,372	2,485,298
June 30, 2064	142,778	35,886,979	36,029,757	0	647,386	1,914,263	2,561,649
June 30, 2065	119,962	36,990,688	37,110,650	0	626,359	2,046,921	2,673,280
June 30, 2066	78,581	38,145,389	38,223,970	0	605,975	2,186,035	2,792,010
June 30, 2067	40,347	39,330,342	39,370,689	0	588,385	2,332,693	2,921,078
June 30, 2068	18,295	40,533,515	40,551,810	0	570,101	2,482,579	3,052,680
June 30, 2069	0	41,768,364	41,768,364	0	551,169	2,638,044	3,189,213
June 30, 2070	0	43,021,415	43,021,415	0	531,746	2,801,122	3,332,868
June 30, 2071	0	44,312,057	44,312,057	0	511,946	2,971,086	3,483,032
June 30, 2072	0	45,641,419	45,641,419	0	491,776	3,147,545	3,639,321
June 30, 2073	0	47,010,662	47,010,662	0	471,271	3,332,636	3,803,907
June 30, 2074	0	48,420,982	48,420,982	0	450,464	3,526,136	3,976,600
June 30, 2075	0	49,873,611	49,873,611	0	429,378	3,727,224	4,156,602
June 30, 2076	0	51,369,819	51,369,819	0	408,070	3,935,368	4,343,438
June 30, 2077	0	52,910,914	52,910,914	0	386,557	4,152,875	4,539,432
June 30, 2078	0	54,498,241	54,498,241	0	364,876	4,378,960	4,743,836
June 30, 2079	0	56,133,188	56,133,188	0	343,103	4,613,152	4,956,255
June 30, 2080	0	57,817,184	57,817,184	0	321,331	4,857,253	5,178,584
June 30, 2081	0	59,551,700	59,551,700	0	299,634	5,112,425	5,412,059
June 30, 2082	0	61,338,251	61,338,251	0	278,120	5,377,473	5,655,593
June 30, 2083	0	63,178,399	63,178,399	0	256,888	5,653,120	5,910,008
June 30, 2084	0	65,073,751	65,073,751	0	236,024	5,941,404	6,177,428
June 30, 2085	0	67,025,964	67,025,964	0	215,646	6,242,264	6,457,910
June 30, 2086	0	69,036,743	69,036,743	0	195,821	6,554,795	6,750,616
June 30, 2087	0	71,107,845	71,107,845	0	176,678	6,881,531	7,058,209
June 30, 2088	0	73,241,080	73,241,080	0	158,304	7,223,470	7,381,774
June 30, 2089	0	75,438,312	75,438,312	0	140,826	7,579,389	7,720,215
June 30, 2090	0	77,701,461	77,701,461	0	124,836	7,951,147	8,075,983
June 30, 2091	0	80,032,505	80,032,505	0	110,348	8,340,558	8,450,906
June 30, 2092	0	82,433,480	82,433,480	0	96,722	8,746,955	8,843,677
June 30, 2093	0	84,906,484	84,906,484	0	84,022	9,171,534	9,255,556

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY NET POSITION PROJECTION DISCLOSURES

