

Town of Foxborough 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 December 19, 2019



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December 19, 2019

Personal and Confidential

Ms. Paula Maloney
Treasurer/Collector
Town of Foxborough
40 South Street
Foxborough, MA 02035

Dear Ms. Maloney:

We have performed an actuarial valuation of the Town of Foxborough 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 Foxborough, 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 background.

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

December 19, 2019

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Foxborough 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 \$3,227,930 or 9.12% of the beginning Total OPEB Liability ("TOL"). This was mainly due to premiums for Medicare Supplement plans increasing less than expected as well as fewer retirees than expected. During the period there was an investment loss of \$103,126 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 \$1.6 million.
- ✓ The expected long-term medical trend has been updated to 4.50% decreasing the disclosed liability by \$2.5 million.
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care increasing the disclosed liability by \$3.8 million.
- ✓ Assumption changes caused Service Cost to increase by \$25 thousand.

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

Changes in Benefits Terms

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

EXECUTIVE SUMMARY

Recognition Period

- ✓ Changes in assumptions & plan experience are amortized into the net OPEB expense over 6.18 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 2.79% as of June 30, 2019.
- ✓ Current Asset Level – The Town had \$9,738,334 of OPEB assets as of June 30, 2019.
- ✓ Funding Policy - The Town is expected to contribute \$1,064,069 annually until their pension system is fully funded, at which point the Town will reallocate the funds used to pay its pension amortization towards OPEB.
- ✓ Investment Policy - The Town is expected to earn 7.00% 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 69.68% 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 (7.00%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance

Medicare Buy-In

Recently, some of our clients have seen substantial cost savings by “buying into” Medicare for retirees who would otherwise be ineligible. To buy into Medicare the Town would need to pay the Medicare Part A premium and the Medicare Part A and B penalties. While the cost to buy into Medicare is significant, it is likely still far less than the cost of the claims that the associated retirees are expected to incur. Under Actuarial Standards of Practice for OPEB, we are required to reflect the projected higher healthcare costs that occur as retirees age. The Town currently has 14 retirees or covered spouses who are over the age of 65 and are enrolled in Active medical plans rather than Medicare Supplement (Senior) plans. You may wish to review their Medicare eligibility to see if they are already eligible for Medicare or if a “buy-in” is appropriate as this could yield a reduction in your OPEB annual costs and disclosed liabilities.

EXECUTIVE SUMMARY

Key Plan Metrics

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

Representative Plan Statistics		
Valuation Date	July 1, 2018	July 1, 2016
Measurement Date & Period Ending	June 30, 2019	June 30, 2018
Reporting Date/Fiscal Year End	June 30, 2019	June 30, 2018
Total OPEB Liability	36,873,505	35,387,932
Per Eligible Active Plan Participant	32,263	35,133
Per Retiree/Spouse Plan Participant	45,091	36,856
Total Annual Service Cost (annual benefit accrual)	927,039	925,445
Per Eligible Active Plan Participant	1,488	1,451
Expected Employer Share of Retiree Costs	1,655,975	1,382,116
Per Retiree/Spouse Plan Participant	4,452	3,926
Net OPEB Liability as a % of Covered Payroll	67.70%	65.20%
Average Annual Medical Plan Premium (Single Coverage)	6,397	6,085
Average Annual Medical Plan Premium (Family Coverage)	24,550	22,717
<u>Projected 2022 Excise Tax Thresholds</u>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	

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, 2019	372	36,873,505	36,873,505	1,655,975	1,655,975
June 30, 2024	485	45,245,131	39,028,847	2,279,621	1,966,421
June 30, 2029	538	54,397,678	40,476,981	3,018,596	2,246,119
June 30, 2034	562	64,050,624	41,111,658	3,776,361	2,423,902
June 30, 2039	568	75,023,496	41,538,691	4,477,733	2,479,212
June 30, 2044	568	88,212,206	42,130,641	5,386,143	2,572,452
June 30, 2049	560	105,445,326	43,442,078	6,155,907	2,536,152

PRINCIPAL RESULTS OF THE VALUATION

Town of Foxborough
Assuming Funding - 7.00% 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	June 30, 2018
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018
I. Total OPEB Liability		
A. Actives	20,099,807	22,414,616
B. Retirees/Disabled	<u>16,773,698</u>	<u>12,973,316</u>
C. Total	36,873,505	35,387,932
II. Fiduciary Net Position [Plan Assets]	9,738,334	8,168,952
III. Net OPEB Liability (Asset) [I. - II.]	27,135,171	27,218,980
IV. Funded Ratio [II. / I.]	26.41%	23.08%
V. Number of Eligible Participants		
A. Actives	623	638
B. Retirees/Disabled & Dependents	<u>372</u>	<u>352</u>
C. Total	995	990
VI. Service Cost	927,039	925,445
VII. Financial Statement Expense	2,820,367	2,810,299
VIII. Employer Contribution to the OPEB Trust	(1,064,069)	(964,069)
IX. Deferred Inflow of Resources	(2,705,612)	0
X. Deferred Outflow of Resources	2,680,895	159,415
XI. Money Weighted Rate of Return	5.84%	4.30%
XII. 20-year Municipal Bond Rate (SAPIHG)	2.79%	3.45%
XIII. Expected Long Term Rate of Return (Net of Expense)	7.00%	7.01%
XIV. Crossover Year	N/A	N/A
XV. Discount Rate	7.00%	7.00%

PRINCIPAL RESULTS OF THE VALUATION

Town of Foxborough Plan Liabilities as of the June 30, 2019 Measurement Date

	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	Total
I. Total OPEB Liability						
A. Actives	1,659,112	14,625,795	3,344,703	369,998	100,199	20,099,807
B. Retirees/Disabled	<u>2,335,228</u>	<u>12,057,535</u>	<u>1,806,113</u>	<u>574,822</u>	<u>0</u>	<u>16,773,698</u>
C. Total	3,994,340	26,683,330	5,150,816	944,820	100,199	36,873,505
II. Fiduciary Net Position [Plan Assets]	445,985	7,252,642	1,400,014	506,719	132,974	9,738,334
III. Net OPEB Liability (Asset) [I. - II.]	3,548,355	19,430,688	3,750,802	438,101	(32,775)	27,135,171
IV. Number of Eligible Participants						
A. Actives	75	456	74	14	4	623
B. Retirees/Disabled	<u>61</u>	<u>272</u>	<u>33</u>	<u>6</u>	<u>0</u>	<u>372</u>
C. Total	136	728	107	20	4	995
For the Reporting Date and Fiscal Year Ending June 30, 2019						
V. Service Cost	94,549	656,243	157,271	12,740	6,236	927,039
VI. Financial Statement Expense	330,245	2,012,745	423,856	47,512	6,009	2,820,367
VII. Employer Share of Costs	(198,010)	(1,239,834)	(165,242)	(52,248)	(641)	(1,655,975)
VIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(174,048)	(677,450)	(133,637)	(63,156)	(15,778)	(1,064,069)
IX. Total Employer Contribution [VII. + VIII.]	(372,058)	(1,917,284)	(298,879)	(115,404)	(16,419)	(2,720,044)