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2019	266,554	449,805	449,805	0	35,000	35,000	11,212	312,766
June 30, 2020	312,766	497,642	497,642	0	36,000	33,677	21,022	367,465
June 30, 2021	367,465	537,540	537,540	0	37,000	32,774	26,084	426,323
June 30, 2022	426,323	551,365	551,365	0	38,000	31,985	30,060	488,368
June 30, 2023	488,368	591,091	591,091	0	39,000	31,165	34,251	553,784
June 30, 2024	553,784	638,018	638,018	0	40,000	30,348	38,672	622,804
June 30, 2025	622,804	644,332	644,332	0	41,000	29,658	43,342	695,804
June 30, 2026	695,804	672,621	672,621	0	42,000	28,957	48,283	773,044
June 30, 2027	773,044	697,425	697,425	0	43,000	27,936	53,501	854,481
June 30, 2028	854,481	681,616	681,616	0	44,000	26,912	59,005	940,398
June 30, 2029	940,398	692,613	692,613	0	45,000	25,871	64,812	1,031,081
June 30, 2030	1,031,081	718,988	723,522	0	46,000	25,111	70,953	1,122,611
June 30, 2031	1,122,611	715,600	727,012	0	47,000	24,337	77,151	1,212,687
June 30, 2032	1,212,687	746,261	767,446	0	48,000	23,341	83,243	1,298,086
June 30, 2033	1,298,086	794,789	829,969	0	49,000	22,427	89,020	1,374,353
June 30, 2034	1,374,353	820,017	872,925	0	50,000	21,478	94,174	1,437,097
June 30, 2035	1,437,097	859,982	926,003	0	51,000	20,610	98,412	1,490,098
June 30, 2036	1,490,098	897,664	979,486	0	52,000	19,405	101,976	1,529,657
June 30, 2037	1,529,657	898,397	998,360	0	53,000	18,464	104,634	1,552,792
June 30, 2038	1,552,792	891,977	1,006,164	0	54,000	17,771	106,184	1,562,560
June 30, 2039	1,562,560	928,532	1,058,659	0	55,000	16,964	106,821	1,556,218
June 30, 2040	1,556,218	933,990	1,086,784	0	56,000	16,068	106,360	1,525,852
June 30, 2041	1,525,852	972,771	1,154,815	0	57,000	14,950	104,258	1,463,016
June 30, 2042	1,463,016	1,002,891	1,220,221	0	58,000	13,759	99,945	1,359,390
June 30, 2043	1,359,390	1,006,191	1,267,450	0	59,000	12,574	92,859	1,203,564
June 30, 2044	1,203,564	1,018,024	1,331,465	0	60,000	11,938	82,242	984,303
June 30, 2045	984,303	1,021,244	1,376,822	0	61,000	11,038	67,302	707,065
June 30, 2046	707,065	1,022,847	1,426,847	0	62,000	10,224	48,422	361,711
June 30, 2047	361,711	1,033,545	1,491,448	0	63,000	9,517	24,915	34,432
June 30, 2048	34,432	1,025,944	1,530,149	0	64,000	8,859	2,638	11,497
June 30, 2049	11,497	989,675	1,544,679	0	65,000	7,962	1,048	9,010
June 30, 2050	9,010	1,029,579	1,642,411	0	66,000	7,046	848	7,894
June 30, 2051	7,894	1,019,328	1,695,828	0	67,000	6,305	748	7,053
June 30, 2052	7,053	998,754	1,743,251	0	68,000	5,598	667	6,265
June 30, 2053	6,265	947,025	1,765,166	0	69,000	4,928	591	5,519
June 30, 2054	5,519	944,476	1,843,843	0	70,000	4,108	513	4,621
June 30, 2055	4,621	871,051	1,848,910	0	71,000	3,681	437	4,118
June 30, 2056	4,118	836,969	1,898,944	0	72,000	3,071	383	3,454
June 30, 2057	3,454	827,299	1,978,960	0	73,000	2,416	316	2,732
June 30, 2058	2,732	810,830	2,053,434	0	74,000	1,789	246	2,035

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

FIDUCIARY POSITION PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2018 Valuation Date

For the Period Ending on the Measurement Date	I. Beginning Fiduciary Net Position for Current Plan Members	II. Portion of Employer Contributions for Current Plan Members	III. Total Benefit Payments	IV. Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Investment Earnings	VIII. Ending Fiduciary Net Position for Current Plan Members
June 30, 2059	2,035	786,833	2,125,404	0	75,000	1,503	189	1,692
June 30, 2060	1,692	784,780	2,225,986	0	76,000	1,106	152	1,258
June 30, 2061	1,258	747,388	2,296,746	0	77,000	905	116	1,021
June 30, 2062	1,021	714,225	2,377,085	0	78,000	767	95	862
June 30, 2063	862	700,926	2,485,298	0	79,000	556	77	633
June 30, 2064	633	647,386	2,561,649	0	80,000	317	54	371
June 30, 2065	371	626,359	2,673,280	0	81,000	262	34	296
June 30, 2066	296	605,975	2,792,010	0	82,000	169	26	195
June 30, 2067	195	588,385	2,921,078	0	83,000	85	16	101
June 30, 2068	101	570,101	3,052,680	0	84,000	38	8	46
June 30, 2069	46	551,169	3,189,213	0	85,000	0	3	3
June 30, 2070	3	531,746	3,332,868	0	86,000	0	0	0
June 30, 2071	0	511,946	3,483,032	0	87,000	0	0	0
June 30, 2072	0	491,776	3,639,321	0	88,000	0	0	0
June 30, 2073	0	471,271	3,803,907	0	89,000	0	0	0
June 30, 2074	0	450,464	3,976,600	0	90,000	0	0	0
June 30, 2075	0	429,378	4,156,602	0	91,000	0	0	0
June 30, 2076	0	408,070	4,343,438	0	92,000	0	0	0
June 30, 2077	0	386,557	4,539,432	0	93,000	0	0	0
June 30, 2078	0	364,876	4,743,836	0	94,000	0	0	0
June 30, 2079	0	343,103	4,956,255	0	95,000	0	0	0
June 30, 2080	0	321,331	5,178,584	0	96,000	0	0	0
June 30, 2081	0	299,634	5,412,059	0	97,000	0	0	0
June 30, 2082	0	278,120	5,655,593	0	98,000	0	0	0
June 30, 2083	0	256,888	5,910,008	0	99,000	0	0	0
June 30, 2084	0	236,024	6,177,428	0	100,000	0	0	0
June 30, 2085	0	215,646	6,457,910	0	101,000	0	0	0
June 30, 2086	0	195,821	6,750,616	0	102,000	0	0	0
June 30, 2087	0	176,678	7,058,209	0	103,000	0	0	0
June 30, 2088	0	158,304	7,381,774	0	104,000	0	0	0
June 30, 2089	0	140,826	7,720,215	0	105,000	0	0	0
June 30, 2090	0	124,836	8,075,983	0	106,000	0	0	0
June 30, 2091	0	110,348	8,450,906	0	107,000	0	0	0
June 30, 2092	0	96,722	8,843,677	0	108,000	0	0	0
June 30, 2093	0	84,022	9,255,556	0	109,000	0	0	0

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES

Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 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, 2019	266,554	449,805	266,554	183,251	266,554	183,251	449,805
June 30, 2020	312,766	497,642	312,766	184,876	292,852	179,851	477,993
June 30, 2021	367,465	537,540	367,465	170,075	322,161	160,956	495,930
June 30, 2022	426,323	551,365	426,323	125,042	349,965	115,121	488,600
June 30, 2023	488,368	591,091	488,368	102,723	375,372	92,003	503,122
June 30, 2024	553,784	638,018	553,784	84,234	398,551	73,393	521,623
June 30, 2025	622,804	644,332	622,804	21,528	419,685	18,248	505,986
June 30, 2026	695,804	672,621	672,621	0	424,396	0	507,345
June 30, 2027	773,044	697,425	697,425	0	412,029	0	505,284
June 30, 2028	854,481	681,616	681,616	0	377,050	0	474,332
June 30, 2029	940,398	692,613	692,613	0	358,739	0	462,954
June 30, 2030	1,031,081	718,988	718,988	0	348,689	0	461,608
June 30, 2031	1,122,611	715,600	715,600	0	324,949	0	441,293
June 30, 2032	1,212,687	746,261	746,261	0	317,296	0	442,031
June 30, 2033	1,298,086	794,789	794,789	0	316,413	0	452,187
June 30, 2034	1,374,353	820,017	820,017	0	305,671	0	448,120
June 30, 2035	1,437,097	859,982	859,982	0	300,158	0	451,404
June 30, 2036	1,490,098	897,664	897,664	0	293,361	0	452,579
June 30, 2037	1,529,657	898,397	898,397	0	274,907	0	435,064
June 30, 2038	1,552,792	891,977	891,977	0	255,564	0	414,900
June 30, 2039	1,562,560	928,532	928,532	0	249,099	0	414,850
June 30, 2040	1,556,218	933,990	933,990	0	234,610	0	400,813
June 30, 2041	1,525,852	972,771	972,771	0	228,793	0	400,973
June 30, 2042	1,463,016	1,002,891	1,002,891	0	220,859	0	397,066
June 30, 2043	1,359,390	1,006,191	1,006,191	0	207,477	0	382,643
June 30, 2044	1,203,564	1,018,024	1,018,024	0	196,552	0	371,857
June 30, 2045	984,303	1,021,244	984,303	36,941	177,941	18,046	358,305
June 30, 2046	707,065	1,022,847	707,065	315,782	119,684	150,068	344,698
June 30, 2047	361,711	1,033,545	361,711	671,834	57,328	310,595	334,551
June 30, 2048	34,432	1,025,944	34,432	991,512	5,110	445,927	318,978
June 30, 2049	11,497	989,675	11,497	978,178	1,598	427,974	295,553
June 30, 2050	9,010	1,029,579	9,010	1,020,569	1,172	434,385	295,329
June 30, 2051	7,894	1,019,328	7,894	1,011,434	962	418,797	280,844
June 30, 2052	7,053	998,754	7,053	991,701	804	399,466	264,311
June 30, 2053	6,265	947,025	6,265	940,760	669	368,648	240,726
June 30, 2054	5,519	944,476	5,519	938,957	552	357,941	230,599
June 30, 2055	4,621	871,051	4,621	866,430	433	321,316	204,274
June 30, 2056	4,118	836,969	4,118	832,851	361	300,469	188,532
June 30, 2057	3,454	827,299	3,454	823,845	284	289,142	178,996
June 30, 2058	2,732	810,830	2,732	808,098	210	275,907	168,506