PRINCIPAL RESULTS OF THE VALUATION

Town of Foxborough
Assuming Funding - 7.00% 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	7,838,125	10,137,365	17,975,490	1,807,049	13,822,253	15,629,302	33,604,792
B. Spouses	<u>3,953,032</u>	<u>5,448,356</u>	<u>9,401,388</u>	<u>516,973</u>	<u>627,423</u>	<u>1,144,396</u>	<u>10,545,784</u>
C. Total	11,791,157	15,585,721	27,376,878	2,324,022	14,449,676	16,773,698	44,150,576
Total OPEB Liability							
A. Participants	5,882,110	7,313,281	13,195,391	1,807,049	13,822,253	15,629,302	28,824,693
B. Spouses	<u>2,974,603</u>	<u>3,929,813</u>	<u>6,904,416</u>	<u>516,973</u>	<u>627,423</u>	<u>1,144,396</u>	<u>8,048,812</u>
C. Total	8,856,713	11,243,094	20,099,807	2,324,022	14,449,676	16,773,698	36,873,505
Service Cost							
A. Participants	239,702	370,766	610,468	0	0	0	610,468
B. Spouses	<u>118,324</u>	<u>198,247</u>	<u>316,571</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>316,571</u>
C. Total	358,026	569,013	927,039	0	0	0	927,039

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	927,039
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	2,485,069
III. Deferred (Inflows)/Outflows from Plan Experience**	(522,318)
IV. Deferred (Inflows)/Outflows from Changes of Assumptions**	478,538
V. Projected earnings on OPEB plan investments	(608,439)
VI. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	60,478
VII. Financial Statement Expense prior to Plan Design Changes [I. + II.+ III. + IV. + V. + VI.]	2,820,367
VIII. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IX. Financial Statement Expense [VII. + VIII.]	2,820,367

* Recognized Immediately

** Amortized over 6.18 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	35,387,932	8,168,952	27,218,980
II. Prior Period Adjustment	0	0	0
III. Balances for June 30, 2018 with Adjustment [I. + II.]	35,387,932	8,168,952	27,218,980
Changes for the year:			
IV. Service Cost	927,039	0	927,039
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,485,069	0	2,485,069
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	2,957,370	0	2,957,370
VIII. Differences between actual and expected experience **	(3,227,930)	0	(3,227,930)
IX. Net investment income	0	505,313	(505,313)
X. Employer contributions to Trust	0	2,720,044	(2,720,044)
XI. Benefit payments withdrawn from Trust	0	(1,655,975)	1,655,975
XII. Benefit payments excluding Implicit Cost	(1,131,895)	0	(1,131,895)
XIII. Implicit Cost amount	(524,080)	0	(524,080)
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(1,655,975)	0	(1,655,975)
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.]	1,485,573	1,569,382	(83,809)
XVIII. Balances at June 30, 2019 [III.+XVII.]	36,873,505	9,738,334	27,135,171

* Recognized Immediately

** Amortized over 6.18 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									
2018	0	5.94	0	0	0	0	0	0	
2019	(3,227,930)	6.18	(2,705,612)	(522,318)	(522,318)	(522,318)	(522,318)	(522,318)	(522,318)
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			(2,705,612)						
Net increase (decrease) in OPEB expense				(522,318)	(522,318)	(522,318)	(522,318)	(522,318)	(522,318)

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									
2018	0	5.94	0	0	0	0	0	0	
2019	2,957,370	6.18	2,478,832	478,538	478,538	478,538	478,538	478,538	478,538
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			2,478,832						
Net increase (decrease) in OPEB expense				478,538	478,538	478,538	478,538	478,538	478,538

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									
2018	199,267	5.00	119,562	39,853	39,854	39,854	39,854		
2019	103,126	5.00	82,501	20,625	20,625	20,625	20,625	20,626	
2020									
2021									
2022									
2023									
2024									
2025									
2026									
Total Remaining Balance			202,063						
Net increase (decrease) in OPEB expense				60,478	60,479	60,479	60,479	20,626	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			
	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>	<u>Total</u>
I. Contributions made subsequent to the measurement date	0	0	0
II. Differences between actual & expected experience	0	(2,705,612)	(2,705,612)
III. Changes of assumptions	2,478,832	0	2,478,832
IV. Net difference between projected & actual earnings on OPEB plan investments	<u>202,063</u>	<u>0</u>	<u>202,063</u>
V. Total [I.+II.+III.+IV.]	2,680,895	(2,705,612)	(24,717)

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES
(As of the June 30, 2019 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, 2019 will be recognized in future years as shown below.

Year ending June 30:	
2020	16,699
2021	16,699
2022	16,699
2023	(23,154)
2024	(43,780)
Thereafter	(7,880)

4. Discount Rate

The discount rate used to measure the Total OPEB liability was 7.00% as of June 30, 2019 and 7.00% as of June 30, 2018. 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, 2019 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, 2019 Measurement Date, total Town premiums plus implicit costs for the retiree medical program were \$1,655,975. The Town also contributed \$1,064,069 to an OPEB Trust for a total contribution during the measurement period of \$2,720,044 to be reported on the financial statement for the fiscal year ending June 30, 2019.

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	23.33%	Domestic Equity - Large Cap	4.80%
Domestic Equity - Small/Mid Cap	11.67%	Domestic Equity - Small/Mid Cap	5.29%
International Equity - Developed Market	13.33%	International Equity - Developed Market	5.45%
International Equity-Emerging Market	6.67%	International Equity-Emerging Market	6.42%
Domestic Fixed Income	20.00%	Domestic Fixed Income	2.05%
International Fixed Income	5.00%	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**	4.75%
		II. Inflation Assumption	2.50%
		III. Total Nominal Return [I. + II.]	7.25%
		IV. Investment Expense	0.25%
		V. Net Investment Return* [III.-IV.]	<u>7.00%</u>

* Based on 2019 Horizon Survey of Capital Market Assumptions

** Geometric Mean

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 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, 2019	2,970,708	(2,720,044)	250,664	40,060,900	6.79%
June 30, 2018	2,928,465	(2,346,185)	582,280	41,776,289	5.62%
June 30, 2017	3,032,780	(2,346,185)	686,595	40,559,503	5.78%

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 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, 2019 Measurement Date</u>			
	<u>1% Decrease</u>	<u>Current Trend Rate</u>	<u>1% Increase</u>
I. Total OPEB Liability	32,608,431	36,873,505	42,042,334
II. Fiduciary Net Position	<u>9,738,334</u>	<u>9,738,334</u>	<u>9,738,334</u>
III. Net OPEB Liability (Asset) [I.-II.]	22,870,097	27,135,171	32,304,000
IV. Service Cost	752,673	927,039	1,154,400

9. 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	41,436,364	36,873,505	32,310,646
II. Fiduciary Net Position	<u>9,738,334</u>	<u>9,738,334</u>	<u>9,738,334</u>
III. Net OPEB Liability (Asset) [I.-II.]	31,698,030	27,135,171	22,572,312
IV. Service Cost	1,156,866	927,039	697,212

EXHIBIT A

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

10. Money Weighted Rate of Return

	Plan	Periods	Period
	Investments /	Invested	Weight
	Net External		
	Cash Flows		
I. Beginning value - June 30, 2018	8,168,952	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	266,000	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	266,000	7	0.5833
December	0	6	0.5000
January	0	5	0.4167
February	266,000	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	266,069	1	0.0833
<u>June</u>	<u>0</u>	0	0.0000
II. Total net external cash flow	1,064,069		
III. Earnings and increase in fair value	505,313		
IV. Ending value - June 30, 2019 [I.+II.+III.]	9,738,334		
Money Weighted Rate of Return	5.84%		
Asset Value - June 30, 2019	9,738,334		