APPENDIX I – LIABILITIES, ASSETS, & CASH FLOWS

BENEFIT PAYMENT PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a July 1, 2018 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, 2059	2,035	786,833	2,035	784,798	146	260,670		157,062
June 30, 2060	1,692	784,780	1,692	783,088	114	253,033		150,467
June 30, 2061	1,258	747,388	1,258	746,130	79	234,538		137,640
June 30, 2062	1,021	714,225	1,021	713,204	60	218,095		126,339
June 30, 2063	862	700,926	862	700,064	48	208,259		119,091
June 30, 2064	633	647,386	633	646,753	33	187,171		105,652
June 30, 2065	371	626,359	371	625,988	18	176,238		98,184
June 30, 2066	296	605,975	296	605,679	13	165,886		91,238
June 30, 2067	195	588,385	195	588,190	8	156,717		85,092
June 30, 2068	101	570,101	101	570,000	4	147,743		79,192
June 30, 2069	46	551,169	46	551,123	2	138,968		73,540
June 30, 2070	3	531,746	3	531,743	0	130,437		68,147
June 30, 2071	0	511,946	0	511,946	0	122,168		63,019
June 30, 2072	0	491,776	0	491,776	0	114,165		58,146
June 30, 2073	0	471,271	0	471,271	0	106,431		53,521
June 30, 2074	0	450,464	0	450,464	0	98,967		49,138
June 30, 2075	0	429,378	0	429,378	0	91,771		44,989
June 30, 2076	0	408,070	0	408,070	0	84,846		41,068
June 30, 2077	0	386,557	0	386,557	0	78,189		37,367
June 30, 2078	0	364,876	0	364,876	0	71,798		33,879
June 30, 2079	0	343,103	0	343,103	0	65,679		30,599
June 30, 2080	0	321,331	0	321,331	0	59,839		27,526
June 30, 2081	0	299,634	0	299,634	0	54,282		24,654
June 30, 2082	0	278,120	0	278,120	0	49,015		21,980
June 30, 2083	0	256,888	0	256,888	0	44,043		19,501
June 30, 2084	0	236,024	0	236,024	0	39,366		17,209
June 30, 2085	0	215,646	0	215,646	0	34,990		15,103
June 30, 2086	0	195,821	0	195,821	0	30,909		13,173
June 30, 2087	0	176,678	0	176,678	0	27,130		11,416
June 30, 2088	0	158,304	0	158,304	0	23,648		9,825
June 30, 2089	0	140,826	0	140,826	0	20,465		8,395
June 30, 2090	0	124,836	0	124,836	0	17,648		7,148
June 30, 2091	0	110,348	0	110,348	0	15,176		6,069
June 30, 2092	0	96,722	0	96,722	0	12,941		5,109
June 30, 2093	0	84,022	0	84,022	0	10,936		4,263

APPENDIX II - PLAN PROVISIONS

<u>Effective Date</u>	GASB 45 was adopted July 1, 2008 GASB 74 was adopted for the fiscal year ending June 30, 2017 GASB 75 was adopted for the fiscal year ending June 30, 2018
<u>Plan Year</u>	July 1 through June 30.
<u>Premium Effective Date</u>	Medicare Supplement Plans: effective July 1, 2019 Non-Medicare Plans: effective July 1, 2019 Dental Plans: effective July 1, 2019
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Comprehensive Medical Insurance offered through Blue Cross of Massachusetts and Harvard Pilgrim Health Group as well as \$5,000 of Group Term Life Insurance.
<u>Excise Tax</u>	Under the Patient Protection and Affordable Care Act (“PPACA”), a 40% tax will be imposed on the cost of medical benefits in excess of a specified threshold.
<u>Medicare Part B</u>	The Town does not reimburse Medicare Part B. The Town does not reimburse Medicare Part B Penalties.
<u>Surviving Spouse Coverage</u>	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	Family
Medical	50%	50%
Dental	100%	100%
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

Teacher: 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

Teacher: 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

Teacher: 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 normal 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

4.25% per annum (previously 4.25%)

Net Long Term Rate of Return

6.80% (based on investment policy)

Municipal Bond Rate

2.79% as of June 30, 2019 (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, 2019

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Excise Tax

The PPACA Excise tax is expected to take effect for tax years beginning after December 31, 2021. The projected 2022 threshold amounts are \$12,511 for single coverage and \$32,676 for family coverage. For qualified retirees and those engaged in high risk professions, a "kicker" amount of \$1,650 for single coverage and \$3,450 for family coverage is expected to be added to the above thresholds.