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

11. OPEB Liability, OPEB Expense

	Fiscal Year Ending June 30, 2019					Total
	Town Employees and Retirees	School Employees and Retirees	Police Employees and Retirees	Water Enterprise Employees and Retirees	Sewer Enterprise Employees and Retirees	
I. Total OPEB Liability as of June 30, 2019	3,994,340	26,683,330	5,150,816	944,820	100,199	36,873,505
II. Fiduciary Net Position as of June 30, 2019	445,985	7,252,642	1,400,014	506,719	132,974	9,738,334
III. Net OPEB Liability (Asset) as of June 30, 2019 [I. - II.]	3,548,355	19,430,688	3,750,802	438,101	(32,775)	27,135,171
IV. Service Cost	94,549	656,243	157,271	12,740	6,236	927,039
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	268,112	1,795,784	351,472	62,549	7,152	2,485,069
VI. Projected Earnings on OPEB Plan Investments	(34,225)	(451,365)	(87,220)	(28,205)	(7,424)	(608,439)
VII. Net Recognition of Deferred (Inflows)/Outflows	1,809	12,083	2,333	428	45	16,698
VIII. Expense Related to Change in Benefit Terms	0	0	0	0	0	0
IX. Financial Statement Expense [IV. + V. + VII. + VIII.]	330,245	2,012,745	423,856	47,512	6,009	2,820,367
X. Employer Share of Costs	(198,010)	(1,239,834)	(165,242)	(52,248)	(641)	(1,655,975)
XI. Employer (Payments) Withdrawals to/from OPEB Trust	(174,048)	(677,450)	(133,637)	(63,156)	(15,778)	(1,064,069)
XII. Total Employer Contribution [X. + XI.]	(372,058)	(1,917,284)	(298,879)	(115,404)	(16,419)	(2,720,044)
XIII. Net OPEB Expense [IX. + XII.]	(41,813)	95,461	124,977	(67,892)	(10,410)	100,323

EXHIBIT A

FINANCIAL STATEMENT DISCLOSURES

(As of the June 30, 2019 Measurement Date)

12. 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	(2,705,612)
II. Deferred (Inflow)/Outflow from Investment Experience	202,063
III. Deferred (Inflow)/Outflow from Changes in Assumptions	2,478,832
Change in Deferred Inflow/Outflow	
I. Deferred Outflow at the beginning of the period	159,415
II. Deferred Outflow created during the period	3,060,496
III. Deferred Outflow recognized during the period	539,016
IV. Change in Deferred Outflow (II. - III.)	2,521,480
V. Deferred Outflow at end of the period (I. + IV.)	2,680,895
VI. Deferred Inflow at the beginning of the period	0
VII. Deferred Inflow created during the period	(3,227,930)
VIII. Deferred Inflow recognized during the period	(522,318)
IX. Change in Deferred Inflow (VII. - VIII.)	(2,705,612)
X. Deferred Inflow at end of the period (VI. + IX.)	(2,705,612)
Net OPEB Liability	
I. Net OPEB Liability at beginning of period	27,218,980
II. Service Cost	927,039
III. Interest on Total OPEB Liability, Service Cost, and Payments	2,485,069
IV. Projected Investment Income	(608,439)
V. Total Employer Contributions	(2,720,044)
VI. Expense Related to Change in Benefit Terms	0
VII. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III. + IV. + V. + VI.)	83,625
VIII. Deferred Outflow created during the period	3,060,496
IX. Deferred Inflow created during the period	(3,227,930)
X. Net OPEB Liability at end of period (I. + VII. + VIII. + IX.)	27,135,171
Net OPEB Expense	
I. Service Cost	927,039
II. Interest on Total OPEB Liability, Service Cost, and Payments	2,485,069
III. Projected Investment Income	(608,439)
IV. Recognition of Deferred (Inflow)/Outflow	16,698
V. Expense Related to Change in Benefit Terms	0
VI. Financial Statement Expense (I. + II. + III. + IV. + V.)	2,820,367
VII. Benefit Payments	(1,655,975)
VIII. Contributions to Trust	(1,064,069)
IX. Total Employer Payments (VII. + VIII.)	(2,720,044)
X. Total Net OPEB Expense under GASB 75 (VI. + IX.)	100,323

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>	For the Fiscal Year Ending:	
		<u>June 30, 2018</u>	<u>June 30, 2017</u>
I. Service Cost	927,039	925,445	925,445
II. 30 year level dollar amortization of NOL	<u>2,043,669</u>	<u>2,003,020</u>	<u>2,107,335</u>
III. Actuarial Determined Contribution [I. + II.]	2,970,708	2,928,465	3,032,780
IV. Contributions in relation to the actuarially determined contribution	<u>(2,720,044)</u>	<u>(2,346,185)</u>	<u>(2,346,185)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>250,664</u>	582,280	686,595
Covered employee payroll	40,060,900	41,776,289	40,559,503
Contributions as a % of covered employee payroll	6.79%	5.62%	5.78%
Discount Rate	7.00%	7.00%	7.00%
Money Weighted Rate of Return	5.84%	4.30%	7.01%

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
For the Reporting Period & Fiscal Year ending on:	June 30, 2019	June 30, 2018	June 30, 2017
Total OPEB Liability	36,873,505	35,387,932	33,483,529
I. Service Cost	927,039	925,445	925,445
II. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	2,485,069	2,361,074	2,236,485
III. Changes in Benefit terms	0	0	0
IV. Difference between Expected & Actual Plan Experience	(3,227,930)	0	0
V. Changes of assumptions	2,957,370	0	0
VI. Benefit Payments Excluding Implicit Cost	(1,131,895)	(1,207,989)	(1,207,989)
VII. Implicit Cost Amount	(524,080)	(174,127)	(174,127)
VIII. Total Benefit payments including Implicit Cost [VI.+VII.]	(1,655,975)	(1,382,116)	(1,382,116)
IX. Net Change in OPEB liability [I.+II.+III.+IV.+V.+VIII.]	1,485,573	1,904,403	1,779,814
X. Total OPEB liability - beginning of period	35,387,932	33,483,529	31,703,715
XI. Total OPEB liability - end of period [IX.+X.]	36,873,505	35,387,932	33,483,529
Plan Fiduciary Net Position	9,738,334	8,168,952	6,888,077
XII. Earning from Plan Investments	505,313	316,806	420,991
XIII. Employer Contribution to trust	2,720,044	2,346,185	2,346,185
XIV. Plan payments from trust, including refunds of member contributions	(1,655,975)	(1,382,116)	(1,382,116)
XV. Administrative expense	0	0	0
XVI. Other	0	0	0
XVII. Net change in plan fiduciary net position [XII.+XIII.+XIV.+XV.+XVI.]	1,569,382	1,280,875	1,385,060
XVIII. Plan fiduciary net position - beginning of period	8,168,952	6,888,077	5,503,017
XIX. Plan fiduciary net position - end of period [XVII.+XVIII.]	9,738,334	8,168,952	6,888,077
XX. Net OPEB Liability [XI.-XIX.]	27,135,171	27,218,980	26,595,452
XXI. Plan fiduciary net position as % of total OPEB liability [XIX. / XI.]	26.41%	23.08%	20.57%
XXII. Covered employee payroll	40,060,900	41,776,289	40,559,503
XXIII. Plan NOL as % of covered employee payroll [XX. / XXII.]	67.73%	65.15%	65.57%
Single Discount Rate to calculate Plan Liabilities	7.00%	7.00%	7.00%

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:	7.00%, 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:	7.00%, net of OPEB plan investment expense, including inflation.
Inflation:	2.50% 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:	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females
Post-Retirement Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
Disabled Mortality:	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females, set forward 1 year Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females

EXHIBIT B

REQUIRED SUPPLEMENTARY INFORMATION

(As of the June 30, 2019 Measurement Date)

Plan Membership

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

Inactive employees or beneficiaries currently receiving benefits:	372
Active Employees:	<u>623</u>
Total:	995

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
- ✓ The expected long-term medical trend has been updated to 4.50%
- ✓ Based on recent research by the Society of Actuaries, we have updated the assumption for morbidity or age-related costs of medical care

Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town contributed \$1,064,069 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 \$1,655,975. \$524,080 of the \$1,655,975 represents implicit cost.

APPENDIX I - LIABILITIES, ASSETS, & CASH FLOWS

CURRENT FUNDING POLICY (OPEN GROUP)

Funding - 7.00% 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 7.00% 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.]
2019	June 30, 2019	36,873,505	9,738,334	27,135,171	26.41%	927,039	1,655,975	1,064,069	2,720,044	1,655,975	0	1,064,069
2020	June 30, 2020	38,613,461	11,520,699	27,092,762	29.84%	965,366	1,811,791	1,064,069	2,875,860	1,811,791	0	1,064,069
2021	June 30, 2021	40,093,889	13,427,829	26,666,060	33.49%	1,002,119	1,952,941	1,064,069	3,017,010	1,952,941	0	1,064,069
2022	June 30, 2022	41,748,775	15,468,459	26,280,316	37.05%	1,044,980	2,071,300	1,064,069	3,135,369	2,071,300	0	1,064,069
2023	June 30, 2023	43,480,832	17,651,933	25,828,899	40.60%	1,087,412	2,144,875	1,064,069	3,208,944	2,144,875	0	1,064,069
2024	June 30, 2024	45,245,131	19,988,250	25,256,881	44.18%	1,131,116	2,279,621	1,064,069	3,343,690	2,279,621	0	1,064,069
2025	June 30, 2025	47,007,229	22,488,109	24,519,120	47.84%	1,175,642	2,448,918	1,064,069	3,512,987	2,448,918	0	1,064,069
2026	June 30, 2026	48,837,490	25,162,958	23,674,532	51.52%	1,221,168	2,551,522	1,064,069	3,615,591	2,551,522	0	1,064,069
2027	June 30, 2027	50,670,537	28,025,047	22,645,490	55.31%	1,266,785	2,726,859	1,064,069	3,790,928	2,726,859	0	1,064,069
2028	June 30, 2028	52,503,824	31,087,482	21,416,342	59.21%	1,309,295	2,889,642	1,064,069	3,953,711	2,889,642	0	1,064,069
2029	June 30, 2029	54,397,678	34,364,287	20,033,391	63.17%	1,360,113	3,018,596	1,064,069	4,082,665	3,018,596	0	1,064,069
2030	June 30, 2030	56,285,036	37,870,469	18,414,567	67.28%	1,409,085	3,107,434	1,064,069	4,171,503	3,107,434	0	1,064,069
2031	June 30, 2031	58,225,828	43,176,673	15,049,155	74.15%	1,462,741	3,345,698	2,566,948	5,912,646	3,345,698	0	2,566,948
2032	June 30, 2032	60,173,914	48,914,986	11,258,928	81.29%	1,520,588	3,427,975	2,625,604	6,053,579	3,427,975	0	2,625,604
2033	June 30, 2033	62,090,371	55,054,981	7,035,390	88.67%	1,579,058	3,540,102	2,625,604	6,165,706	3,540,102	0	2,625,604
2034	June 30, 2034	64,050,624	61,624,776	2,425,848	96.21%	1,635,505	3,776,361	2,625,604	6,401,965	3,776,361	0	2,625,604
2035	June 30, 2035	66,199,516	68,654,456	(2,454,940)	103.71%	1,701,162	3,875,479	2,625,604	6,501,083	3,875,479	0	2,625,604
2036	June 30, 2036	68,259,549	71,121,909	(2,862,360)	104.19%	1,772,097	4,032,674	(2,260,577)	1,772,097	4,032,674	0	(2,260,577)
2037	June 30, 2037	70,320,679	73,617,487	(3,296,808)	104.69%	1,839,942	4,240,306	(2,400,364)	1,839,942	4,240,306	0	(2,400,364)
2038	June 30, 2038	72,627,078	76,269,426	(3,642,348)	105.02%	1,916,457	4,334,541	(2,418,084)	1,916,457	4,334,541	0	(2,418,084)
2039	June 30, 2039	75,023,496	79,044,362	(4,020,866)	105.36%	1,999,094	4,477,733	(2,478,639)	1,999,094	4,477,733	0	(2,478,639)
2040	June 30, 2040	77,335,292	81,843,665	(4,508,373)	105.83%	2,078,482	4,721,348	(2,642,866)	2,078,482	4,721,348	0	(2,642,866)
2041	June 30, 2041	79,940,936	84,788,314	(4,847,378)	106.06%	2,165,944	4,857,732	(2,691,788)	2,165,944	4,857,732	0	(2,691,788)
2042	June 30, 2042	82,514,547	87,855,465	(5,340,918)	106.47%	2,262,818	5,035,448	(2,772,630)	2,262,818	5,035,448	0	(2,772,630)
2043	June 30, 2043	85,213,916	90,978,686	(5,764,770)	106.77%	2,361,336	5,287,320	(2,925,984)	2,361,336	5,287,320	0	(2,925,984)
2044	June 30, 2044	88,212,206	94,330,165	(6,117,959)	106.94%	2,469,471	5,386,143	(2,916,672)	2,469,471	5,386,143	0	(2,916,672)
2045	June 30, 2045	91,348,592	97,919,822	(6,571,230)	107.19%	2,584,343	5,497,559	(2,913,216)	2,584,343	5,497,559	0	(2,913,216)
2046	June 30, 2046	94,589,930	101,656,721	(7,066,791)	107.47%	2,701,925	5,715,715	(3,013,790)	2,701,925	5,715,715	0	(3,013,790)
2047	June 30, 2047	98,008,649	105,592,899	(7,584,250)	107.74%	2,827,733	5,901,754	(3,074,021)	2,827,733	5,901,754	0	(3,074,021)
2048	June 30, 2048	101,616,015	109,814,021	(8,198,006)	108.07%	2,959,561	6,024,484	(3,064,923)	2,959,561	6,024,484	0	(3,064,923)
2049	June 30, 2049	105,445,326	114,337,494	(8,892,168)	108.43%	3,097,628	6,155,907	(3,058,279)	3,097,628	6,155,907	0	(3,058,279)
2050	June 30, 2050	109,623,980	119,134,972	(9,510,992)	108.68%	3,243,231	6,342,730	(3,099,499)	3,243,231	6,342,730	0	(3,099,499)