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

Age	0-4 Years of Service		5-9 Years of Service		10+ Years of Service	
	(Males)	(Females)	(Males)	(Females)	(Males)	(Females)
20	27.00%	27.00%	12.00%	12.00%	6.00%	6.00%
30	23.00%	23.00%	10.00%	10.00%	5.50%	5.50%
40	16.00%	16.00%	8.00%	8.00%	3.50%	3.50%
50	18.00%	18.00%	6.00%	6.00%	3.00%	3.00%
60	18.00%	18.00%	5.00%	5.00%	3.50%	3.50%

Public Safety Employees

Service	Public Safety	
	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%

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

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 2019 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Non-Medicare Plans: Initial Trend of 4.50% for 2019 grading down 0.00% per year for an ultimate trend rate of 4.50%.

Dental Plans: Initial Trend of 4.50% for 2019 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 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.

Compensation Increases

3.00% per year.

Inflation Rate

2.75% 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, 2019</u>	<u>July 1, 2017</u>
I. Actuarial Accrued Liability	13,086,832	20,010,932
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>11,325,690</u>	<u>1,992,471</u>
III. Liability from Implicit Subsidy [I. - II.]	1,761,142	18,018,461

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2019</u>	<u>July 1, 2017</u>
IV. Employer Payments (Including Implicit Subsidy)	449,805	388,896
V. Actual Employer Payments	<u>363,382</u>	N/A
VI. Implicit Subsidy [IV. - V.]	86,423	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	5,194	3,275	44 & Under	10,210	6,690	65 to 69	4,536	4,536
25 to 29	7,664	3,408	45 to 49	11,215	8,447	70 to 74	4,536	4,536
30 to 34	9,684	4,277	50 to 54	13,193	11,125	75 to 79	4,536	4,536
35 to 39	9,976	5,370	55 to 59	15,252	14,464	80 to 84	4,536	4,536
40 to 44	10,210	6,690	60 to 64	18,149	18,560	85 to 89	4,536	4,536
45 to 49	11,215	8,447	65 to 69	21,756	23,151	90 & Over	4,536	4,536
50 to 54	13,193	11,125	70 to 74	25,655	27,744			
55 to 59	15,252	14,464	75 to 79	29,794	32,767			
60 to 64	18,149	18,560	80 to 84	34,161	37,664			
65 to 69	21,756	23,151	85 to 89	38,995	43,111			
70 & Over	25,655	27,744	90 & Over	38,995	43,111			

*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, 2019 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, 2018	July 1, 2016
A. Average Age at Hire	35.22	35.45
B. Average Service	<u>10.69</u>	<u>12.79</u>
C. Average Current Age	45.91	48.24

Retired Employees & Spouses

Valuation Date	July 1, 2018	July 1, 2016
A. Under Age 65	18	12
B. Age 65 & Over	<u>101</u>	<u>95</u>
C. Total	119	107

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	5	1								6
25-29	6	2								8
30-34	10	2	3							15
35-39	5	2	7	1						15
40-44	4	2	4	3						13
45-49	7	3	6	2	3					21
50-54	4	2	4	3	1	1				15
55-59	3	1	3	5	8	1				21
60-64	1	1	2	3	2	3				12
65-69	1			1						2
70+	1					1				2
Total	47	16	29	18	14	6				130

APPENDIX IV - PLAN DEMOGRAPHICS

Plan Offerings

	Number of Contracts			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
Network Blue	26	0	17	43
Blue Care PPO	0	0	3	3
Network Blue Rate Saver	0	0	4	4
Blue Care Elect Benchmark	0	0	1	1
Network Blue Benchmark	1	0	0	1
Harvard Pilgrim	10	0	9	19
Harvard Pilgrim Rate Saver	0	0	1	1
Medex	<u>31</u>	<u>34</u>	<u>0</u>	<u>65</u>
Total	68	34	35	137

	Per Contract Costs (monthly)		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Network Blue	935.00	0.00	2,491.00
Blue Care PPO	1,327.00	0.00	3,142.00
Network Blue Rate Saver	842.00	0.00	2,245.00
Blue Care Elect Benchmark	1,101.00	0.00	2,611.00
Network Blue Benchmark	777.00	0.00	2,070.00
Harvard Pilgrim	1,012.00	0.00	2,695.00
Harvard Pilgrim Rate Saver	912.00	0.00	2,429.00
Medex	378.00	756.00	
Dental Plan	30.84		116.01

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.