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 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	40,060,900	0	40,060,900	0	1,655,975	0	1,655,975
June 30, 2020	37,228,828	4,033,899	41,262,727	0	1,811,791	0	1,811,791
June 30, 2021	34,885,706	7,614,903	42,500,609	0	1,952,941	0	1,952,941
June 30, 2022	32,990,300	10,785,327	43,775,627	0	2,071,300	0	2,071,300
June 30, 2023	31,242,673	13,846,223	45,088,896	0	2,144,875	0	2,144,875
June 30, 2024	29,712,534	16,729,029	46,441,563	0	2,279,621	0	2,279,621
June 30, 2025	28,297,905	19,536,905	47,834,810	0	2,448,918	0	2,448,918
June 30, 2026	26,948,261	22,321,593	49,269,854	0	2,551,522	0	2,551,522
June 30, 2027	25,606,137	25,141,813	50,747,950	0	2,726,859	0	2,726,859
June 30, 2028	24,153,968	28,116,421	52,270,389	0	2,889,642	0	2,889,642
June 30, 2029	22,745,659	31,092,842	53,838,501	0	3,018,596	0	3,018,596
June 30, 2030	21,433,613	34,020,043	55,453,656	0	3,087,063	20,371	3,107,434
June 30, 2031	20,220,098	36,897,168	57,117,266	0	3,294,654	51,044	3,345,698
June 30, 2032	19,180,621	39,650,163	58,830,784	0	3,333,377	94,598	3,427,975
June 30, 2033	18,137,845	42,457,863	60,595,708	0	3,384,598	155,504	3,540,102
June 30, 2034	16,985,090	45,428,489	62,413,579	0	3,544,496	231,865	3,776,361
June 30, 2035	15,934,975	48,351,011	64,285,986	0	3,586,329	289,150	3,875,479
June 30, 2036	15,012,544	51,202,022	66,214,566	0	3,676,158	356,516	4,032,674
June 30, 2037	13,968,348	54,232,655	68,201,003	0	3,808,449	431,857	4,240,306
June 30, 2038	13,039,681	57,207,352	70,247,033	0	3,841,621	492,920	4,334,541
June 30, 2039	12,217,732	60,136,712	72,354,444	0	3,916,753	560,980	4,477,733
June 30, 2040	11,359,664	63,165,413	74,525,077	0	4,063,615	657,733	4,721,348
June 30, 2041	10,489,448	66,271,381	76,760,829	0	4,076,455	781,277	4,857,732
June 30, 2042	9,684,878	69,378,776	79,063,654	0	4,103,214	932,234	5,035,448
June 30, 2043	8,812,108	72,623,456	81,435,564	0	4,167,311	1,120,009	5,287,320
June 30, 2044	8,006,722	75,871,909	83,878,631	0	4,047,524	1,338,619	5,386,143
June 30, 2045	7,284,524	79,110,466	86,394,990	0	3,973,288	1,524,271	5,497,559
June 30, 2046	6,526,783	82,460,057	88,986,840	0	3,983,892	1,731,823	5,715,715
June 30, 2047	5,803,664	85,852,781	91,656,445	0	3,944,670	1,957,084	5,901,754
June 30, 2048	5,095,922	89,310,216	94,406,138	0	3,866,532	2,157,952	6,024,484
June 30, 2049	4,335,082	92,903,240	97,238,322	0	3,781,604	2,374,303	6,155,907
June 30, 2050	3,735,374	96,420,098	100,155,472	0	3,722,004	2,620,726	6,342,730
June 30, 2051	3,232,117	99,928,019	103,160,136	0	3,608,360	2,890,971	6,499,331
June 30, 2052	2,729,820	103,525,120	106,254,940	0	3,488,001	3,184,998	6,672,999
June 30, 2053	2,301,914	107,140,674	109,442,588	0	3,431,435	3,503,495	6,934,930
June 30, 2054	1,920,479	110,805,387	112,725,866	0	3,359,892	3,845,679	7,205,571
June 30, 2055	1,634,167	114,473,475	116,107,642	0	3,294,664	4,185,662	7,480,326
June 30, 2056	1,314,587	118,276,284	119,590,871	0	3,193,946	4,545,086	7,739,032
June 30, 2057	1,050,665	122,127,932	123,178,597	0	3,124,493	4,923,845	8,048,338
June 30, 2058	820,321	126,053,634	126,873,955	0	3,048,110	5,314,818	8,362,928

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 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, 2059	644,695	130,035,479	130,680,174	0	2,932,291	5,724,123	8,656,414
June 30, 2060	494,564	134,106,015	134,600,579	0	2,856,860	6,158,886	9,015,746
June 30, 2061	371,925	138,266,671	138,638,596	0	2,751,143	6,620,648	9,371,791
June 30, 2062	256,286	142,541,468	142,797,754	0	2,655,111	7,108,304	9,763,415
June 30, 2063	168,411	146,913,276	147,081,687	0	2,538,435	7,620,746	10,159,181
June 30, 2064	97,572	151,396,566	151,494,138	0	2,453,794	8,162,309	10,616,103
June 30, 2065	63,417	155,975,545	156,038,962	0	2,373,573	8,721,568	11,095,141
June 30, 2066	28,373	160,691,758	160,720,131	0	2,266,800	9,303,243	11,570,043
June 30, 2067	13,807	165,527,928	165,541,735	0	2,183,252	9,912,338	12,095,590
June 30, 2068	3,604	170,504,383	170,507,987	0	2,094,816	10,541,169	12,635,985
June 30, 2069	2,937	175,620,290	175,623,227	0	2,005,552	11,193,305	13,198,857
June 30, 2070	0	180,891,924	180,891,924	0	1,914,297	11,873,631	13,787,928
June 30, 2071	0	186,318,682	186,318,682	0	1,820,929	12,585,583	14,406,512
June 30, 2072	0	191,908,242	191,908,242	0	1,726,013	13,325,367	15,051,380
June 30, 2073	0	197,665,489	197,665,489	0	1,629,876	14,095,372	15,725,248
June 30, 2074	0	203,595,454	203,595,454	0	1,532,888	14,898,832	16,431,720
June 30, 2075	0	209,703,318	209,703,318	0	1,435,481	15,734,698	17,170,179
June 30, 2076	0	215,994,418	215,994,418	0	1,338,040	16,601,492	17,939,532
June 30, 2077	0	222,474,251	222,474,251	0	1,240,990	17,504,634	18,745,624
June 30, 2078	0	229,148,479	229,148,479	0	1,144,829	18,444,174	19,589,003
June 30, 2079	0	236,022,933	236,022,933	0	1,050,173	19,420,493	20,470,666
June 30, 2080	0	243,103,621	243,103,621	0	957,629	20,437,907	21,395,536
June 30, 2081	0	250,396,730	250,396,730	0	867,840	21,500,502	22,368,342
June 30, 2082	0	257,908,632	257,908,632	0	781,472	22,607,085	23,388,557
June 30, 2083	0	265,645,891	265,645,891	0	699,065	23,761,636	24,460,701
June 30, 2084	0	273,615,268	273,615,268	0	621,168	24,968,613	25,589,781
June 30, 2085	0	281,823,726	281,823,726	0	548,144	26,228,783	26,776,927
June 30, 2086	0	290,278,438	290,278,438	0	480,314	27,542,541	28,022,855
June 30, 2087	0	298,986,791	298,986,791	0	417,891	28,915,852	29,333,743
June 30, 2088	0	307,956,395	307,956,395	0	361,001	30,351,006	30,712,007
June 30, 2089	0	317,195,087	317,195,087	0	312,066	31,849,314	32,161,380
June 30, 2090	0	326,710,940	326,710,940	0	269,882	33,415,456	33,685,338
June 30, 2091	0	336,512,268	336,512,268	0	231,671	35,054,279	35,285,950
June 30, 2092	0	346,607,636	346,607,636	0	197,084	36,767,681	36,964,765
June 30, 2093	0	357,005,865	357,005,865	0	166,045	38,560,447	38,726,492

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. 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, 2019	8,168,952	1,655,975	1,064,069	2,720,044	0	1,655,975	1,655,975	505,313	9,738,334
June 30, 2020	9,738,334	1,811,791	960,044	2,771,835	0	1,811,791	1,811,791	648,074	11,346,452
June 30, 2021	11,346,452	1,952,941	873,418	2,826,359	0	1,952,941	1,952,941	824,304	13,044,174
June 30, 2022	13,044,174	2,071,300	801,906	2,873,206	0	2,071,300	2,071,300	940,684	14,786,764
June 30, 2023	14,786,764	2,144,875	737,307	2,882,182	0	2,144,875	2,144,875	1,060,443	16,584,514
June 30, 2024	16,584,514	2,279,621	680,774	2,960,395	0	2,279,621	2,279,621	1,184,340	18,449,628
June 30, 2025	18,449,628	2,448,918	629,477	3,078,395	0	2,448,918	2,448,918	1,313,133	20,392,238
June 30, 2026	20,392,238	2,551,522	581,995	3,133,517	0	2,551,522	2,551,522	1,447,482	22,421,715
June 30, 2027	22,421,715	2,726,859	536,902	3,263,761	0	2,726,859	2,726,859	1,587,994	24,546,611
June 30, 2028	24,546,611	2,889,642	491,703	3,381,345	0	2,889,642	2,889,642	1,735,181	26,773,495
June 30, 2029	26,773,495	3,018,596	449,547	3,468,143	0	3,018,596	3,018,596	1,889,613	29,112,655
June 30, 2030	29,112,655	3,087,063	411,278	3,498,341	0	3,087,063	3,087,063	2,052,037	31,555,599
June 30, 2031	31,555,599	3,294,654	908,726	4,203,380	0	3,294,654	3,294,654	2,240,159	34,653,440
June 30, 2032	34,653,440	3,333,377	856,027	4,189,404	0	3,333,377	3,333,377	2,455,195	37,870,064
June 30, 2033	37,870,064	3,384,598	785,910	4,170,508	0	3,384,598	3,384,598	2,677,946	41,178,416
June 30, 2034	41,178,416	3,544,496	714,526	4,259,022	0	3,544,496	3,544,496	2,907,075	44,568,152
June 30, 2035	44,568,152	3,586,329	650,825	4,237,154	0	3,586,329	3,586,329	3,142,164	48,071,991
June 30, 2036	48,071,991	3,676,158	595,292	4,271,450	0	3,676,158	3,676,158	3,385,522	51,696,289
June 30, 2037	51,696,289	3,808,449	537,754	4,346,203	0	3,808,449	3,808,449	3,637,243	55,439,429
June 30, 2038	55,439,429	3,841,621	487,381	4,329,002	0	3,841,621	3,841,621	3,897,530	59,331,420
June 30, 2039	59,331,420	3,916,753	443,358	4,360,111	0	3,916,753	3,916,753	4,168,454	63,382,252
June 30, 2040	63,382,252	4,063,615	400,214	4,463,829	0	4,063,615	4,063,615	4,450,528	67,573,261
June 30, 2041	67,573,261	4,076,455	358,792	4,435,247	0	4,076,455	4,076,455	4,742,614	71,895,390
June 30, 2042	71,895,390	4,103,214	321,623	4,424,837	0	4,103,214	4,103,214	5,043,744	76,328,523
June 30, 2043	76,328,523	4,167,311	284,116	4,451,427	0	4,167,311	4,167,311	5,352,772	80,845,402
June 30, 2044	80,845,402	4,047,524	250,630	4,298,154	0	4,047,524	4,047,524	5,667,802	85,425,215
June 30, 2045	85,425,215	3,973,288	221,382	4,194,670	0	3,973,288	3,973,288	5,987,382	90,109,708
June 30, 2046	90,109,708	3,983,892	192,576	4,176,468	0	3,983,892	3,983,892	6,314,306	94,884,767
June 30, 2047	94,884,767	3,944,670	166,253	4,110,923	0	3,944,670	3,944,670	6,647,654	99,741,590
June 30, 2048	99,741,590	3,866,532	141,727	4,008,259	0	3,866,532	3,866,532	6,986,788	104,712,153
June 30, 2049	104,712,153	3,781,604	117,055	3,898,659	0	3,781,604	3,781,604	7,333,878	109,788,783
June 30, 2050	109,788,783	3,722,004	97,924	3,819,928	0	3,722,004	3,722,004	7,688,584	114,954,565
June 30, 2051	114,954,565	3,608,360	82,263	3,690,623	0	3,608,360	3,608,360	8,049,650	120,195,507
June 30, 2052	120,195,507	3,488,001	67,455	3,555,456	0	3,488,001	3,488,001	8,416,006	125,493,970
June 30, 2053	125,493,970	3,431,435	55,225	3,486,660	0	3,431,435	3,431,435	8,786,478	130,832,178
June 30, 2054	130,832,178	3,359,892	44,732	3,404,624	0	3,359,892	3,359,892	9,159,792	136,191,023
June 30, 2055	136,191,023	3,294,664	36,954	3,331,618	0	3,294,664	3,294,664	9,534,643	141,576,958
June 30, 2056	141,576,958	3,193,946	28,862	3,222,808	0	3,193,946	3,193,946	9,911,380	146,972,114
June 30, 2057	146,972,114	3,124,493	22,395	3,146,888	0	3,124,493	3,124,493	10,288,819	152,359,483
June 30, 2058	152,359,483	3,048,110	16,976	3,065,086	0	3,048,110	3,048,110	10,665,748	157,727,389

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. 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, 2059	157,727,389	2,932,291	12,953	2,945,244	0	2,932,291	2,932,291	11,041,363	154,849,569	
June 30, 2060	154,849,569	2,856,860	9,647	2,866,507	0	2,856,860	2,856,860	10,839,802	152,032,538	
June 30, 2061	152,032,538	2,751,143	7,044	2,758,187	0	2,751,143	2,751,143	10,642,520	149,309,946	
June 30, 2062	149,309,946	2,655,111	4,712	2,659,823	0	2,655,111	2,655,111	10,451,858	146,673,593	
June 30, 2063	146,673,593	2,538,435	3,006	2,541,441	0	2,538,435	2,538,435	10,267,255	144,146,914	
June 30, 2064	144,146,914	2,453,794	1,691	2,455,485	0	2,453,794	2,453,794	10,090,342	141,699,619	
June 30, 2065	141,699,619	2,373,573	1,067	2,374,640	0	2,373,573	2,373,573	9,919,010	139,330,077	
June 30, 2066	139,330,077	2,266,800	464	2,267,264	0	2,266,800	2,266,800	9,753,121	137,064,999	
June 30, 2067	137,064,999	2,183,252	219	2,183,471	0	2,183,252	2,183,252	9,594,557	134,882,547	
June 30, 2068	134,882,547	2,094,816	55	2,094,871	0	2,094,816	2,094,816	9,441,780	132,787,931	
June 30, 2069	132,787,931	2,005,552	44	2,005,596	0	2,005,552	2,005,552	9,295,157	130,782,534	
June 30, 2070	130,782,534	1,914,297	0	1,914,297	0	1,914,297	1,914,297	9,154,777	128,868,237	
June 30, 2071	128,868,237	1,820,929	0	1,820,929	0	1,820,929	1,820,929	9,020,777	127,047,308	
June 30, 2072	127,047,308	1,726,013	0	1,726,013	0	1,726,013	1,726,013	8,893,312	125,321,295	
June 30, 2073	125,321,295	1,629,876	0	1,629,876	0	1,629,876	1,629,876	8,772,491	123,691,419	
June 30, 2074	123,691,419	1,532,888	0	1,532,888	0	1,532,888	1,532,888	8,658,399	122,158,531	
June 30, 2075	122,158,531	1,435,481	0	1,435,481	0	1,435,481	1,435,481	8,551,097	120,723,050	
June 30, 2076	120,723,050	1,338,040	0	1,338,040	0	1,338,040	1,338,040	8,450,614	119,385,010	
June 30, 2077	119,385,010	1,240,990	0	1,240,990	0	1,240,990	1,240,990	8,356,951	118,144,020	
June 30, 2078	118,144,020	1,144,829	0	1,144,829	0	1,144,829	1,144,829	8,270,081	116,999,191	
June 30, 2079	116,999,191	1,050,173	0	1,050,173	0	1,050,173	1,050,173	8,189,943	115,949,018	
June 30, 2080	115,949,018	957,629	0	957,629	0	957,629	957,629	8,116,431	114,991,389	
June 30, 2081	114,991,389	867,840	0	867,840	0	867,840	867,840	8,049,397	114,123,549	
June 30, 2082	114,123,549	781,472	0	781,472	0	781,472	781,472	7,988,648	113,342,077	
June 30, 2083	113,342,077	699,065	0	699,065	0	699,065	699,065	7,933,945	112,643,012	
June 30, 2084	112,643,012	621,168	0	621,168	0	621,168	621,168	7,885,011	112,021,844	
June 30, 2085	112,021,844	548,144	0	548,144	0	548,144	548,144	7,841,529	111,473,700	
June 30, 2086	111,473,700	480,314	0	480,314	0	480,314	480,314	7,803,159	110,993,386	
June 30, 2087	110,993,386	417,891	0	417,891	0	417,891	417,891	7,769,537	110,575,495	
June 30, 2088	110,575,495	361,001	0	361,001	0	361,001	361,001	7,740,285	110,214,494	
June 30, 2089	110,214,494	312,066	0	312,066	0	312,066	312,066	7,715,015	109,902,428	
June 30, 2090	109,902,428	269,882	0	269,882	0	269,882	269,882	7,693,170	109,632,546	
June 30, 2091	109,632,546	231,671	0	231,671	0	231,671	231,671	7,674,278	109,400,875	
June 30, 2092	109,400,875	197,084	0	197,084	0	197,084	197,084	7,658,061	109,203,791	
June 30, 2093	109,203,791	166,045	0	166,045	0	166,045	166,045	7,644,265	109,037,746	

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	8,168,952	1,655,975	1,655,975	0	1,655,975	0	1,655,975
June 30, 2020	9,738,334	1,811,791	1,811,791	0	1,693,263	0	1,693,263
June 30, 2021	11,346,452	1,952,941	1,952,941	0	1,705,774	0	1,705,774
June 30, 2022	13,044,174	2,071,300	2,071,300	0	1,690,798	0	1,690,798
June 30, 2023	14,786,764	2,144,875	2,144,875	0	1,636,315	0	1,636,315
June 30, 2024	16,584,514	2,279,621	2,279,621	0	1,625,338	0	1,625,338
June 30, 2025	18,449,628	2,448,918	2,448,918	0	1,631,817	0	1,631,817
June 30, 2026	20,392,238	2,551,522	2,551,522	0	1,588,960	0	1,588,960
June 30, 2027	22,421,715	2,726,859	2,726,859	0	1,587,057	0	1,587,057
June 30, 2028	24,546,611	2,889,642	2,889,642	0	1,571,774	0	1,571,774
June 30, 2029	26,773,495	3,018,596	3,018,596	0	1,534,501	0	1,534,501
June 30, 2030	29,112,655	3,087,063	3,087,063	0	1,466,641	0	1,466,641
June 30, 2031	31,555,599	3,294,654	3,294,654	0	1,462,866	0	1,462,866
June 30, 2032	34,653,440	3,333,377	3,333,377	0	1,383,233	0	1,383,233
June 30, 2033	37,870,064	3,384,598	3,384,598	0	1,312,605	0	1,312,605
June 30, 2034	41,178,416	3,544,496	3,544,496	0	1,284,688	0	1,284,688
June 30, 2035	44,568,152	3,586,329	3,586,329	0	1,214,814	0	1,214,814
June 30, 2036	48,071,991	3,676,158	3,676,158	0	1,163,777	0	1,163,777
June 30, 2037	51,696,289	3,808,449	3,808,449	0	1,126,783	0	1,126,783
June 30, 2038	55,439,429	3,841,621	3,841,621	0	1,062,240	0	1,062,240
June 30, 2039	59,331,420	3,916,753	3,916,753	0	1,012,163	0	1,012,163
June 30, 2040	63,382,252	4,063,615	4,063,615	0	981,416	0	981,416
June 30, 2041	67,575,261	4,076,455	4,076,455	0	920,110	0	920,110
June 30, 2042	71,895,390	4,103,214	4,103,214	0	865,560	0	865,560
June 30, 2043	76,328,523	4,167,311	4,167,311	0	821,571	0	821,571
June 30, 2044	80,845,402	4,047,524	4,047,524	0	745,753	0	745,753
June 30, 2045	85,425,215	3,973,288	3,973,288	0	684,182	0	684,182
June 30, 2046	90,109,708	3,983,892	3,983,892	0	641,129	0	641,129
June 30, 2047	94,884,767	3,944,670	3,944,670	0	593,287	0	593,287
June 30, 2048	99,741,590	3,866,532	3,866,532	0	543,491	0	543,491
June 30, 2049	104,712,153	3,781,604	3,781,604	0	496,778	0	496,778
June 30, 2050	109,788,783	3,722,004	3,722,004	0	456,962	0	456,962
June 30, 2051	114,954,565	3,608,360	3,608,360	0	414,027	0	414,027
June 30, 2052	120,195,507	3,488,001	3,488,001	0	374,035	0	374,035
June 30, 2053	125,493,970	3,431,435	3,431,435	0	343,896	0	343,896
June 30, 2054	130,832,178	3,359,892	3,359,892	0	314,697	0	314,697
June 30, 2055	136,191,023	3,294,664	3,294,664	0	288,400	0	288,400
June 30, 2056	141,576,958	3,193,946	3,193,946	0	261,293	0	261,293
June 30, 2057	146,972,114	3,124,493	3,124,493	0	238,889	0	238,889
June 30, 2058	152,359,483	3,048,110	3,048,110	0	217,803	0	217,803

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	157,727,389	2,932,291	2,932,291	0	195,820	0	195,820
June 30, 2060	154,849,569	2,856,860	2,856,860	0	178,301	0	178,301
June 30, 2061	152,032,538	2,751,143	2,751,143	0	160,470	0	160,470
June 30, 2062	149,309,946	2,655,111	2,655,111	0	144,737	0	144,737
June 30, 2063	146,673,593	2,538,435	2,538,435	0	129,324	0	129,324
June 30, 2064	144,146,914	2,453,794	2,453,794	0	116,834	0	116,834
June 30, 2065	141,699,619	2,373,573	2,373,573	0	105,621	0	105,621
June 30, 2066	139,330,077	2,266,800	2,266,800	0	94,270	0	94,270
June 30, 2067	137,064,999	2,183,252	2,183,252	0	84,856	0	84,856
June 30, 2068	134,882,547	2,094,816	2,094,816	0	76,092	0	76,092
June 30, 2069	132,787,931	2,005,552	2,005,552	0	68,084	0	68,084
June 30, 2070	130,782,534	1,914,297	1,914,297	0	60,735	0	60,735
June 30, 2071	128,868,237	1,820,929	1,820,929	0	53,993	0	53,993
June 30, 2072	127,047,308	1,726,013	1,726,013	0	47,830	0	47,830
June 30, 2073	125,321,295	1,629,876	1,629,876	0	42,211	0	42,211
June 30, 2074	123,691,419	1,532,888	1,532,888	0	37,102	0	37,102
June 30, 2075	122,158,531	1,435,481	1,435,481	0	32,472	0	32,472
June 30, 2076	120,723,050	1,338,040	1,338,040	0	28,287	0	28,287
June 30, 2077	119,385,010	1,240,990	1,240,990	0	24,519	0	24,519
June 30, 2078	118,144,020	1,144,829	1,144,829	0	21,140	0	21,140
June 30, 2079	116,999,191	1,050,173	1,050,173	0	18,123	0	18,123
June 30, 2080	115,949,018	957,629	957,629	0	15,445	0	15,445
June 30, 2081	114,991,389	867,840	867,840	0	13,081	0	13,081
June 30, 2082	114,123,549	781,472	781,472	0	11,009	0	11,009
June 30, 2083	113,342,077	699,065	699,065	0	9,204	0	9,204
June 30, 2084	112,643,012	621,168	621,168	0	7,643	0	7,643
June 30, 2085	112,021,844	548,144	548,144	0	6,303	0	6,303
June 30, 2086	111,473,700	480,314	480,314	0	5,162	0	5,162
June 30, 2087	110,993,386	417,891	417,891	0	4,197	0	4,197
June 30, 2088	110,575,495	361,001	361,001	0	3,389	0	3,389
June 30, 2089	110,214,494	312,066	312,066	0	2,738	0	2,738
June 30, 2090	109,902,428	269,882	269,882	0	2,213	0	2,213
June 30, 2091	109,632,546	231,671	231,671	0	1,775	0	1,775
June 30, 2092	109,400,875	197,084	197,084	0	1,411	0	1,411
June 30, 2093	109,203,791	166,045	166,045	0	1,111	0	1,111

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 January 1, 2020 Non-Medicare Plans: effective September 1, 2019 Dental Plans: N/A
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Benefits Offered</u>	Various Medical offerings via Blue Cross Blue Shield of Massachusetts as well as \$3,000 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>	Medicare Part B Premium reimbursements by the Town were not reflected in this valuation. Medicare Part B Penalty reimbursements have been reflected.
<u>Surviving Spouse Coverage</u>	Surviving spouses pay 100% 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	50%	50%
Dental	N/A	N/A
Life	50%	N/A

APPENDIX III - ACTUARIAL METHODS & ASSUMPTIONS

<u>Pre-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Employees projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Employees projected generationally with scale MP-2016 for males and females
<u>Post-Retirement Mortality</u>	General: RP-2014 Mortality Table for Blue Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females Teachers: RP-2014 Mortality Table for White Collar Healthy Annuitants projected generationally with scale MP-2016 for males and females
<u>Disabled Mortality</u>	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
<u>Assumption Experience Study</u>	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.
<u>Discount Rate</u>	7.00% per annum (previously 7.00%)
<u>Net Long Term Rate of Return</u>	7.00% (based on investment policy)
<u>Municipal Bond Rate</u>	2.79% as of June 30, 2019 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
<u>Actuarial Cost Method</u>	Individual Entry Age Normal
<u>Asset-Valuation Method</u>	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%

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: N/A

Participation Rate

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

Spouse Participation Rate

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

Spouse Demographics

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

School Demographics

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

Compensation Increases

3.00% per year.

Inflation Rate

2.50% per year.

APPENDIX III – ACTUARIAL METHODS & ASSUMPTIONS

Implicit Subsidy

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

Impact of Implicit Subsidy		
	As of the Measurement Date	
Impact on Liability	<u>June 30, 2019</u>	<u>June 30, 2018</u>
I. Actuarial Accrued Liability	36,873,505	35,387,932
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>29,468,505</u>	<u>31,430,649</u>
III. Liability from Implicit Subsidy [I. - II.]	7,405,000	3,957,283

	For the Measurement Period Ending	
Impact on Payments	<u>June 30, 2019</u>	<u>June 30, 2018</u>
IV. Employer Payments (Including Implicit Subsidy)	1,655,975	1,382,116
V. Actual Employer Payments	<u>1,131,895</u>	<u>1,207,989</u>
VI. Implicit Subsidy [IV. - V.]	524,080	174,127

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	4,430	2,793	44 & Under	8,708	5,706	65 to 69	4,643	4,643
25 to 29	6,536	2,906	45 to 49	9,565	7,204	70 to 74	4,643	4,643
30 to 34	8,259	3,647	50 to 54	11,251	9,488	75 to 79	4,643	4,643
35 to 39	8,508	4,580	55 to 59	13,007	12,335	80 to 84	4,643	4,643
40 to 44	8,708	5,706	60 to 64	15,478	15,829	85 to 89	4,643	4,643
45 to 49	9,565	7,204	65 to 69	18,554	19,744	90 & Over	4,643	4,643
50 to 54	11,251	9,488	70 to 74	21,880	23,661			
55 to 59	13,007	12,335	75 to 79	25,410	27,945			
60 to 64	15,478	15,829	80 to 84	29,134	32,121			
65 to 69	18,554	19,744	85 to 89	33,256	36,767			
70 & Over	21,880	23,661	90 & Over	33,256	36,767			

*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	36.41	36.80
B. Average Service	<u>9.91</u>	<u>10.75</u>
C. Average Current Age	46.32	47.55

Retired Employees & Spouses

Valuation Date	July 1, 2018	July 1, 2016
A. Under Age 65	65	58
B. Age 65 & Over	<u>307</u>	<u>294</u>
C. Total	372	352

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	18	1								19
25-29	42	3								45
30-34	30	20	4							54
35-39	36	19	25	12						92
40-44	33	5	13	18	2					71
45-49	31	9	11	20	7	2				80
50-54	23	15	17	24	10	2	2			93
55-59	16	12	20	19	12	1	1			81
60-64	13	8	12	18	5	4	1	1		62
65-69	1		3	9	3	1	1		1	19
70+		3		2			2			7
Total	243	95	105	122	39	10	7	1	1	623

APPENDIX IV - PLAN DEMOGRAPHICS

Plan Offerings

	Number of Contracts			
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>	<u>Total</u>
PPO	9		2	11
HMO Blue NE	168		310	478
HMO Blue Select	3		1	4
Medex 2	273			273
Managed Blue	20			20
Total	473	0	313	786

	Per Contract Costs (monthly)		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
PPO	1,007.86		2,605.63
HMO Blue NE	825.88		2,135.40
HMO Blue Select	768.07		1,985.92
Medex 2	391.84	783.68	
Managed Blue	319.78	639.56	
Dental Plan	N/A		N/A

APPENDIX V - OVERVIEW OF GASB 74 & 75

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

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

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

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

APPENDIX V – OVERVIEW OF GASB 74 & 75

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

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

GLOSSARY

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

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

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

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

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

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

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

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

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